

KATALIN FALUS-SZIKRA

***THE SYSTEM OF
INCOMES
AND
INCENTIVES
IN HUNGARY***

Akadémiai Kiadó, Budapest

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CONTENTS

Preface	XI
Preface to the English edition	XIII
Chapter 1	
WAGES AND DISTRIBUTION ACCORDING TO WORK	1
The concept and the economic-social content of wages	1
Wages in capitalist society	2
Wages in socialism	8
Distribution according to work	11
Financial incentives	11
About the interpretation of distribution according to work	13
The output-type interpretation of work	15
The natural interpretation of output	16
The value approach to output	17
The input-type interpretation of work	20
Costs invested in labour power, constituting the conditions for performing work	20
Work input by the labour power during the work process	22
Wages and profits	27
The distribution of personal incomes within the company (the differentiation of wages within the company)	29
The connection between the company result and wages (the differentiation of wages between companies)	30

The connection between commodity relations and distribution according to work - the commodity features of labour	34
Work assessment, wage tariff system	36
Nominal wages and real wages. The development of the wage level	38
Increase in the price level and financial stimulation	38
Increase in real wages	42
Wage level and productivity	45
Notes to Chapter 1	48
Chapter 2	
THE FACTORS OF WAGE DIFFERENTIALS. THE QUALITATIVE DIFFERENCES IN WAGES	53
Introduction	53
The types of qualitative differences in wages	54
Differences in wages due to qualification	54
Decreasing tendency of differences in wages due to qualification	56
The causes of the decreasing differences	59
Wage differentials due to qualification in countries with different social systems, with special regard to Hungary	62
The physical hardness of work	65
Wage differentials among sectors and branches	69
Regional (geographical) wage differentials	79
The role of the company size	82
Hierarchical wage differentials (due to employment position)	84
Wage differentials by sex and age	88
Wage differentials by sex	88
Wage differentials by age and seniority	92
Development tendencies of wage ratios	95
The decreasing tendency of wage differentials	95
Income ratios in countries with different social systems	97
The weight of the different wage determining factors in the Hungarian wage structure	99
Notes to Chapter 2	102

Chapter 3

THE ROLE OF WAGES AND OF FACTORS OUTSIDE WAGES IN THE ALLOCATION OF THE LABOUR FORCE (COMPENSATORY WAGE DIFFERENTIALS)	107
The classical labour market	108
The modern capitalist labour market and the labour market of the socialist countries	110
The freedom of the labour force to choose profession and work place	111
Expression of the relationship between the demand and the supply of labour in wages	113
The most important factors of the allocation of the labour force outside wages, and their relation with wages	116
The school system	116
The content characteristics of work and the role of the working conditions	121
The social prestige of work	122
Social provisions. The "infrastructural" conditions of work	124
The numerical expression of the allocation effect of wages	126
The allocation effect of wages and of other factors on the different categories of employees	130
The allocation of the labour force and distribution according to work	134
Central labour force management and the labour market	137
Notes to Chapter 3	143

Chapter 4

THE ROLE OF WAGE DIFFERENTIALS IN STIMULATING FOR AN INCREASE IN PRODUCTIVITY. WAGE DIFFERENTIALS ACCORDING TO PERFORMANCE	147
The general mechanism of stimulation	148
How the various working people affect productivity, and the problem of their stimulation	152
The stimulation of manual workers and of staff employees	153
The situation and the stimulation of workers employed in key positions which are not leading posts	157
The stimulation of managers	161

Some problems connected with the situation of medium-level leaders at companies	165
The general dilemmas of stimulation for increasing productivity, and the ways of their easing	167
The unequal possibilities of increasing productivity. Stimulation of the relatively well-measurable work performances	168
Some questions of the elaboration and the changing of work norms	171
The uncertain measurability of a significant part of work performances	173
Social pressure in the direction of levelling	176
Conditions, outside the company, of effectively stimulating productivity increase	179
Harmony between the demand and supply of labour	179
Appropriate increase in the level of real wages	181
The system of company wage regulation	183
Notes to Chapter 4	186
Chapter 5	
SOME TOPICAL PROBLEMS OF WAGE DIFFERENTIATION	191
Wage differentials according to performance	193
Qualified work - hard manual work	199
The wages of technical professionals	204
Incomes of leaders	206
Notes to Chapter 5	211
Chapter 6	
THE SITUATION AND THE STIMULATION OF TECHNICAL PROFESSIONALS	213
The size and composition of the staff of engineers	216
The utilization of engineering knowledge	228
Performing work which does not require engineering knowledge	228
Control and management	229
The control of research and development activities	237
Working conditions and schedule	244
The mobility of those performing technical creative work	248

The financial and social appreciation of engineering work	253
Interest in innovation	261
Sharing in the results	264
The interest of company managers in innovation	266
Inventions and innovations	269
The economic environment of the company; the system of functioning of the national economy	276
Notes to Chapter 6	278
Chapter 7	
HIGH PERSONAL INCOMES	287
The ways of limitation	289
The extension of the possibilities of utilization	292
Forms of accumulation independent of profession	295
Accumulation related to professions	299
Investments in private small-scale industry and in private trade	299
The establishment of new types of industrial and servicing co-operatives	300
State securities and bonds	302
Altruistic utilization	303
The likely development of high incomes and of the wealth of the population	304
The likely development of high incomes	304
The likely development of the wealth of the population	308
Notes to Chapter 7	315

PREFACE

The primary aim of this book is to provide help for those involved in teaching as well as for practical professionals to better understand the problems relating to the theory of wages and wage policy. Being an issue of outstanding importance of political economy, these problems have interested me for decades, and I have written several contributions to textbooks and have held several lectures on this topic. However, this fact has not only made my work easier, but at least as much difficult as well. During this long time, I have increasingly realized how extremely complex this subject is, and that there are many contradictions and problems, some of which seem - at least to me - unsolvable.

When we do not know a problem fully, we have more courage and less inhibition to start our work. Furthermore, university lecturers are subject to a special "occupational hazard"; namely, with a little exaggeration, they have to repeat their theses so many times that finally they accept them without reservations. And by doing so, they make the picture of reality inflexible - a picture which is necessarily simplified for teaching purposes and which would thus need to be continuously renewed and confronted with reality. It is very difficult to avoid this trap and I think I have not completely managed to do so.

When writing this book, I did not endeavour to say something new and individual in every respect. From time to time, I also discussed well-known basic issues, although not in the usual form. However, I had no intention whatsoever to write a

usual textbook. I have omitted the exact definition of frequently used concepts (supposing that they are generally known) as well as some other information closely related to the subject, while at the same time I have often digressed from the subject to "farther" areas which to me, however, do not seem to be that far away. There are problems which are discussed at several places, but this is not due to some negligence or superficiality; rather, this is how it corresponds to reality.

Finally, I would like to thank all those who assisted me in my work for their encouragement, advice and critical remarks; among them, I would like to mention especially István Friss, Róbert Hoch, János Kovács, Tamás Nagy and József Rózsa, as well as my immediate colleagues at the Department of Political Economy at the Karl Marx University of Economics.

The Author

PREFACE TO THE ENGLISH EDITION

This book is based on an earlier work of mine, published in Hungarian in 1979 under the title *Munkabér, ösztönzés, elosztás* (Wages, incentives, distribution). Although now I see several issues dealt with in that book in a different way, I did not revise the text included therein, since it would not have made much sense to make some superficial modifications, while I could not afford to rewrite the whole material. However, I have updated some of the data (the ones that were available for later years as well) and have enlarged that book with some new chapters treating problems that are closely related to the topic. I hope that this book will give the Reader a picture about the issues that have aroused the interest of Hungarian economists in the field of wage theory and wage and distribution policy. Some of the problems are very similar to the ones that can be found in the capitalist countries, some others are completely different. When I take a stand - although it may in many cases coincide with the opinions of other Hungarian economists - it expresses after all an individual standpoint, and it should in no way be considered as a general Hungarian position. Standpoints taken by Hungarian economists have become to show an ever greater variety lately.

I would like to ask the Reader not to consider this book as a completed work, but rather, as the product of a specific period, which has to be followed by other works from other periods, treating partly different issues from different angles.

The Author

CHAPTER 1

WAGES AND DISTRIBUTION ACCORDING TO WORK

THE CONCEPT AND THE ECONOMIC—SOCIAL CONTENT OF WAGES

In modern societies, either capitalist or socialist, wages (salaries) are the basic form of the working people's personal income. Wages are rates paid for work, serving as a means of the reproduction of the labour power and at the same time as an incentive for labour. As a means of the reproduction of the labour power, wages together with the various social benefits should guarantee an adequate subsistence, an adequate standard of living for the working people and their families. This is also referred to as the distributional function of wages. As a means of incentive - since their volume also depends on the extent to which labour force is available in a given area, in other words, on the relationship between labour demand and supply - wages also prompt the labour force to find employment in those occupations, production branches or geographical regions, etc. in which there is a shortage of labour. And since the volume of earnings depends on the working people's performance as well, wages thus also stimulate the working people to fulfil their commitments and to increase their performance. These functions, which are closely interconnected and interdependent, are common characteristics of wages, which can more or less be found in any society. However, wages as well as the way in which their functions are realized always bear marks of the existing social and economic conditions, too.

WAGES IN CAPITALIST SOCIETY

According to the thesis of Marxist political economy, under capitalist conditions wages are the price of the labour power, the money expression of the value of the labour power. The changes in the *volume* of wages depend primarily on the *value* of the labour power, which - as the value of all other commodities - is determined by the amount of labour socially necessary for the reproduction of the labour power, that is, by (1) the costs of the everyday reproduction of the labour power; (2) the costs of maintaining the family and upbringing the offspring by the worker; (3) the costs of acquiring the necessary qualifications enabling the worker to do work.

It is an immanent feature of value that it cannot be grasped directly, that it is a category which "cannot be caught", a volume which cannot be measured. This applies to the value of labour in a special way, because it always involves a special "historical and social" element, and in this way, it is to a certain extent determined by itself. "... the number and extent of his so-called necessary wants, as also the modes of satisfying them, are themselves the product of historical development, and depend therefore to a great extent on the degree of civilization of a country, more particularly on the conditions under which, and consequently on the habits and degree of comfort in which, the class of free labourers has been formed."¹ Consequently, the costs of the reproduction of labour power depend to a great extent on the already achieved, established conditions which, in turn, are determined by the usual level of the wages.

In the wage theory of the physiocrats, as well as of the classics of bourgeois economics - Smith, Ricardo -, biological aspects had an important place. The essence of their notion is that if the increase in population is faster than the increase in capital stock and land returns, this exercises pressure on the wage level which, as a result, is always around subsistence level. (It is quite understandable that the wage theories, born in the period when labour reserves seemed to be inexhaustible, regarded subsistence level as the determinant of wages.) With

Marx, the biological aspects were replaced by the endogenous processes of the capitalist economy: profiteering, the contradiction between production and consumption, etc., which ensure a continuous surplus of the labour force and that, in turn, influences the wage level. At the same time, Marx also pointed out that to the merely physical subsistence level, certain standards achieved in the course of history (the so-called "historical and social" element) were connected. This is practically the first significant attempt to take into consideration such factors of the labour market which are of a specifically sociological character. However, modern bourgeois economics generally ignores this notion and attacks the Marxist wage theory on this very point.

Another group of factors exercising an effect on the volume of wages is connected with labour demand and supply and the development of the power relations between the working class and the capitalist class. Basically, it is these circumstances that determine where the actual wages are between the lower and the upper limit of the value of labour (lower limit: the value - under the given circumstances - of minimum subsistence for the workers and their family; upper limit: the satisfaction of all the workers' needs developed historically and socially). A rapid increase in the demand for labour creates favourable conditions for the workers to realize their wage demands, whereas labour surplus, large-scale unemployment involves the possibility of reducing (real) wages. But all this takes place within strict limits. It is well known that the nature of capitalist accumulation excludes any increase in wages which would endanger the maintenance and extension of the capitalist conditions. If - under otherwise identical circumstances - wages grow, then the surplus value and consequently accumulation will decrease, and a decrease in accumulation leads to a decline in the demand for labour, which in turn soon results in a reduction of wages. Thus, the volume of wages cannot long-lastingly be greater than what corresponds to the value of labour, that is, wages cannot long-lastingly be higher than what the workers (the masses of the manual and intellectual employees) actually spend on their personal needs.² Their living standards can con-

siderably grow, "... so that they can extend the circle of their enjoyments; can make some additions to their consumption-fund of clothes, furniture, etc., and can lay by small reserve-funds of money."³ Nowadays, the list can be completed: they can buy various domestic appliances, colour television, cars, or sometimes even a family house, etc. However, this does not alter the fact that - with a few rare exceptions - they do not have the possibility to accumulate a considerable part of their income in order to turn it into capital, to put an end to their positions as wage-workers.

The other aspect of the question, however, is that wages cannot long-lastingly decline and reach the point which already obstructs the satisfaction of the basic needs of labour power (considered as such under the given circumstances), that is, its normal reproduction, on the one hand, and the realization of the bulk of consumer goods produced in an ever increasing quantity, on the other. The first point does not require any special explanation. Regarding the second one, the most important circumstance is that the workers are not only the producers of surplus value for the capitalists, but also the main consumers of their goods. The individual capitalist is interested in keeping the workers' wages at the lowest possible level, whereas the interest of the capitalist class as a whole is to adequately increase the total purchasing power, that is, within it, that of the workers and employees. And this limits the realization of the efforts which aim at bringing down the wages. "... the commandment 'pay low wages' is only valid for every capitalist if it relates to the wages of his own workers. A high wage appears immediately as a blessing if it is paid by someone else (without the obligation for him to follow suit), since as soon as a toiler of some factory enters a shop after work, he turns into a buyer and makes the owner of the commodities happy by relieving the shelves of the shops of these commodities."⁴

Until recently, no special attention was devoted to the operation of the mechanism which regulates the price of labour. We had been satisfied with the oversimplified statement that the price of all commodities, including labour, fluctuates

around its value. In reality, since wages are, on the one hand, the basic cost of commodities produced in a capitalist way and, on the other, the decisive determinant of demand for consumer goods, low wage level does mean low cost level, but at the same time, it also means low demand, whereas high wage level results in high costs, but at the same time high demands as well. Therefore, the mechanism regulating the volume of (real) wages operates differently from that which regulates the price of ordinary commodities. It was Péter Erdős who pointed this out when analysing the relationship between accumulation and the volume of wages.

"The sum of real wages of $F-f$ volume [F = the volume of consumer goods available on the market at a given period of time; f = the quantity consumed from this volume by the capitalists] received by the working class as a whole moves in the same direction as ... production. Full employment also changes together with it... The number of those producing consumer goods - and, together with it, the production of consumer goods - fluctuates to a smaller extent than the number of those producing investment goods. When the boom reaches its peak, then is the $F-f$ volume of consumer goods available for the workers shared among the greatest number of people. If in the upswing phase of the cycle, the productivity of labour producing consumer goods did not increase, the total sum of real wages of the working class would certainly be the highest at the peak of the cycle, but at the same time, per capita real wages would be the lowest. And the other way round: during a depression the total sum of real wages would be the lowest, but at the same time, per capita real wages would be the highest. However, the productivity of labour increases in the meantime. Therefore, per capita real wages at the peak of the cycle can even surpass those at the bottom of the cycle; however, they generally surpass them only to a very little extent.

Summed up: this is the mechanism which ensures that real wages should not greatly differ from the volume developed in the short run, that is, from what - as regards its value - we could also define as the value of the labour power".⁵

This is the model of the wage mechanism in "pure capitalism", which basically applied to the period until the Second World War. Under the conditions of state monopoly capitalism, the process has become much more complicated and has been modified in several respects.

Wage theory is a "hard nut to crack" not only for Marxists, but for modern bourgeois economists as well who also have their difficulties within their own system of approach. For example, P.A. Samuelson believes that if an economist starts to deal with the general problems of the labour market and with the causes determining wages, he will soon subside into silence, and if he is sincere to himself, he will admit that there are many uncertainties and doubts even as regards the most fundamental issues of the topic. And this is not due to the too low number of wage theories.⁶

According to the marginal productivity theory of wages, similarly to any other factors of production, labour cannot receive a countervalue bigger than what is paid on the market for the increase in its production result of its last unit. This concept, among others, contains one of the immanent contradictions of the marginal productivity theory, namely, that it presupposes a permanent, continuous possibility of substitution among the various production factors. In reality, this possibility of substitution is neither unlimited, nor is necessarily continuous. Quite often, there are abrupt changes in the volume of application of the individual factors.

The neo-classical theory of wages which is based on the marginal productivity theory is actually not a wage theory, but rather a price theory mechanically applied to the labour market. The already classical textbook of J. Hicks on the theory of wages starts with the following words: "The theory of the determination of wages in a free market is simply a special case of the general theory of value. Wages are the price of labour; and thus, in the absence of control, they are determined, like all prices, by supply and demand."⁷ This theory sees only the parallel between the development of prices and wages. It directly transplants what are regarded as tested methods of the marginal productivity micro-economic theory of prices - the X dia-

gram formulated from the demand and supply curves, the statistical and comparative statistical price analyses, etc. - to the field of wage formulation. It does not devote proper attention to the differences between the labour market and the commodity market, neither to the distinctive characteristics of the labour market, nor to the role of the human, sociological, socio-psychological and institutional factors. Due to a considerable extent to these very weaknesses, many of the bourgeois economists also reject the marginal productivity theory of wages and consider it as outdated.⁸ They regard it as unsuitable to explain either the absolute amount of wages or the differences in wages. "The information value of the theory of marginal productivity and the concept of a 'balance wage' which is unambiguously determined by it seems to be rather low from the aspect of the composition of the wage structure. In the final analysis, it shrinks to the commonplace statement that the employers cannot pay more to their employees in the long run than what the performance of the latter ones brings them," writes F. Fürstenberg.⁹

According to W. Hofmann, the statement that the feasible upper limit of wages corresponds to the productivity of labour, in other words, to the point where total incomes become wages, whereas their lower limit is determined by the subsistence level of workers, is self-evident and does not require a national economic theory.¹⁰

The most recent western wage theories which are rapidly gaining ground already attribute major significance to the sociological and socio-psychological factors. They largely explain the wage ratios by market-power relations, by the power relations between the parties of the labour market - the trade unions and the employers' organizations -, as well as by social agreement on the adequacy of the wage ratios ("bargaining" and "consensus" theories).¹¹ According to the advocates of the "consensus" theory, the differences in wages depend on the "income" which society determines in a normative way to be justified by professions, that is, on the ideological view of the qualitative characteristics of labour (necessary qualification, physical strain, etc.). While the absolute highness of labour

incomes is determined by market and power processes, their relative highness is determined by the irreducible system of socially sanctioned needs (Claus Offe). What are paid for in the form of wages constitute the social status of the individual categories of workers; that is, the hierarchy of wages reflects the social relations among these categories (Pierre Ranval). These theories reject the explanation of the wage ratios by the demand and supply conditions of labour, and thus they sharply disassociate themselves from the approaches which are based on the marginal productivity theory; at the same time, however, they also deny the objective determining role of the qualitative characteristics of labour, claiming that these cannot be measured in an exact manner. I shall return to these questions later in this book.

On discussing the various wage theories, we cannot pass without a word the various attempts which try to explore the determinants of the differences in wages with the help of econometrics, in the first place, the correlation calculations. These bring to the surface several interesting and exploitable interrelationships, help control the validity of the already existing concepts and hypotheses, but they cannot replace the theoretical foundation of the issue. They usually provide explanations related to partial problems that are verifiable only statistically, and although these explanations may coincide with reality, the possibility of their generalization is limited.

WAGES IN SOCIALISM

Wages in socialism are generally defined in the following way: the share of the workers and employees from the consumption fund of the national income on the basis of their performance, that is, their share from the material goods and services which serve to satisfy the population's personal needs.¹² If one takes into account the economic separation of the companies - and that can hardly be ignored -, then the definition has to be supplemented and corrected. Workers establish direct working

relations not with society as a whole, or the state, but with a given company or institute. Workers employed in the production sphere do not receive their wages directly from the social consumption fund, but from the value of the product produced at and realized by the given company.¹³ Therefore, wages have a dual character: they are both a national economic and a company category simultaneously. They represent a share, on the one hand, in the social consumption fund, and, on the other, directly in the products manufactured and marketed by the company. It refers to their relationship with the social consumption fund and the social wage fund that wages are generally paid in the framework of a centrally elaborated wage tariff system which is of national validity, that is, the average wage level and the main wage ratios (among branches, professions, geographical areas, etc.) are centrally determined. At the same time, within these occasionally rather wide limits, the companies determine the wages of their individual workers and establish their own wage ratios independently. The highness of the company's wage level - including all payments of a wage character, viz. premiums, bonuses, profit shares, etc. - is generally also affected by the economic results achieved by the company, which influence the strongest the wages (i.e. salaries) of the company managers, but generally also have an effect on those of the other strata of the working collective.

The costs of the reproduction of the labour power plays a role in the volume of wages in socialism, too. In the case of the lowest, minimum wages, it is a well known fact, since those performing the simplest and the lowest-paying work should also receive such wages which - together with the social allowances - enable them to reproduce their working capacity and to satisfy their own and their family's basic needs in accordance with the given level of social and economic development. (In other words, even in this case, wages cover more than the mere subsistence costs.) However, it would be a mistake to think that the costs of the reproduction of the labour power have an effect on the lowest wages only. In fact, they influence the wages of every category of workers. Accordingly, the wages of those whose labour power can only be reproduced at higher costs (due, e.g. to

greater alimentary, clothing, cultural, etc. needs) are higher. That is, the wage or income ratios also depend on the differences in the costs of the reproduction of the labour power. Its volume, however, due to the already discussed circumstances (including the "historical-social" element) can as little be quantified here as under the conditions of capitalism. The main, directly perceivable manifestation of its effect is the close relationship between the wages and the already achieved living conditions (their absolute and relative levels). The already achieved (real) wage level can only be reduced at the cost of conflicts, and an effective modification of the established structure and hierarchy of wages may encounter strong opposition.

What is the upper limit of wages in socialism? Even the highest income strata may only have so high wages which although enable them to satisfy their needs at a high level - the realization of their abilities free from financial restrictions -, yet cannot be considerably higher than the amount which at the given level of development can reasonably be spent on personal or family consumption (or on investments directly serving that purpose). This follows from the fact that in socialism, personal income may only serve one single goal, namely, the satisfaction of direct personal needs, and even that only within the socially still acceptable limits. No such differences in wages can be allowed which might lead to serious social conflicts or to such differences in the way of living or in properties which irritate the public to a great extent. Hence, the specifics of the socialist system strongly manifest themselves in this issue.

Naturally, the wages of the great majority of people can neither in capitalism be higher than what is needed for the satisfaction of their personal needs, for their consumption. These people cannot accumulate a significant capital from their wages, nor can they use them as a source of income without work. However, there is a minority for whom all this is the natural economic mode of existence.

In socialism, the possibility of acquiring income without work and of accumulating capital has to be blocked, or at least strongly limited for everybody. This society is - by its nature -

much more sensitive to irritating extreme differences in consumption and the way of living. One way of eliminating this is the limitation of inadmissibly high incomes. Another - equally important - way is to improve the situation of the strata who live under unfavourable financial conditions, by granting them an adequate share of the general increase in social welfare.

What has been said makes it perhaps also clear how false the view is that socio-political considerations have no place in wage policy and that the "competence" of social policy is confined to social allowances. It is true that socio-political considerations cannot determine the *individual* wage ratios. A worker cannot be given higher wages simply because he has more family members to support. This is an issue of the family allowance. However, in the elaboration of the income ratios of the different working *strata*, political and socio-political considerations must and do play a significant role. There is no wage policy without socio-political considerations even in the capitalist countries, and can even be less so in a socialist society. Wages can always be differentiated to a socially acceptable extent only. However, it is also true that this socially acceptable extent can be formed and influenced to a certain degree.

DISTRIBUTION ACCORDING TO WORK

FINANCIAL INCENTIVES

Modern society has to solve the problem of stimulating its members to perform work; more precisely, their task is not simply to work, but to perform it in such a way, with such intensity and in such quality, etc. which corresponds to the given development level of the forces of production, and at such a place which is assigned to them by the social distribution of labour, and within that, by its distribution in the factories.

Incentives are always connected with the satisfaction of some sorts of needs. The needs to be socially satisfied can be basically divided into three groups: (1) needs of a material

character; (2) moral and social needs; (3) needs related to work performance and working conditions.¹⁴ (Naturally, in addition to the needs that are to be socially satisfied, there are also biological and emotional needs which can only be satisfied individually. However, the discussion of the latter ones does not belong to our topic.) Corresponding to the three types of needs, there are also three types of social incentives to stimulate to work: (1) financial incentives, (2) moral and social incentives and (3) the attraction of work, of the working conditions. Actually, in every period all three types of incentives are effective, but their weight compared to each other is changing, and this change even seems to show a trend. In the course of development, the stimulating effect of the moral and social factors, and especially that of the working conditions increases. However, it does not alter the fact that in the whole period of socialism, financial incentives have priority and they do play a determining role. They are realized primarily through payments for work, i.e. through wages.

Financial incentives are usually characterized as a factor which resolves the contradiction between the interests of the individual and society and connects these two types of interests. This is a simplified concept which regards the interests as a simplified concept which regards the interests of the individuals, the collectives and those of society to be homogeneous. Actually, the interests of the individual, of the group and those of society as a whole are in themselves different and full of contradictions. Even an individual has many different and contradictory interests. For example, (s)he is interested in living ever better, but without doing too strenuous work, seeking at the same time such a job which helps evolving his/her abilities and which does not only satisfy his/her temporary needs but also ensures perspectives and opportunity for further promotion. In addition, (s)he is also interested in a favourable working system and schedule, a good collective, that his/her work place would not be too far from his/her home, and that its infrastructural conditions would be favourable, etc. Financial incentives stimulate the individual workers to put some of their interests to the foreground while pushing some

others to the background, and to classify the non-financial advantages and disadvantages as a function of their related financial consequences, that is, to give up the satisfaction of some of the non-financial needs in return for certain financial advantages. It is in this way that financial incentives are able to reconcile the individual interests with the social ones (namely, when financial interests point to the socially desirable direction). For example, in return for higher wages, workers undertake to work in an unfavourable working system, do physically strenuous work, or go to a work place which is far away from their home, etc. The extent of the financial incentives required to push this or that need into the background varies greatly and depends on the actual conditions. When their basic needs are unsatisfied, people are willing to take these disadvantages in return for even relatively small extra wages, because they are compelled to do so. At a richer stage, however, only strong financial incentives - and even these only to a limited extent - are able to prompt the individual to push his/her extra-needs into the background.

Financial stimulation can be implemented not only through wages, but also through certain social allowances (e.g., providing flats under favourable conditions, granting accommodation to children in children's institutions, etc). Under certain conditions, the effects of these can compete with those of wages or can even surpass them.

ABOUT THE INTERPRETATION OF DISTRIBUTION ACCORDING TO WORK¹⁵

The necessary financial stimulation is primarily ensured under socialism by the realization of the basic principle of distribution in socialist society, namely, the distribution according to work.

There are two basic problems involved in this type of distribution: (1) how should wage ratios develop among the various *categories* of workers; and (2) how should wage ratios develop among the *individual workers* within these categories?

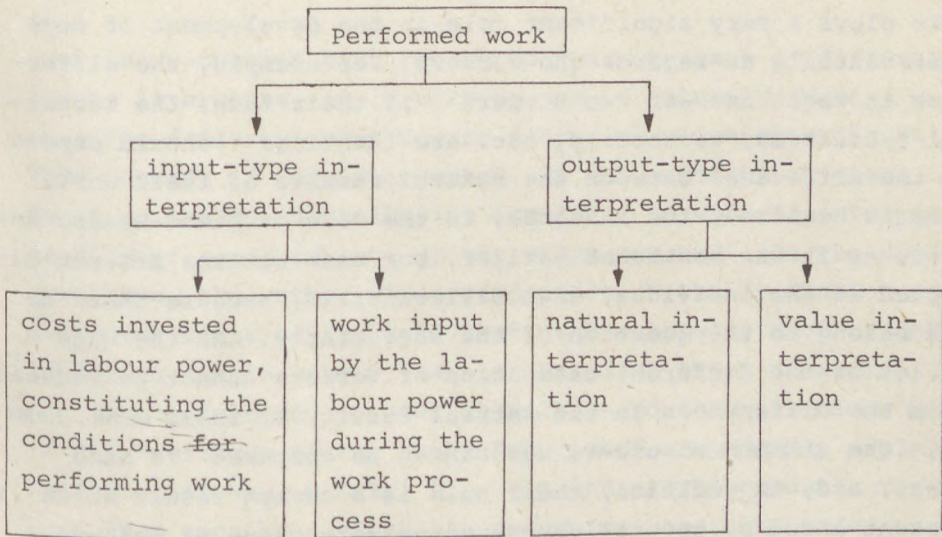
Here I am dealing only with the first problem, namely, the volume and ratio of average wages of the different categories of workers in relation to each other; while I shall be discussing the second problem later.

I am seeking here an answer to the question: "What is the centre of wages in socialism, and how is it asserted?" Hence my starting hypothesis is that such a centre (a sort of centre) does exist, that is, it has to exist. Wage ratios do not develop accidentally, or on the basis of arbitrary decisions. And they cannot simply be explained either by the relationship between the demand for and the supply of certain categories of labour,¹⁶ because then the classical question immediately arises: "What happens when demand and supply precisely coincide?" Furthermore, neither can I accept the explanation - widespread among western economists lately - which holds that wages are merely formed by agreements reached as a result of clashes between power relations or diverging value judgements through bargaining (theories of "bargaining", "concensus", etc). These theories also raise further questions, without explaining why the wage ratios are similar in the countries which are on a more or less similar economic development level, and what accounts for the common tendency of the development of wage ratios, a tendency which can practically be found everywhere.

In the course of examining this issue, I regard the necessity of distribution according to work in socialist society as an axiom. By distribution according to work I mean that work-incomes are situated around performed work taken as the wage centre. Therefore, I seek the determinants of the wage centre among the possible interpretations of performed work, that is, the correct interpretation of performed work from the point of view of the wage centre.

Already in a first approach, the concept of performed work can be interpreted, and is in reality interpreted, in two ways. On the one hand, as an input category, and on the other, as an output category. In the case of the input-type interpretation, we can differentiate between costs invested in labour power, which constitute the conditions for performing work, and the work input of the labour power, which is realized during the

work process. As an output category, performed work, i.e. its result, can be studied in a natural form, or in its value form. Let us represent this in a scheme:



Scheme of the basic interpretation possibilities of performed work

We continue our examination according to this scheme, starting with the output-type interpretation.

THE OUTPUT-TYPE INTERPRETATION OF WORK

Here, work is represented by its result, and accordingly, distribution according to work means that the payment for work is connected with its result. This seems to be very rational, because for society it is not the input which provides the conditions for performing work or the input during this process that is important, but the result itself. It is the result of work that should be increased through stimulation. However, if we examine the problem more closely, it is not so simple: output can be interpreted in a natural way, but it is also possible to approach it from the aspect of value.

The natural result of labour is the bulk of use-value created, which depends on the productivity of the given labour. This plays a very significant role in the development of wage differentials as regards the workers. For example, the difference in wages between two turners - if their task, the technical facilities, technology, etc. are identical - should depend on the difference between the natural results of their work. This is realized, for instance, in the case of piece-wages. However, as it was mentioned earlier, our examinations are not directed at the individual wage differentials, because these do not belong to the question of the wage centre. And the wage ratios of the different categories of workers cannot be deduced from the differences in the natural results of their work. Namely, the different use-values cannot be compared to each other, and, in addition, their bulk is a common result which is brought about by several co-operating categories of workers, the applied technology and even nature itself.¹⁷

Due to the same reasons, neither can the growth of the wages of the workers in the individual branches depend exclusively on the development of the productivity of the given branch, which depends on several other conditions independent of the workers of that branch. And the development of wages should follow the changes which have taken place in work itself, and not the diverging *objective* possibilities of increased productivity. Naturally, it may happen from time to time that the change in the natural result - in respect of even a whole branch - derives to a considerable extent from the change in the effort made by the workers (e.g., an increase in work intensity), and then this also has to figure in the increase of wages. This, however, already belongs to what was discussed as the fourth interpretation, the question of work input by the labour power during the work process (see sub-section "The value approach to output").

The limits to the possibilities of paying wages based on the productivity of work or its natural result are widely known.

In this respect, there are no great illusions in common knowledge.

The value approach to output

The situation with regard to this approach is different. In the literature, it is very common to relate *different payment* for different work to its differing value-creating ability. This concept is widely accepted. In the majority of cases, at least in theory, distribution according to work is interpreted as *payment proportionate to the value created*. (In the socialist countries, the rather widespread study of the "reduction of different sorts of labour", that is the tracing back of complex labour to simple labour, is also based on these ideas.)

The references go back to Marx. Also the well-known theses of the "Critique of the Gotha Programme" are usually explained in a similar way, namely, "... the individual producer receives back from society - after the deductions had been made - exactly what he gives to it"... "The right of the producer is proportional to the labour supplied."¹⁸ In my opinion, neither the conclusion outlined above, nor some other, closer interpretation of the distribution according to work can be gathered from these statements. The classics of Marxism were no prophets, they were scientists and revolutionaries. In their statements concerning the principles of distribution in socialist society - in accordance with the historically necessary aspect under the given conditions -, they primarily pointed to the profound difference between capitalist and socialist distribution: namely, that in socialism work will be the only source of income, and incomes deriving from the private ownership of the means of production will be abolished. They also disclosed the impossibility of equal distribution and of distribution according to needs. No other, more concrete interpretation should be given to their statement.

Marx made only few statements about socialist distribution and this has prompted many of those dealing with the question to draw conclusions from his statements relating to wages in capitalism (which are naturally available in greater abundance)

for the socialist conditions, too. This approach is justified, because - as I said - the radical difference between capitalist and socialist distribution lies not in the wage ratios themselves, but in the fact that incomes without work are abolished in socialism. Despite the completely *different social and economic content* of wages in the capitalist and the socialist societies, *the quantitative relation of wages*, i.e., their volume compared to each other - if we disregard the wages of people in special leading positions - is determined by factors that are similar in the two systems in many respects. There are functions which are identical in both capitalism and socialism: for example, (1) wages have to cover those costs of the reproduction of the labour power, which are not covered in some other way (social allowances, etc.); (2) they have to promote an adequate allocation of the labour force among professions (trades) and work places; (3) individual wage differentials have to stimulate the increase of work performance and the fulfilment of tasks at one's work place.

Actually, there are such statements by Marx, among the ones concerning wages in capitalism, which - if viewed in themselves - seem to support a direct quantitative relationship between the volume of wages and the value produced by the workers. For example, regarding the worker who performs a more complicated work than the average, he writes: "This power being of higher value, its consumption is labour of a higher class, labour that creates in equal times proportionally higher values than unskilled labour does."¹⁹

In my opinion, however, the emphasis here is not at all on the expression "proportional", and hence it is not correct to give it an exact quantitative interpretation. Such an exact quantitative interpretation does not follow anyway from the train of thought of Marx's theory in which the centre of wage movements has one determinant, namely, the cost of the reproduction of the labour power. And it is an assumption lacking any foundation that the cost of the reproduction of the labour power is proportional to the value it creates, in other words, that the rate of m/v is identical with regard to every labour category. Namely, while the levelling of the rate of surplus

value among the different industrial branches has its own mechanism, there is no such mechanism which would ensure the leveling of the rate of surplus value between the different working categories.

We have said that Marx's statements on socialist distribution represent definite aspects (i.e. they emphasize the basic features of socialist distribution which are radically different from those of capitalist distribution), and the same applies to his wage theory relating to capitalist conditions. Marx's wage theory is based - according to Engels - on his theory of surplus value. As I would formulate it: it serves the solution of the "secret" of the capitalist system, of the surplus value. When Marx stresses that the worker performing more complicated work and receiving higher wages produces higher than average value, he does not wish to define an exact quantitative relationship between wages and the created value; here he primarily wants to point out that in capitalism even the best paid worker is exploited and produces surplus value for the capitalist. So under no conditions can one base on this statement a concept of the wage centre - also valid for socialism.

In contrast to use-value, value can really be created exclusively by human work. However, under the conditions of modern production, goods are not the result of the separate activities of the individual workers, but the joint product of a complicated co-operation among the members of the company collective. And the market and society can only evaluate the goods, the bulk of goods which are produced in this way, that is, by the whole of the company. However, the idea often arises whether it is not possible to deduce the wages paid to individual workers or to working groups from their contribution to the total company value acknowledged by the market. In reality, there is no possibility for it either in theory, or in practice. Market does not assess the activity of the individual worker or a working group separately from that of the company, and there is no other way either to find out the extent of their contribution to the joint company result.

It had long been disputed in Hungary whether the personal income of the whole of the company collective should depend

- and to what extent - on the company result, and what should be the extent of this dependence in case of the different working groups (i.e. managers, staff, etc.). In recent years, the heat of the debate has decreased. That standpoint has become widely accepted which - in the majority of the economy - approves of making the personal income of the company collective dependent on the company result, but accepts *its considerable dependence* on the result only in the case of the leaders (managers, department heads, foremen). However, in the final analysis, not even in the case of leaders can we speak of wages proportionate to the created value; at most, only of certain relationship with the socially *presumed* contribution.

Consequently, we have seen that, interpreted as output, the work performed cannot constitute the centre of wage movements either in a natural or in a value form. Let us now see the input-type interpretation.

THE INPUT-TYPE INTERPRETATION OF WORK

Costs invested in labour power, constituting the conditions for performing work

These are actually the costs of the reproduction of the labour power, within which one can differentiate between educational and training costs, which make it suitable for carrying out work (i.e. training costs taken in the broad sense) on the one hand, and the costs which ensure the continuous, daily reproduction of the already trained labour power, on the other.

The Marxian theory of wages related to capitalism, i.e. the concept of the wage centre, is based on this above-mentioned principle. Accordingly, the centre of wage movements - similarly to the price centre of ordinary goods - is the cost of the reproduction of labour power. It follows from the commodity nature of labour. It is through this that the theory of surplus value becomes accomplished and the whole theoretical system perfect and complete. The chief message of this theory as regards the volume of wages is that the worker cannot receive more wages than what he has to spend on consumption under the

given circumstances. Resulting from the essence of the system, he cannot have means left for accumulation or capitalization.

One must never forget that Marx did not wish to provide a formula which could be well utilized for the purposes of bourgeois economic policy, instead, he wanted to reveal the economic and political essence of the capitalist system.²⁰ His definition quoted above was not designed to give an explanation of the inter-wage ratios, suitable for everyday use. The cost of the reproduction of a labour category - due to the effect of the historical and social factors so much emphasized by Marx - depends to a large extent on its already achieved and established living conditions. These latter ones, however, are basically determined by the volume of wages. We have arrived partly at a sort of vicious circle which perfectly corresponds to reality, accurately reflects the extreme complexity of inter-relationships, but is insufficient to answer the everyday questions. Labour is a special commodity not only in the sense that it is able to produce new value, which is even higher than its own value - and this is the decisive factor as regards the essence of capitalism -, but from several other points of view, too. If we are looking for a wage centre which can also serve as a basis for practice, it cannot simply be deduced - on the model of the price centre - from the costs invested in labour alone.

Although it is generally accepted among Marxist economists that under the conditions of socialism it is incorrect to regard labour as a commodity, it is a recurring idea - and certain really existing commodity features of labour may support this - that the wage centre in socialism should somehow be deduced on the model of the price centre, that is, from the costs, or at least from a group of costs invested in labour. The assumption which serves to bridge the contradictions emerging in this way - namely, that the value produced by the worker is proportionate to the costs of reproduction, or in a broader sense, of training - is similar to the one discussed above. However, that idea of the wage centre which starts out exclusively from the costs of training cannot provide under the conditions of either capitalism or socialism the fundamental prin-

principles which wage policy would require in practice, in its everyday activity. Nevertheless, the respective numerical investigations have provided many useful lessons: they have thrown light, for example, on the need to take into account the costs of training borne by the family, and in general, on the honoured role of qualification in wage ratios.

Actually, *qualification* - which is to a considerable extent determined by the sums invested in training that makes the labour power able to perform work - *is one of the determining factors of the wage ratios, of the wage centre.*

Work input by the labour power during the work process

The other decisive factor is constituted by the concrete work input by the labour power during the work process. This covers the primary characteristics of the individual types of work, that is, the intellectual, physical and nerve requirements set by the task as well as the circumstances which determine all this (responsibility accompanying the performance of work, working conditions and circumstances, etc.). These are clearly expressed in the wage ratios as experience shows it. The wage tariff systems based on job categories definitely take these into account in addition to qualification.²¹

The result of my investigations so far is that the correct approach to the wage centre leads through the interpretation of work as input and not as output. Its basic factors are, on the one hand, the qualification necessary for the performance of work, including the related training costs invested in the labour power prior to the performance of work, and on the other, the concrete work input by the labour power during work, namely, the intellectual, physical, nerve, etc. performance.²² The weight of the individual factors or groups of factors - depending on the concrete conditions - is different and tends to change in the course of development. The main tendencies of the shifts in weight are as follows: the weight of the physical hardship of work and that of the working conditions increases even at the expense of the necessary qualification and, to a

certain extent, of responsibility as well. This follows from the fact that whereas earlier the possibility of obtaining a higher level qualification had been the privilege of only a few, later the supply of higher qualified labour increased to such an extent and the number of those undertaking hard physical labour decreased to such an extent that it did not already correspond to the changes in the structure of demand. These circumstances are, so to speak, built into the wage centre. (Actually, already Marx referred to this process in connection with the development of wages of commercial employees.) At the same time, these factors are not independent from each other either, they do affect and influence each other. (Adequate qualification is usually a precondition of certain intellectual or physical performance, etc.) This is a wage centre, or rather, a sort of wage centre, which is not a special characteristic of socialism, but has a more general validity. It is not contradictory to Marx's definition of the wage centre concerning either the capitalist or the socialist conditions; it is simply a more concrete approach to the question from a different aspect, belonging rather to the sphere of technological and economic relations. Let us have a closer look at its characteristics:

a. It is strange anyway that this centre is very much different in its character from the price centre. While the price centre can accurately be measured in money and is determined by costs which depend on the given conditions of commodity production, in the case of the wage centre there is only one determining factor - the cost of training - which can be expressed in money terms, and even that can only be defined with uncertainty. (The costs of training can be interpreted in many different ways, and, in addition, they always contain a "historical-social" element. In practice, qualification is often measured simply by the duration of training.) The other factors - the characteristics of concrete work - have a natural character, and even separately they can only be measured to a limited extent and only at the expense of intense simplification. Their summation in practice and their expression in wages is a rather special process.

It seems that in this process, *social value judgement* - whose development is certainly not independent from the objective economic and social changes - has a special mediatory role which is much greater than in the case of prices.²³ Social judgements and the social scale of values are directly expressed in the weighting of the individual factors.

At the same time, the actual income ratios (especially if they prevail over a longer period of time) do themselves form the social value system and norms. (We are inclined to judge the "importance" of individual professions or jobs on the basis of their place in the social wage hierarchy.) Certain traditional elements are also built into social judgements. Although the countries on a similar level of economic development have basically similar wage structures, still there are lasting differences within their wage structures (e.g. in their sectoral wage structure), and this can largely be traced back to the above-mentioned reason. Similar objective changes - e.g. an increase in the average level of training - can result in very different changes in the wage ratios, due to the normative traditions and the differences in needs. However, a certain international impact of the value judgements can also be noted. Some objective changes taken place in certain countries have an impact on the wage ratios of also such countries where the same changes took place only to a little extent or not at all (even if there is no possibility of a flow of labour force between them). However, all this only affects the *extent*. In the final analysis, changes in the *wage ratios* show a similar tendency everywhere, the weight of the individual factors is shifting in the same direction which we have already mentioned.

All this means that the *wage centre is a rather loose point of attraction*, much looser than the price centre. The reason behind this is that the performance of work is never a simple economic act, the undertaking of work is not a simple selling of a commodity in capitalism either. These acts are always interwoven with extremely complicated sociological, psychological and human aspects.

b. The mechanism of the labour market is not so flexible even under the conditions of relatively free competition as

that of the commodity market; the interrelationship between supply—demand and the volume of wages, which enforces the wage centre and, through deviations from the centre, ensures that the price of this commodity would fluctuate around the centre, asserts itself to a smaller extent. This is primarily due to the fact that the labour force cannot be increased at will and that generally the surplus of labour does not push wages below the wage centre and its shortage does not raise them above the centre to the same extent as it is the case with goods. This follows from the fact that wages are never the price of a single commodity, but are at the same time *personal incomes* which determine the living standard and the social status of the workers as well as their families.²⁴ Therefore, any decrease in wages always encounters extreme difficulties - and not only an absolute, but also a relative decrease. The individual working groups extensively adhere to their place in the social hierarchy of wages; they are opposed not only to an absolute, but also to a relative decrease or to a slower increase in their wages compared to other working groups, and as they are well organized under capitalist conditions and because it is a principal point of the policy of the socialist state to prevent social conflicts, they can largely enforce this. Therefore, wages are less changeable than prices, and the wage ratios can only relatively slowly be modified.²⁵ (For example, if in a profession, due to the technological changes, work becomes physically easier, wages are generally not decreased; instead, the income ratios become modified, but only slowly, through the differences in the rate of wage increases.) All this means that not only is the wage centre a considerably looser point of attraction than is the price centre, but also *the deviations from its centre are greater and more lasting* than is the case with prices.

c. Finally, in close relationship with what was discussed above, the changes in wages do not involve changes to the same extent in the supply of labour. The supply of labour and the structure of that supply are influenced to a much lesser extent by the volume of wages than are the supply and structure of goods by the development of prices. The detachment of wages from the centre does not result in such a flexible restructur-

ing of the labour force as is the case with regard to prices and goods, and the process of adjustment and restructuring takes place at a much slower pace. The role of wages in the allocation of labour is more limited than the role of prices in determining the production ratios of different goods, and it is showing a decreasing tendency. In selecting an occupation or a job, people are not guided exclusively by financial considerations but also - although to varying degrees - by their own requirements set against the working tasks, and the working conditions and circumstances. Actually, the worker's possibilities to assert his financial considerations are rather limited. In modern economy, the structure of the labour force by profession is to a great extent determined by the system of training, by the structure of the school network. Especially in the short run, the differences in wages affect only the qualitative and not the quantitative distribution of the labour force among the professions. Only in the long run do they have an effect on the quantitative distribution. In such a situation, a shortage or surplus of labour can for a very long time exist in a given profession. Regarding the selection of a job within a given profession, wages already have a greater directing effect, but with an increase in welfare, this tends to decrease as well. (It has the strongest effect in the case of selecting a job by unskilled persons.)

We have seen that the wage centre can fulfil its role (both as a central point and as a factor of allocation) only in a looser sense than the price centre can in the case of goods. However, this does not mean that it has a less significant or a smaller role in the complexity of economic processes. One might possibly risk the statement that in societies where goods are produced by wage labour, the development of wage centres is a precondition of the development of price centres. Actually, in the course of this process - even if in the "loose" way described above - the different concrete volumes of work are assessed in advance as abstract value-creating work.

The special difficulties of practical wage policy follow from these characteristics of the wage centre as well as from the extreme complexity of the corresponding interrelationships.

Several pricing models based on firm theoretical foundations, which are at the same time also quantifiable and applicable in practice, have been elaborated all over the world. However, they can hardly be realized in the case of wages. An all-comprehensive, exact and quantifiable model of wages is a Utopia. The measure of the distribution according to work cannot be "found". (By this, I do not want to suggest that such attempts are necessarily useless. On the contrary. Even without achieving the ultimate goal, they might produce valuable results.²⁶) Based on their knowledge and experience, practical experts have to "explore" day by day those wage ratios which are correct under the given circumstances and which correspond to the given purposes. Nobody and nothing can spare them this work, which sometimes seems to be a Sisyphean task. Theory, through clarifying various interrelations that are generally valid only within certain limits, can only provide modest building stones for them. But it is they themselves who have to build from these, who have to combine these, or to use a mythological simili, who have to roll these stones.

The correctness of the wage ratios, their correspondence to the goals of the economy or society can primarily be deduced from the structural balance or imbalance of the demand and supply of labour. Where compared to the work performed wages are relatively low, there usually develops a shortage of labour: only few people choose the profession in question, and the other way round. However, this in itself is not a reliable signalling system. Often it is only some qualitative moments which indicate the disproportions: counterselection, employment of unfit persons in the profession, the dispirited performance of work, dissatisfaction, a considerable slackening of discipline, etc.

WAGES AND PROFITS²⁷

It is a key problem of the development of possibilities inherent in socialism to find the most expedient methods of stimulation, that is, to substitute the driving force of capi-

talist profit by incentives which correspond to the nature of socialist society. The quoted article by A. Vacić examines one of the most important aspects of this sphere of problems, namely, its connection with commodity relations.

Vacić's concept of the distribution according to work can be summarized as follows.

The way in which distribution according to work is realized corresponds neither to the given nor to the desirable economic conditions in the majority of the socialist countries. The nationally unified nomenclature of wages and other payments, the fact that remuneration is paid on the basis of the concrete forms of work (necessary qualification, physical hardship, time spent in the job, etc.), as well as the fact that wages do not depend, or depend only to a small extent (so to say, only symbolically), on the achievements of the economic unit where the work is done, necessarily lead to a sort of "equalizing" wag- ing which is detached from performance. This makes it impossi- ble to realize such a financial stimulation which would be needed for the evolvment of the superiority of the socialist production relations. This situation can to a significant ex- tent be traced back to ideological reasons, that is, to the fact that the problem was approached in such a way that the concrete circumstances under which the socialist revolution took place were disregarded: namely, commodity relations have survived and there is a necessary connection between distribu- tion according to work and commodity relations. In his opinion, if the socialist economy really functions as a commodity pro- ducing economy, work in its concrete form (i.e. in its use- value creating form) cannot constitute the basis of sharing the product produced. Only the socially acknowledged result of work, that is, the volume of value accepted by the market as socially useful, can serve as a basis of sharing. However, since commodity is not the product of individual work, but of the common work of workers active in given economic units, the result of the work of individual workers does not appear sepa- rately on the market, and hence the primary subjects of social- ist distribution are not the individuals, but the commodity producing economic units, the companies. The determining factor

of distribution is the distribution of the national income among the economic units in the form of company income. Compared to this, the distribution of personal income can only have a secondary, derivative character. Personal income is not a volume determined in advance, but is a function of company income. The determination of the volume of wages in advance, independent of the company result, does not correspond to conditions under which labour is not a commodity.

In connection with the ideas outlined above, I shall discuss three issues: (1) the distribution of personal incomes within the company; (2) the connection between the company result and wages; and (3) the commodity features of labour.

*THE DISTRIBUTION OF PERSONAL INCOMES WITHIN THE COMPANY
(THE DIFFERENTIATION OF WAGES WITHIN THE COMPANY)*

Perhaps the greatest deficiency of the above-outlined ideas, which are otherwise elaborated very purposefully and with good logic, is that they are limited only to the question of the distribution of personal incomes among companies, and do not cover the principles to be observed in the distribution of personal incomes within the company. In his analysis, Vacic gets only as far as to state that in the system of socialist commodity production, "in case the system is commodity production in reality and not only in form, only the socially acknowledged results of work can serve as the basis of distribution. And since, under the conditions of commodity production, the results of work take the form of commodities, that basis can only be the value created by the workers (which is acknowledged by society on the market). Any other conclusion is a *contradictio in adjecto*." (*Op. cit.*, p. 406.)

But, what does this statement mean with regard to the distribution of incomes within the company? How can this principle be "broken down" to the sharing by and remuneration of the individual workers, when within the company, the market does not separately evaluate the activities of the individual workers and working groups? This basic question of distribution remains unanswered. I think it is due to the fact that it

simply cannot be answered in this way. The wages of the individual workers cannot be "deduced" from the market evaluation of the results of the company activity. The contribution of the individual worker to the result produced by the company collective and acknowledged on the market cannot be calculated. There is no way to do it either in theory or in practice.²⁸ It is only the concrete work of the worker and the concrete result of the work that can be measured in one way or another, that is, the qualification it requires and the intellectual, physical, nervous, etc. stress it involves. And it is only through his concrete work that a worker can have an effect on the company result. Consequently, distribution among the individual workers within the company can only be realized according to the concrete work they do, and in reality it happens in this way everywhere, irrespective of the distribution of the personal income fund among the companies and of the system of formation of the company wage fund. Within the company, remuneration is based on concrete work even in places where the personal income fund is a function of the company result realized on the market. And this could hardly happen in any other way. The basis of the development of the wage ratios is the comparison of the characteristics of the concrete types of work as it was described above. No system of distribution can separate itself from remuneration according to the concrete work of the individual workers or the working collectives.

*THE CONNECTION BETWEEN THE COMPANY RESULT AND WAGES
(THE DIFFERENTIATION OF WAGES BETWEEN COMPANIES)*

As I have already referred to it, Vacíć regards the lack, or the so to say only symbolic extent, of this relationship as a serious mistake. In his view, the company wage fund should depend on the added value, $v+m$, in a way that the production unit which primarily acquires the income, should itself decide on its division into a personal income fund and an accumulation fund (i.e. the part serving for production investments).

Actually, the connection between the company result and wages moves along a wide scale in the socialist countries,

ranging from a very close dependence to a complete lack of connection between the two; furthermore, it is sometimes $v+m$ and sometimes only m which is regarded as the company result, and the connection exists sometimes with the wage fund while in other cases with the wage level. *In the co-operatives* - and in the first place, in the agricultural co-operatives - the connection is rather close. The income of the members depends to a considerable extent on the economic performance of the co-operative as a whole, by and large in the way as it is presented in Vacic's ideas. Under the given historical and social conditions, this proves to be unavoidable and useful. At the same time, there is a strong endeavour in every socialist country to moderate the excessive differences of incomes among the co-operatives. The situation is generally different *with the state companies*. It seems to be expedient in several areas in this case, too, to connect the individual incomes to the company result. It may strengthen the workers' devotion to their company and may enhance the awareness of joint interests between managers and staff members. At the same time, the more profitable companies - which on this basis can provide higher incomes for their workers - can more easily satisfy their labour demands. This may promote a more rational social utilization of labour, expands the company resources that can be used for rewarding outstanding performance and creates more favourable conditions for the fight against levelling. Consequently, this connection tends to increase at the state companies.²⁹ Nevertheless, it is much looser than at the co-operatives. At the state companies, wages are adjusted to a unified, central tariff system, and that part of the workers' income which depends on the company result (profit) is generally not great.

The looseness of this connection is based on practical experiences as well as on theoretical considerations. Under conditions where a significant part of the companies are in a monopoly position and the price system is deformed by a complicated network of subsidies and levies (which is of course an unfortunate situation, but is a fact), this result can express the actual social usefulness of the company activity only in a very uncertain and distorted way. And if greater profit does

not express greater efficiency, then a close connection between wages and profit may entail harmful consequences (for example, it may result in a migration of labour, the direction of which is unfavourable from a social point of view). But even in the case of relatively free competition and price development, there are factors which although are outside the performance of the company collective still have a great influence on the company result: e.g. the effects of the market situation and/or of price development, which the company can compensate only to a small extent or not at all. Finally, and this is the most important, the company performance in the strict sense of the word is not simply the summation of the "work result" of the individual workers; it depends to a great extent on the effective functioning of the company as a system. And the overwhelming majority of the company workers cannot exercise any influence on that. (It is the managers who have an opportunity to influence it. A worker can hardly influence, for example, the product structure of the company, that is, whether to produce commodities which are more or such which are less in demand on the market, and neither do the level of productivity and the resulting production costs depend primarily on him, but rather on the technique, technology and organization applied, which are formed and decided on by the managers and the technical and economic staff.) Under such circumstances, it seems to be unjustified and unjust if the wages of company workers depend greatly on the company result, if there are considerable differences in the incomes of the workers of the different companies due only to the differences in the company result (profit). The rapidly increasing wages of workers at profitable companies may have the consequence - and according to practice it does have the consequence - that other companies, where the necessary financial conditions are lacking, also strive for the same wage increase and sooner or later they do receive it. This may start a process of increasing prices, or may strengthen an already existing such process. Naturally, all this is to a great extent a function of the concrete economic, political and social conditions, if for no other reason than simply due to the fact that the population's ability to tolerate this type of

inequality is bigger in one country than in another. It seems, for example, that in Hungary the public does not tolerate a significant differentiation in the possibilities of wage increases among state companies.³⁰ The situation is different with the co-operatives. There even significant differences in incomes are more or less natural as they are rooted in social-historical precedents. (However, if the differences are excessively big, it is not tolerated here either, and this attitude is strengthening among those concerned as well as in the whole society. As a result, the labour force migrates from the co-operatives where incomes are very low.)

What lies behind this problem? It is primarily the fact that there are differences in the approach to and the practical realization of the economic management of companies in socialist ownership as well as to the concept of socialist ownership. In the majority of the socialist countries, besides the co-operative group property, there is the all-national state property which represents an overwhelming weight and the nature of which leads to unified waging in the whole society; this means that company wage policies correspond to the nationally unified nomenclature of wages and payments, which, in turn, results in a loose connection between the company result and wages. Although wages are directly paid from the company's funds, society nevertheless guarantees its determined level, more or less independently of the result achieved by the company, i.e. realized on the market. At the same time, in the co-operatives which are basically in group ownership as well as in that part of the economy which is functioning on the basis of self-management (where the companies are to a great extent separated economically), personal incomes must necessarily depend largely on the company result. Vacic regards the latter solution as the only acceptable interpretation of distribution according to work under the conditions of commodity production, i.e. in today's reality. I do not think that is correct. And in this way, he himself gets into some contradiction with his own statement which is deeply true, namely: "The endeavour that every thesis of the classics of Marxism be interpreted alike with regard to every country, and often in a way that it may be doubt-

ful whether it is a correct or a distorted interpretation, has necessarily slowed down the development of socialism as a world process and decreased the social weight of the communist parties and other political forces which based their programme on Marxism" (*op. cit.*, pp. 394-395).

Vacić's concept of the distribution according to work is logically rooted in the fact that actually he regards only the self-managing companies as such which correspond to the socialist commodity relations, and he disregards as such the state companies which are in public property and which function and are managed accordingly. This in a way is, so to say, an inverse of the Stalinist thesis, treated as a dogma in its time, according to which only the state enterprises represented the socialist sector consistently, whereas the kolkhozes were only "inconsistently" of a socialist character. I think we must be very careful not to replace the old dogmas by new ones.

*THE CONNECTION BETWEEN COMMODITY RELATIONS AND DISTRIBUTION
ACCORDING TO WORK - THE COMMODITY FEATURES OF LABOUR*

According to A. Vacić, the system of central wage regulations applied in the socialist countries disregards the necessary connection between distribution according to work and commodity relations, that is, this system corresponds only to such a social system in which labour is a commodity.

I think the question here is not the disregard of the necessary connection between the commodity relations and the distribution of wages according to work, but an interpretation which is different form that of Vacić's. In my opinion *the essence of that connection lies in the impact of commodity relations* (which constitute the economic environment) on labour, that is, in the characteristics which are called - with a not very fortunate expression - the commodity features of labour. Namely, it lies in the fact that the costs of the reproduction of the labour power do play a role in the development of the volume of wages and the wage ratios, and that the demand and supply of labour have an influence on the volume of wages, and vice versa, the volume of wages influences the demand and sup-

ply of labour as well as its division according to professions, jobs, geographical regions, etc. It is in this sense that we can speak of a labour market, also under the conditions of socialism. However, this under no conditions means that labour is a commodity, since we regard as the most important social and economic content of labour as a commodity that the worker who possesses no means of production is exploited by the capitalist, that is, he is only a *means* in the process of reproduction. I do not think that such an approach to the question would disregard the concrete circumstances under which the socialist revolution took place and socialism is being realized. On the contrary, it rather looks such a concept which very much counts with reality, with the survival of the commodity relations.

One should fully agree with Vacić that remuneration in the socialist countries has many deficiencies, that the tendencies of levelling are strong and that differentiation is mostly realized according to such characteristics which can only formally be grasped (position, educational level, time spent in the job, etc.). All this can also be experienced in Hungary. However, I do not believe that this can primarily be traced back to the unified nomenclature of wages and to the loose connection between company result and the increase in wages. We can often experience that the companies do not even utilize the possibilities of differentiation in wages which the system of tariffs provides for them, and also that in places where wages grow to a greater extent due to better company results, the extra wages created in this way are only to a limited extent allocated for differentiation in wages according to work performance. Therefore, the reasons should be sought primarily at some other place. For example, in the strong social pressure in the direction of levelling and the weakness of the forces working against it, in the general and extensive shortage of labour, and so on.

WORK ASSESSMENT, WAGE TARIFF SYSTEM

We have seen that distribution according to work has no exact measure, and hence, no comprehensive, exact and quantifiable wage model can be established. Accordingly, work assessment, which constitutes the basis of the wage tariff systems, can only be realized on a conventional ground, building on estimates - or rather a series of estimates - which also contain several subjective elements.

The problem already starts at the very first step, viz. at the measuring of the necessary qualification and of the basic work characteristics. Most of these types of requirements lack a unanimous measure. Professional knowledge is generally measured by the duration of training, and sometimes the time needed for acquiring the initial practice is also taken into account. Responsibility is usually measured by the number of employees belonging under the guidance of the person, or by the value of the materials entrusted to him. Physical employment is measured, in the best case, by the energy consumption that can be verified with the help of ergonomic examinations, while the working conditions by the temperature, humidity, pollution, noise level, etc. at the work place. Obviously, these indicators can express only in a very limited and simplified manner what they are actually used to measure. It does not require any special proof, for example, how inadequate the duration of training (or, for that matter, the costs of training) is to express the required qualification and professional knowledge. And the case is similar with regard to the other indicators, too.

The second step is to connect and "weight" the different types of requirements, and on that basis, to establish a "scale of complexity", a "scale of values" of the various types of work. The result of any work assessment depends to a great extent on how much weight we grant to the individual factors: professional knowledge, responsibility, physical or intellectual employment, etc. In fact, there is no scientific method which would make it possible to work out adequate weighting in an exact way, as there exists no objective basis for this purpose. When we connect the indicator of professional knowledge

with that of physical employment or with that of the working conditions, we practically do the same as if we added up an apple and a pear. This cannot be solved, it can only be bridged - as is done in practice. Weighting reflects to a considerable extent the demand and supply conditions of labour as well as the social value judgements concerning the individual work characteristics.³¹

The third - concluding - step is to connect the scale of "value" of work established in this way with the corresponding wage scale, that is, to connect the individual work categories with the corresponding wage rates. This is widely believed to be the most complicated and uncertain element in the course of making a wage tariff system. I think such a differentiation is unjustified. Rather, the case is that this is the last stage where every problem experienced at the previous steps makes again its effect felt and, moreover, in an accumulated form. Furthermore, it is here that we come to the heart of the matter since, after all, this is what the most directly concerns the given workers. Similarly to the previous two phases, this one also lacks any exact footing. This connection item by item, and the relationship among the various volumes of wages which are thus connected to the individual work categories following one another on a hierarchical scale, also depend to a considerable extent on the divergence of the whole scale of wages, i.e. on the distance between the lowest and the highest wage items. These limits and the wage ratios within them are always formed besides economic moments also by political and sociological moments, the effects of which are inseparably interconnected with the economic ones; however, these political and sociological moments cannot actually be quantified.

We can see that there is no firm and exact footing of unconditional validity at any step in the construction of the wage tariff system and the lack of real commensurability is bridged by assumptions and hypotheses. In addition to a knowledge of the theoretical bases, it is the practical consequences that directly orientate the experts. Every useful system of wage tariffs is based on a consideration of past experiences and of the tendencies that might be expected in the fu-

ture. (The starting point is always the existing wage ratios. With the exception of very rare occasions, there is no possibility to suddenly, radically transform the whole wage structure.) The only criterium of whether the established wage ratios correspond to the social and economic needs is the ability of these ratios to effectively promote the realization of the socio-economic goals.

The systems of wage tariffs based on centrally developed work assessment are generally indispensable for the realization of a co-ordinated and more or less unified national and sectoral wage policy. However, within these limits, the companies must be independent in working out their own wage policy. Without this, no effective financial stimulation is possible. However, there are problems in this respect, too. For example, the wage tariffs newly introduced in Hungary have resulted - in several areas - in the levelling of wages.

NOMINAL WAGES AND REAL WAGES. THE DEVELOPMENT OF THE WAGE LEVEL

INCREASE IN THE PRICE LEVEL AND FINANCIAL STIMULATION

Wage is a category of commodity and money relations. It presupposes that the products take the form of commodities and the majority of the consumer goods and services satisfying the personal needs of the workers are marketed at a determined price, i.e. on payment. Wages are necessarily cash payments which, on the one hand, have a *nominal value* and, on the other, a *real value*, which latter expresses the volume of goods and services they can buy.

Before they are paid out, wages are usually reduced by various taxes, contributions, etc. and thus the volume of goods and services that can be bought for them becomes also reduced. Workers only dispose of the *net wages* reduced by the deductions. For the employers, wages figure primarily and directly as nominal, gross wages - which are their costs -, whereas for the employees, it is the net real wages that have significance. The international comparison of wages and wage ratios is made ex-

tremely difficult by the great differences in the system of taxation in the different countries. Actually, it would only be correct to compare the net wages remaining after the deduction of taxes and extras, but it can only be done in the rarest case.³²

In principle, real wages can grow in two ways: on the one hand, through an increase in the nominal wages (i.e. wages in cash) and on the other, through a decrease in the consumer prices. It is a world-wide tendency that the price level is increasing and its decrease is only a transitional, temporary phenomenon. Hence, real wages are primarily increased through an increase in nominal wages, while the role of a decrease in prices is only exceptional in this process.

In the socialist countries, too, real wages grow through an increase of wages in cash. Although immediately after the Second World War there was a period in the Soviet Union and in some other socialist countries too when a decrease in consumer prices played a considerable role in increasing real wages (in the Soviet Union in the first part of the 1950s, there was an increase in real wages realized to about fifty per cent through a decrease in prices), and it was a widespread view that a decrease in prices corresponded more to the nature of socialism than an increase of wages in cash, this has since been modified both in practice and in theory. Since the mid-1960s, an increase in nominal wages has been almost the only way of increasing real wages in the socialist countries. Decreases in prices - if there are any - have generally served only to compensate for price increases in some other areas (of goods or services), or partly to restore the balance between demand and supply.

In Hungary, following the large-scale price increases in 1951, there was hardly any change in the price level up to the mid-1960s. Since 1966, price movements have become more lively, and increases in real wages have been realized through increasing nominal wages at a rate faster than the increase of prices. Since 1979 the increase in nominal wages has lagged behind the price increases.³³

The general, world-wide tendency of price increases makes it impossible for the socialist countries to increase real

wages through a decrease in the consumer price level. In addition, an increase in nominal wages is an economically more expedient way of increasing real wages than a decrease in prices. An increase of wages in cash provides a possibility for a direct modification of income ratios, for an increase in wage differentials and, through this, for stimulating work performance. Decreasing the consumer prices cannot produce such an effect. Price decreases stimulate the individual not as a worker, but only as a consumer. The application of price policy methods primarily serves to influence the relationship between demand and supply as well as the structure of consumption, but it is not a means of influencing the real wage level.

An increase in nominal wages at a rate faster than that of real wages, on the basis of an increase in the consumer price level, can - temporarily - extend the possibility of stimulation through wages. An average wage increase of 1 or 2, or even 3 per cent generally provides only a very limited differentiation in wage increases, and thus also in stimulation. The situation is somewhat different if an increase in real wages of this type takes place, for example, together with a 4 per cent increase in the consumer price level. In this case, the nominal wage level increases by 6-7 per cent, and thus, at least potentially, the possibilities of differentiating wages according to performance become greater. Namely, if the nominal wages of a part of the workers do not grow, or grow only at a rate smaller than the increase in the price level - in other words, if their real wages decrease - then, it may be used for a bigger rate of wage increases in the case of some other groups of workers, without, however, decreasing anybody else's nominal wages. However, this means can only be applied in a very careful and moderate way, and it must not provide a basis under any conditions for abuse. The real wages of none of the groups of workers may decrease for years, not even for one year to a considerable extent; on the contrary, the real wages of all groups should increase. *The compensation for price increases is not a reward, it is due to everybody.* (The punishment of the notorious absenteeists and those who are flagrantly negligent is a different question and does not belong to general wage policy.)

The compensation for the increases in the consumer price level is a very complicated task. Since an increase in the price level, depending on the structure of the price change, may to very different degrees affect the various families having different income levels and - accordingly - different structures of consumption, and since a given income may be accompanied by very different per capita family incomes (depending on the demographic composition of the family, the volume of wages of other earners, etc.), the extent of wage increases per stratum required for compensating for the price increases cannot accurately be determined, it can only rely on very rude estimates; furthermore, compensation should generally also be carried out through adequate measures in the field of incomes outside wages, and in the first place, in that of social benefits paid in cash. If we strive for ensuring that an increase in the price level would not considerably worsen - on a social scale - the financial situation of any working stratum, then a "zero balance" compensation is insufficient, as what is needed is a considerable overcompensation.

Whereas a moderate increase in the consumer price level - in the way described above - may temporarily extend the possibilities of financial stimulation, the situation is just the opposite in the case of a *faster rate of price increases*, which actually *strengthens the levelling tendencies*. Since the compensation for price increases cannot accurately be regulated per individuals, families, and even per strata, and since from a political and social point of view it is especially important to protect under any conditions the strata with the lowest incomes from the losses caused by the price increases, the final outcome is generally an overcompensation in the case of the lower income strata and an undercompensation in the case of the higher income strata. Fast-rate price increases, that is, inflation, *jumble the wage ratios, paralyse financial stimulation through wages*, and channel people's energies in the direction of speculation instead of honest work.

INCREASE IN REAL WAGES

Table 1 shows the growth of per capita real wages – as a result of the relationship between the increases in nominal wages and the consumer price level – over the past three decades.

With that rate of increase in real wages, Hungary took a medium position among the European socialist countries, or in other words, the rate of increase in our real wages was close to the average till the end of the 1970s.

It is well known that improvements in the financial situation, and within that the increases in real wages, are always felt by the population to be smaller than they are in reality and in the statistics. I try to summarize the main reasons behind this:

- Parallel with the increase of the living standard as well as of the assortment of goods and services, demands also grow, and quite often at a faster rate than the possibilities to satisfy them. Therefore, the degree of the feeling of satisfaction of demands does not necessarily grow with an increase in real wages. (According to experiences, a minimum of 3 per cent increase in real wages is required for the workers to feel it.)

- The index of the (average) real wage increase contains, in addition to the real wage increases within the individual occupations as well as the branches of the national economy, also the effect of changes in the occupational structure. Especially when there are fast changes in the occupational structure, a considerable part of the average real wage increase results from the changes in this structure, namely, its shift in the direction of those occupational branches which pay higher wages. At the same time, the population understandably notes only the wage increases within the individual occupations.

- Due to demographic changes, namely that the ratio between earners and dependants has deteriorated within the families, the per capita income has decreased in a considerable part of the families year by year, despite the increase in the real wages of the earning members of the family.³⁴ Under such con-

Table 1. Indexes of nominal wages, consumer price and real wages

Year	Nominal net average wage index	Consumer price index	Real wage index
1950-1955	167	159	105
1955-1960	149	101	147
1960-1965	112	103	109
1965-1970	125	105	119
1970-1975	135	115	118
1975-1980	139	135	103
1950 = 100			
1970	345	173	199
1971	361	177	204
1972	379	182	208
1973	403	188	214
1974	433	192	226
1975	466	199	234
1976	490	209	235
1977	528	217	244
1978	569	227	251
1979	669	247	247
1980	655	270	243
1981	693	282	246
1982	731	301	243
1983	760	323	235

Source: *A lakosság jövedelmeinek alakulása 1950-1980* (The development of the incomes of the population in 1950-1980), Central Statistical Office, 1977, p. 26; and *Statisztikai Évkönyv* (Statistical yearbooks), respective years.

ditions, again in an understandable way, the overwhelming majority of the individuals feel only the deterioration of their financial situation and fail to notice the increase in their real wages.

- As it was discussed above, the compensation for an increase in the price level through an increase in nominal wages

is an extremely complicated task. If prices grow - which never takes place in a uniform manner, but always together with a change in the price ratios - and the increase in real wages is not especially fast, then there are usually groups and strata whose real wages do not grow in the given period, and in addition, there are always consumer goods and services, the prices of which grow at a faster rate than the nominal wages do. As a result, many people feel that their real wages which are growing only at a slow rate, show a declining tendency.

In the European socialist countries during the two decades between 1950 and 1970, the rate of increase in real wages was faster than that in the industrially developed and moderately developed capitalist countries; within this period, real wages grew at a faster rate in the 1950s in the socialist countries and in the 1960s in the capitalist countries. In the capitalist countries, there seems to be a certain - although rather loose - relationship between the rate of increase in real wages and the level of economic development. The rate of increase in real wages was slower in the economically most developed capitalist countries (the United States, Canada, Great Britain and Sweden). As regards the socialist countries, no such relationship can be established (Table 2).

Table 2. Coefficients of real wage fluctuations in the processing industry (percentages)

Austria	46	Bulgaria	55
Belgium	20	Czechoslovakia	75
Chile	63	GDR	50
France	37	Hungary	69
FRG	38	Poland	32
Greece	37	Soviet Union	43
Japan	42	Yugoslavia	71
Norway	37		
Sweden	25		
United States	75		

In the capitalist countries, the increase in real wages - due to the cyclical character of the whole process of reproduction - is fluctuant. Our studies have led to the seemingly surprising result that the annual increase in real wages - between 1960 and 1970 - was not at all more even in the European socialist countries than in the capitalist world.

WAGE LEVEL AND PRODUCTIVITY

The possibility of increasing the wage level is closely related to an increase in productivity (efficiency). This holds true also for the capitalist countries, namely, real wages grew the fastest in those of them where the increase in productivity was the greatest. (In the period between 1950 and 1970, real wages grew the fastest in the following industrially developed countries: France, the Federal Republic of Germany and Japan, i.e. in the countries where the increase in productivity was exceptionally high, while the slowest growth was in Great Britain, Belgium and the United States.) Hence, increases in real wages take place primarily in the period of a rapid increase in productivity. This is the time which provides the most favourable conditions for the working class to achieve wage increases. This is also related to the fact that accelerated economic growth based on a fast rate of increase in productivity requires an adequate extension of the domestic market and of solvent demand, and wage level increases have a basic role in this. (The increase in the number of workers and employees at the expense of the number of agricultural workers is no longer a significant way of extending the domestic market.)

The increase in wages - if it is not compensated by an adequate increase in productivity - results in an increase of per unit wage costs, and consequently - *ceteris paribus* - of production costs, which is generally followed by an increase in the price level. In order to avoid an increase in the price level and prevent the ensuing inflation, nominal wages - on an average - should not increase at a faster rate than productivity in the national economy does.³⁵

In our age, productivity generally grows at a slower rate than nominal wages, but - in the majority of the countries - at a faster rate than real wages. This latter development follows from the fact that the ratios among the various ways of using the national income (individual consumption, social consumption, accumulation) tend to change. The increase in real wages seems - at least in the 1970s - to be lagging behind the increase in productivity to a greater extent in the socialist countries than in the capitalist states. Whereas the so-called "succession coefficient" (the increase in real wages per one per cent of increase in productivity) was between 1960 and 1970 on the average about 0.6 to 0.7 in the six European socialist countries examined (Bulgaria, Czechoslovakia, the German Democratic Republic, Hungary, Poland and the Soviet Union), the corresponding figures for the following capitalist countries (Belgium, Canada, the Federal Republic of Germany, France, Greece, Japan, Norway, Sweden and the United States) were around 0.8 to 0.9. (From among these countries, in some of them this value exceeded one, which means that real wages grew at a faster rate than productivity.) This phenomenon is obviously due to a faster increase in the ratio of social consumption (i.e. state-subsidized services in the field of e.g. public health care, educational and cultural institutions, etc.) as well as of investments in the socialist countries.

Regarding the whole of the national economy, wages can only grow in harmony with the increase in productivity. The increase in productivity should come before the increase in real wages, but the two cannot be separated from each other. As regards the relationship between the increase of productivity and that of wages in the individual sectors or branches, wages grow the fastest in the most dynamic sectors or branches, that is, in those where productivity increases the fastest. This wage increase is then followed, because it has to be followed, with a certain time lag, by the other sectors or branches which increase their productivity at a slower rate. This "succession effect" is also reflected in the Hungarian data (Table 3).

With the exception of agriculture, the development of average wages in the individual national economic sectors

Table 3. The development of productivity and wages in the various sectors of the national economy between 1970 and 1977 (1970 = 100)

Sectors/branches	Net production	Average wages
	per employee	
Industry	160.1	155.7
Building industry	137.7	149.6
Agriculture	142.1	142.2
Transport, telecom- munications	126.5	152.9
Trade	136.7	143.0
Water management	119.5	145.5

Source: Főbb népgazdasági folyamatok 1977 (Main national economic processes, 1977), Central Statistical Office, 1978.

seems to have followed rather the wage increases in industry than the increase of productivity in their own field. What is more, the wage level in the non-material branches (health care, education, culture, etc.) also increased at a rate similar to that in industry.³⁶

The wage level in the individual branches, companies and factories cannot simply follow the development of their own productivity. This is primarily due to the fact that the objective possibilities of increasing productivity are very different in the various areas. Depending on the applied technique, technology, work organization, etc., the same efforts can lead to a much greater increase of productivity in one area than in another. If the development of productivity and that of wages were directly related, this might lead to serious disproportions in incomes, and that would not be tolerated by the social sense of justice. As a result of the already mentioned "succession effect", if wages grow at a fast rate on the basis of an outstanding increase of productivity in certain areas, then sooner or later a similar rate of wage increase will also be achieved in areas where the financial coverage for it has not been produced.

As in other socialist countries, in Hungary, too, the idea emerged that if the increase of wages in the individual branches and companies cannot be connected with the increase in productivity they achieve, it could perhaps be connected with at least a part of it, namely the part which is the result of factors that are directly linked with labour (higher qualification, work intensity, etc.). However, this can be realized neither in theory nor in practice, since the effects of the technical and the personal factors of an increase in productivity cannot be separated from each other.

NOTES TO CHAPTER 1

- 1 Marx, K.: *Capital*, Vol. 1, Foreign Languages Publishing House, Moscow, 1961, p. 171.
- 2 "If the quantity of unpaid labour supplied by the working-class, and accumulated by the capitalist class, increases so rapidly that its conversion into capital requires an extraordinary addition of paid labour, then wages rise, and, all other circumstances remaining equal, the unpaid labour diminishes in proportion. But as soon as this diminution touches the point at which the surplus-labour that nourishes capital is no longer supplied in normal quantity, a reaction sets in: a smaller part of revenue is capitalised, accumulation lags, and the movement of rise in wages receives a check. The rise of wages therefore is confined within limits that not only leave intact the foundations of the capitalistic system, but also secure its reproduction on a progressive scale." (*Op. cit.*, p. 620.)
- 3 *Op. cit.*, p. 618.
- 4 Erdős, P.: *Wages, Profit, Taxation. Studies on Controversial Issues of the Political Economy of Capitalism*, Akadémiai Kiadó, Budapest, 1982, p. 221.
- 5 Erdős, P.: Reálbér és értéktörvény a kapitalizmusban (Real wages and the law of value under capitalism), *Közgazdasági Szemle*, Budapest, December 1974, p. 1379.
- 6 Cf. Samuelson, P.A.: *Economic Theory and Wages*, Wright, D.M., New York, 1956, p. 312.
- 7 Hicks, J.R.: *The Theory of Wages*, London, 1932, p. 1.
- 8 See, e.g. Krelle, W.: Die Grenzproduktivitätstheorie des Lohnes, *Jahrbuch für Nationalökonomie und Statistik*, 1950; or Preiser, E.: Einkommenswert und Grenzen der Grenzproduktivitätstheorie, *Schweizerische Zeitschrift für Volkswirtschaft und Statistik*, 1955.

- 9 Fürstenberg, F.: *Probleme der Lohnstruktur*, Tübingen, 1958, p. 80.
- 10 See, Hofmann, W.: *Einkommenstheorie*, Berlin, 1965, p. 242.
- 11 See, e.g., Offe, C.: *Leistungsprinzip und industrielle Arbeit*, Frankfurt am Main, 1970. Baldamus, W.: *Der gerechte Lohn*, Berlin, 1960. Ranval, P.: *Hierarchie des salaires et lutte de classes*, Paris, 1972.
- 12 Although they are becoming increasingly similar to wages, the shares of members from the agricultural co-operatives' incomes cannot be regarded as wages in the proper sense of the word. Therefore, we are not going to deal with it in this book.
- 13 This holds true despite the fact that the state guarantees the payment of wages under all conditions and, occasionally, it supplements the respective company funds with subsidies.
- 14 Physically, mentally and emotionally healthy people do need work, as it is their natural need. If one still feels it to be a burden or a nuisance, then it is rather due to the concrete form and/or the conditions of work.
- 15 This subchapter is based on an earlier article by the author "A munka szerinti elosztás értelmezésének néhány kérdése" (Some questions of the interpretation of distribution according to work), published in *Közgazdasági Szemle*, Budapest, January 1977.
- 16 The use of the expressions of "demand for labour", "supply of labour" and "labour market" with regard to socialism does not mean that labour is regarded here, too, as a commodity; it rather results from the fact that these expressions have come into everyday use. Of course, this is not incidental, but is related to the fact that a certain commodity character of labour has survived. I shall return to this problem later.
- 17 The "theory of imputation" gets increasingly pushed to the background even among the bourgeois theories of distribution. According to Erich Arndt, the exact calculation of the contribution of the individual production factors to the production result is just as little possible as the determination of the percentage of the effect of raining on the development of a plant.
- 18 Marx, K.: *Critique of the Gotha Programme*, p. 7.
- 19 Marx, K.: *Capital*, Vol. 1, Foreign Languages Publishing House, Moscow, 1961, p. 197.
- 20 He was primarily interested in the relationships between the worker and the capitalist, and much less in those between workers (which also involves the ones between wage ratios); more precisely, he was only interested in the latter from the aspect of the former.
- 21 The work evaluation systems which constitute the basis of the wage tariff systems generally take into consideration the following groups of requirements: the necessary profes-

sional qualification, the physical hardship of work, responsibility, working conditions and circumstances.

- 22 To avoid any misunderstanding, we would like to emphasize it again that it is the *wage ratios between the different categories of workers* as well as the centre of these ratios that are discussed here. The interpretation of this wage centre on an input basis does not mean at all that the wages of the individual workers or working groups should not considerably depend on their performance.
- 23 The significance of social value judgements in the development of wage ratios was already strongly emphasized by Adam Smith. He pointed out that those trades which are regarded burdensome, disagreeable or disgraceful (and he classified among them the activity of the public executioner, but also that of the actor) have to be paid well and vice versa. "Honour makes a great part of the reward of all honourable professions... Disgrace has the contrary effect." (Smith, A.: *An Inquiry into the Nature and Causes of the Wealth of Nations*, George Routledge and Son, Limited, London, 1898, p. 77.) By this, he went beyond the purely financial consideration of the *homo oeconomicus* and opened a way for taking into consideration the psychological and sociological aspects of the labour supply, too.
- 24 Its character of being a social status symbol continues to exist in socialism as well. People regard the volume of their wages also as an expression of social appreciation.
- 25 This is also supported by several studies made abroad. See, e.g. the calculations by W.G. Hoffmann: *Einkommenstheorie*, Berlin, 1965.
- 26 During the past 15 years, both in Hungary and in the other socialist countries, several concepts of the wage centre have been born which have generated widespread interest. The Hungarian Kálmán Szabó regards the socially required amount of work and its recognition by the market as the measure of the distribution according to work [see Szabó, K.: *Az új mechanizmus és a munka szerinti elosztás mércéje* (The new economic mechanism and the measure of distribution according to work), *Közgazdasági Szemle*, June 1966. A conclusion close to this was reached in the German Democratic Republic by H. Bley and E. Bienert (see Bley, H. and Bienert, E.: *Neue Gesichtspunkte für die Planung und Verwendung des Lohnes*, *Wirtschaft*, 1965, No. 8). János Kovács, from Hungary, deduces the wage scale which corresponds to the requirements of the distribution according to work from the differences in the costs of training of the labour power [see Kovács, J.: *Szakképzés és népgazdaság* (Vocational training and the national economy), *Közgazdasági és Jogi Könyvkiadó*, Budapest, 1968]. A similar view was expressed in the Soviet Union by

Gukhno, Sayarin and Likhodei [Гухно, А.А., Саяпин, И.Г. и Лиходей, В.Г.: Вознаграждение труд при социализме (Wages in socialism), Киев, 1968]. Endre Megyeri, again a Hungarian, suggests that the work performed should be measured by its "value-product" from which the incomes deriving from the productivity factors independent from the company should be deduced [see Megyeri, E.: A munka szerinti elosztás törvénye. Kísérlet a törvény matematikai modelljének megfogalmazására (The law of distribution according to work. An attempt to work out the mathematical model of the law), *Közgazdasági Szemle*, September 1972].

- 27 Reflections on an article by A. Vacić entitled "A munka szerinti elosztás és az árutermelés" (Distribution according to work and commodity production), published in *Közgazdasági Szemle*, April 1978.
- 28 Although there are rare attempts at such "imputations", they are all based on arbitrary assumptions, and they have only aimed at, and resulted in, the practical solution of some peripheric problems.
- 29 The distribution of income at the co-operatives and at the state companies is approaching each other in almost every socialist country. At the state companies, the efforts are aimed at making the income of the individual workers dependent also on the company result, whereas at the co-operatives, the efforts are aimed at increasing the security and regularity of remuneration.
- 30 See Gábor Révész's contribution to a conference on questions of company wage regulations, held at Szeged on November 29, 1977. It was published in *Közgazdasági Szemle*, February 1978, p. 222.
- 31 There are several types of work assessment, ranging from the rough estimate to the highly sophisticated "analytical" assessment. (The essence of the latter one is that the working process is divided into its parts, functions - preparations, the performance of the actual working task, control of the equipment, etc. -, then every individual function is separately classified from the point of view of the different factors, and the summation of the partial results makes up the "united value" of the process.) Undoubtedly, the methods based on a more sophisticated and detailed analysis led - in the majority of cases - to better practical results. However, this does not alter the fact that - although in a more hidden form - the basic problems outlined above do exist also in the case of these applications.
- 32 In Hungary, only the contribution to the pension fund is deducted from the wages of all the workers. Prior to 1967, it was uniformly 3 per cent. Since then it has been paid progressively, and this has raised it to an average of 5 per cent.

33 Development of the consumer price level in Hungary
(1965 = 100)

Year	Consumer price index	Year	Consumer price index
1967	101.6	1977	130
1970	104.0	1978	136
1972	109.2	1979	148
1973	112.8	1980	161
1974	114.8	1981	169
1975	119.2	1982	180
1976	125	1983	192

Source: *A lakosság jövedelmeinek alakulása 1950-1980* (The development of the incomes of the population in 1950-1980), Central Statistical Office, 1977, p. 18; and respective volumes of *Statisztikai évkönyv* (Statistical yearbook), Central Statistical Office, Budapest.

34 According to investigations by the Hungarian Central Statistical Office, even in years when real wages grew at a faster rate than planned, 28 to 35 per cent of the population belonged to families in which per capita incomes stagnated or even decreased.

35 This, of course, does not mean that the only or even the major cause of the increasing price level is the increase in wages realized prior to the corresponding increase in productivity.

36 Taking 1970 as a hundred, it was 152.6 per cent in 1977. See, Horváth, Z.J.: *A forint vásárlóereje a lakossági jövedelmek és fogyasztói árak alakulásának összefüggésében* (The purchasing power of the forint in the relationship between the development of the incomes of the population and that of the consumer prices), *MNB Közgazdasági Főosztály Közleményei* (Proceedings of the Economic Department of the National Bank of Hungary), June 1978.

CHAPTER 2

THE FACTORS OF WAGE DIFFERENTIALS. THE QUALITATIVE DIFFERENCES IN WAGES

INTRODUCTION

Wage differentials, that is, the wage ratios, can be studied from numerous aspects. Accordingly, their factors can also be grouped in many different ways. In this book, I have applied the following grouping:

a. Wage differentials between the various categories (groups) of workers, depending on the qualitative characteristics of the work done (required qualification, physical hardship, working conditions and circumstances, responsibility involved in the work, etc.); the location of work in a wider sense (branch of industry, geographical area, company size, etc.); as well as on the demographic characteristics of the persons performing the work (age, sex). I call these *qualitative differences in wages*.

b. Wage differentials existing among the various categories (groups) of workers, resulting from, or serving, the correction of imbalance between the demand and supply of labour. I call these *compensatory differences in wages*.

c. *Individual* wage differentials, i.e. differences in the wages of the individual workers, depending on the differences in their work performance. I call these *differences in wages according to performance*.

THE TYPES OF QUALITATIVE DIFFERENCES IN WAGES

DIFFERENCES IN WAGES DUE TO QUALIFICATION

Differences in qualification have an outstanding role among the factors determining wage differentials. Almost everywhere in the world, the various systems of work assessment primarily start out from the qualification required for a job. It can clearly be noticed - although not in every instance, of course, but as a tendency - that qualified work, that is, work requiring higher qualification is better remunerated than non-qualified work, that is, work requiring lower qualification. Higher remuneration of more qualified work is needed to ensure that the individuals take the financial and intellectual sacrifices necessary for acquiring higher qualification. This was already recognized by Adam Smith who provided the following explanation: if people can choose a profession without any special constraint, and their inclinations do not influence them in a definite direction, then they show preference for such professions in which training is short and cheap. Therefore, masses of the labour force flow in this direction, whereas there develops a shortage of labour in professions which require longer and more expensive training. Naturally, this has an influence on wage ratios, i.e., it increases the wages paid for work requiring higher qualification.

With regard to wage differentials (i.e. the volumes of wages) resulting from differences in qualification (better to say, from differences in the level of qualification), there have been two explanations which have especially gained ground among economists in the socialist countries. The first deduces wage differentials from the higher value produced by more qualified work, whereas the other one deduces them from the differences in the costs of training. There are authors who use both explanations simultaneously, usually referring to Marx.

As regards the first explanation, it is beyond doubt that more qualified work - being more complicated work - produces greater value than less qualified work does. However, basically this is not the reason why wages of more qualified workers are higher and, furthermore, they are never higher in proportion to

the greater value these workers produce. My opinion about this is similar to what I have already expressed in connection with distribution according to work, and within that, about the interpretation of the work performed. The greater value produced creates the source, the coverage of a higher remuneration of more qualified work - it is "worth" for society to pay more for more qualified work -, but there is no ground for assuming some sort of exact quantitative relationship or proportion between the two. It is wrong to interpret the relating Marxian conclusions in this way.

According to the second explanation, wages must in any society cover the production costs of the labour power, that is, that part which is not covered in some other way. And the reproduction of the more qualified labour power - including the costs of training - is naturally more expensive than that of the less qualified one.¹ It is the part of the training costs covered by the family, or the individual, which plays a role here. In socialist societies, a great part of the costs of training and education - in some cases an overwhelming part - is covered by the state. Nevertheless, especially if the value of wages lost due to further training is also taken into account, and it must be taken into account, the family also has to assume a very great burden, and in return for this, it counts, to a smaller or greater extent, on the higher wages of those members who then acquire higher qualification.² However, it does not follow from this that a more qualified worker should receive so much more wages than a less qualified one as is the difference in their costs of training covered by their family. There is no mechanism which can guarantee it, and no wage policy which can strive for its realization. Even bourgeois economics regards the realization of this principle as valid only under the conditions of perfect competition. And perfect competition does not exist even under capitalist conditions, not to speak of socialism. The supply of qualified labour force has never been exclusively a function of the volume of wages. In addition, higher wages serve to compensate not only for the financial costs of training, but also for the extra efforts involved in learning and in the performance of

qualified work.³ In order to ensure an adequate number and an adequate composition of qualified labour force, there is an absolute need for the recognition of higher qualification in wages; however, its extent depends on the "wage flexibility" of supply. In this case, there are again no rules; it is only the practical experiences and consequences that provide orientation.

*DECREASING TENDENCY OF DIFFERENCES IN
WAGES DUE TO QUALIFICATION*

The differences in wages due to the level of qualification has been historically decreasing all over the world. In the United States in 1907, qualified workers had twice as high wages as those without qualification, while this figure was only one and a half times as high in 1947.⁴ The difference has decreased further since then. A similar levelling tendency can be observed in the West European capitalist countries as well as in Canada and Australia. The International Labour Bureau examined 15 capitalist countries in and outside Europe as to how the relationship between the wages of characteristic skilled workers of four industrial branches - the machine, printing and building industries as well as energy production - and those of unskilled workers had developed between 1938 and 1954. Out of a total of 54 cases, the ratio between the wages of skilled and unskilled workers decreased in 40 cases, and only in 14 cases was there an increase or a stagnation.⁵

The decrease in wage differentials due to differences in the level of qualification is not a permanent and continuously progressing process; it is rather characterized by standstills and the temporary predominance of contradictory tendencies. In the case of large-scale unemployment, the differences in wages due to qualification grow to a greater extent, because it is the less qualified and more easily dispensable workers who are dismissed first, and hence it is here that the pressure of the reserve army of the unemployed, and consequently the competition among workers, is the greatest. This competition is even aggravated by the fact that higher qualified workers who are unable to find a job corresponding to their qualification are

compelled to undertake lower level and, consequently, lower paying work. On the other hand, in the case of a shortage of labour, wage differentials due to qualification generally diminish and with this the tendency of levelling increases, because labour shortage usually accompanies certain extensive development tendencies which especially increase demand for lower qualified labour force and thus this category of workers gets into a more advantageous position. (Naturally, even under such conditions, there are always industrial branches in which demand for highly qualified workers suddenly increases - e.g. new professions are created -, and the wages of these workers increase at a faster rate than those of the lower qualified ones.)

Whereas the decrease in wage differentials between skilled and unskilled workers - even if with breaks - is a clear tendency, the situation is more complicated in the case of semi-skilled workers. The wages of semi-skilled workers approach those of the skilled workers, but - especially since the Second World War - these wages have been growing at a faster rate than those of the unskilled workers in several countries (e.g. in France, Great Britain, the United States, etc.). This is due to a change in their place in production which led to their differentiation (this will be discussed in detail in the next subsection).

The decreasing tendency of wage differentials is always to be interpreted on a percentage basis, as the ratio of the wages of workers with different levels of qualification. The absolute differences, i.e. the distances expressed in monetary units, increase. The decrease in percentage differences - disregarding some quite exceptional cases - takes place alongside an increase in the absolute differences. This is the result of the fast rate of increase in nominal wages.

The decreasing tendency of differences in wages due to qualification is even more striking in the socialist countries than in the capitalist world. In all these countries, socialist transformation was accompanied by a sudden, almost abrupt decrease in wage differentials (and within that, also the wage differentials due to qualification). This step was necessary, among others, also because before the change in power relations

these wage differentials had been extremely great in these countries as a result of their economic and political backwardness.

In Tsarist Russia, the highest wage of a worker was six times bigger than the lowest one, an engineer earned 20 times as much, and an accountant 18 times as much as the lowest paid worker.⁶ Shortly after the revolution - in 1920 -, the distance between the lowest and the highest wages was determined in one to five. In the 1930s - when due to a shortage of qualified labour experts from abroad also had to be employed -, this difference increased to some extent. After the Second World War, however, the differences in wages due to qualification started to decrease again, and this has become a tendency since then.

In Hungary in 1935 the wages (salaries) of technical employees (engineers and technicians) were on average three times as high as those of manual workers; in 1955 the corresponding figure was much less than two, and the difference has continuously been decreasing ever since (Table 4). (The wages of office employees were reduced to the level of those of manual

Table 4. Wages of workers, technical and office employees in Hungary

Year	Wages of	
	technical industrial employees	office employees
	as a percentage of the workers' wages	
1955	172	104
1958	158	98
1960	157	97
1964	154	95
1970	151	97
1975	140	91
1980	142	85

Source: *A lakosság jövedelmeinek alakulása 1950-1980* (The development of the incomes of the population 1950-1980), 1977, p. 48; and *Foglalkoztatottság és kereseti arányok* (Employment and wage ratios), 1981, p. 146.

workers already in the 1950s, and they have been increasingly lagging behind the latter ones since then.) In the early 1970s, experts with high level qualification earned about 70 per cent more than the unskilled workers did.⁷

A levelling tendency can also be noted among manual workers. In 1948 the wages of skilled workers were about 160 per cent of those of unskilled workers, and 130 per cent of those of semi-skilled workers. In the 1970s the corresponding figure was only 120 to 125 per cent with regard to unskilled workers, and even smaller in the case of semi-skilled workers.

THE CAUSES OF THE DECREASING DIFFERENCES

The world-wide tendency of decreasing differences in wages due to qualification is explained by several circumstances. One is the decrease in the differences (in the levels) of qualification themselves. With the extension of the average period of schooling - and in the first place, of general basic training -, the education of the strata with lower qualification increases faster than is the case with those who have higher qualification, and consequently, the levels of qualification come closer to each other. At the beginning of industrialization, an average worker had only a few years of schooling, whereas nowadays, in the countries that are in a leading position in this respect, workers have a schooling of some 10 to 12 years, while at the same time, university graduates have almost the same years of schooling now as they had at that time. Engineers, for example, had to learn for 15 to 17 years already in the past centuries.

Another circumstance having a role in the decrease of wage differentials due to qualification is that society - the state - undertakes an increasing share of the costs of training. The spreading of basic and/or further training financed by companies has a similar effect. As a result of the process of approach in the length of training as well as of the fact that an increasing share of the costs of training is covered by the state and by companies, the differences in the families' contribution to the costs of training tend to decrease.

Finally, the most important circumstance which is closely connected with the previous two is that the supply of qualified - and especially of highly qualified - labour force increases at a fast rate, faster than the demand for it. The earlier shortage of highly qualified labour force decreases, whereas the demand for lower qualified labour force decreases less than its supply. The relations of "shortage" have shifted. The "shortage" of higher qualified labour force has decreased, whereas that of lower qualified labour force has increased. At the same time - due to reasons to be discussed later -, the role of the hardship and other circumstances of manual work in wage differentials has increased - partly at the expense of qualification.

Wage differentials due to qualification are great in economies which are at the beginning of industrialization. Due to poverty, uneducatedness and the backwardness of the school system, the supply of qualified labour force increases only slowly and is unable to keep pace with the increase in demand. The flow of the surplus village population to the cities only increases the number of uneducated workers. At this stage of development, wage differentials due to qualification often even increase. (This can be observed nowadays in several economically less developed countries. In the 1960s in Brazil, for example, the real wages of people with medium qualification increased by 28 per cent, of those with higher education by 52 per cent, whereas the real wages of illiterates remained unchanged.⁸) Qualified labour force enjoys some sort of "rarity allowance". With the passage of time, however, the supply of qualified labour force extends: the school system develops, and with an improvement in their financial situation, a greater part of the families obtain the possibility to send their children to school. It often happens that the son of an industrial unskilled worker of peasant origin becomes a semi-skilled worker, and the son of a semi-skilled worker becomes a skilled worker. In the meantime, the natural growth of the population slows down and, as a result, the replacement of unqualified and semi-skilled workers narrows down - at least in a relative sense, compared to that of qualified workers. However, the

change in the structure of demand for labour moves in the opposite direction. Due to an increase in the division of labour, the demand for semi-skilled and uneducated workers increases at a faster rate than for skilled workers. Naturally, depending on the technological conditions, this process takes place differently in the individual branches of industry - in certain branches it may even happen the other way round -, but this is the general and the typical. Consequently, the initial monopolistic position of qualified labour force becomes weaker, its "rarity allowance" disappears, and thus its relative wage decreases, whereas the relative wages of the lower qualified categories increase. Later - with the development of automation -, the increase in the demand for highly qualified labour force accelerates again, but if training keeps pace with this, then the tendency of levelling does not stop, it only slows down at most.

I have outlined this process by using the example of the capitalist countries, but in many respects it takes place in a similar way in the socialist countries, too. The situation of the labour force both in Hungary and in other socialist countries is more and more characterized by the following developments: as a result of a fast increase in education, the earlier considerable shortage of higher qualified labour force has come to an end, whereas at the same time, there is an increasing shortage of those who are willing to undertake simpler and hard manual work.

This tendency can be found not only in time (i.e. historically), but also in space. On a world scale, wage differentials due to qualification are the greatest in the economically most backward countries, and the smallest in the industrially most advanced ones. The medially developed countries have a medium position in this respect. However, the borders are not rigid. There are significant differences among countries belonging to the same category of economic development, depending on the concrete circumstances, the traditions, the level of organization of the individual working strata, and so on. For example, in the second half of the 1960s, the wages of a skilled worker in the processing industry were on an average 1.2 times higher

than those of an unskilled worker in Denmark, Switzerland, the Federal Republic of Germany and Italy, whereas the corresponding figure was 1.5 to 1.6 in Great Britain and France. This same ratio was 1.4 to 1.5 in the United States.⁹

WAGE DIFFERENTIALS DUE TO QUALIFICATION IN COUNTRIES WITH DIFFERENT SOCIAL SYSTEMS, WITH SPECIAL REGARD TO HUNGARY

The wage structure is basically a function of the production forces, but it is also affected by the production relations as well as the social conditions. The wage ratios of manual workers (i.e. the ratios between the wages of unskilled, semi-skilled and skilled workers) are very similar in various countries having different social systems. The social system does, however, leave a stronger mark on the differences in wages between employees with higher qualification and manual workers. These differences are much smaller in the socialist countries than in the industrially advanced capitalist states. In the 1960s, the incomes of administrative and professional employees with high level qualification showed the following multiplying figures as compared to the wages of unskilled workers: 2.5 times in Norway, the Federal Republic of Germany and the United States, 3.5 times in Great Britain, 5.5 times in France and 7 times in Italy. The same figures were 3 for the Netherlands and Sweden, and 4 for Denmark.

The detailed comparison between the Hungarian and the Austrian wage structure made by József Berényi is extremely interesting from this respect. Some of the results of his study related to our theme are summarized in Table 5.

Table 5. Percentage differences between the average hourly wages of industrial workers according to categories of qualification, Hungary and Austria (the hourly wages of an average worker = 100.0)

Qualification category	Hungary	Austria
	1969	1970
Skilled worker	+ 14.6	+ 16
Semi-skilled worker	- 11.2	- 4
Unskilled worker	- 16.1	- 18

Whereas in Hungary the distance between the wages of skilled and unskilled workers was 30.7 per cent at the time of the study, the corresponding figure in Austria was 34 per cent. At the same time, the wages of semi-skilled workers were lagging less behind the average wages of industrial workers in Austria than in Hungary.

The comparison of wages between industrial workers and employees in the two countries is more telling (Table 6).

Table 6. The wages of workers as a percentage of those of employees (= 100) in 1970

Austria		Hungary
gross	net	gross
61.6	64.5	80.3

Source: József Berényi: *Bérrendszer, bérszerkezet Magyarországon és Ausztriában* (Wage system and wage structure in Hungary and Austria), Budapest, 1975, pp. 56 and 58.

It has already been mentioned several times that the decrease in wage differentials due to qualification is a worldwide phenomenon. However, when we acknowledge it, we also have to keep in mind that an excessively fast decrease in these differentials - that is, an excessively small difference between the wages of higher and lower qualified workers, which is not in harmony with the given level of economic development - can be extremely harmful.

It seems that in Hungary the wage differentials due to qualification have decreased to an excessive extent. In addition to our practical experiences, it is also supported by international comparisons. The available data indicate that wage differentials between workers and the technical staff decreased in the period between 1950 and the mid-1960s to the greatest extent in Hungary among five socialist countries (Bulgaria, Czechoslovakia, Hungary, Poland and the Soviet Union).¹⁰

This is all the more important, because experts are complaining about the extremely small differences in wages also in those socialist countries where the qualificational wage differentials decreased at a slower rate than in Hungary. (There are several references to this, for example, in the Soviet and the Czechoslovakian special literature.) I have also studied data for seven capitalist countries (the Federal Republic of Germany, France, Great Britain, Norway, Sweden, Switzerland and the United States), and I have found nowhere such a fast rate of decrease in wage differentials due to qualification as it is in Hungary.

The shrinkage of wage differentials due to qualification results not in a fewer number of those who enter into professions which require higher qualification - for, under modern conditions, this is to a great extent determined by the capacity, the structure of the educational network -, but primarily in the fact that not the most suitable persons occupy these positions. Appropriate wage differentials due to qualification are absolutely required for a desirable social selection. If they are not appropriate, it may happen that masses of unsuitable people get to the profession, and this can even be accompanied by dispirited work performance as well as by financial necessity to undertake extra work to a considerable extent. This may have serious consequences, for example, with regard to technological progress; namely, especially nowadays when technical and economic activity cannot solely be based on routine because there is a need for flexible adaptation to the increasing demands of the international market, such experts are required who are working with full energy, who have a creative mind, and who can always produce something new.¹¹

In Hungary, the extremely fast rate of decrease in wage differentials due to qualification - in addition to reasons which resulted from the official attitude - is also connected with a large-scale general shortage of labour. This shortage of labour and the consequent wage competition has intensified the tendencies of levelling through faster increasing the wages of those strata which have lower qualification.

THE PHYSICAL HARDNESS OF WORK

Besides qualification, another basic factor of wage differentials is the physical hardness and the strenuous character of work. This is interpreted here in a broad sense, including the favourable or unfavourable character of working conditions (temperature, humidity, the hazards to health and security, the dirty or repulsive character of work, etc.), the time conditions of work (number of shifts, breaks, etc.), work intensity, as well as the varied or monotonous character of the given work.¹²

The higher remuneration for physically hard and strenuous work - as compared to less hard work - is usually explained with two reasons. One is that hard work is, in a certain sense, also a sort of more complicated work which produces greater value than simple work does. And the other is that the reproduction of the working capacity of those performing physically strenuous work is more expensive than is the case with those who perform simpler work. The problem is similar to the one outlined in connection with the role of qualification. As far as the first explanation is concerned: physically hard work - just like more qualified work - does produce greater value than the average, and this creates the financial source for its higher remuneration. However, the higher wages are not directly and primarily paid for this reason, and there is no ground for assuming that they are higher in proportion to the value produced. As regards the second explanation: undoubtedly, the reproduction of the working capacity of those performing hard manual work costs more than that of those performing some easy work. (They have to consume more calories, and the protection against hazards at the working place may require extra costs which have partly to be covered by the workers themselves, etc.) However, it does not mean that they should receive exactly so much more wages as much they themselves have to cover extra in order to reproduce their working capacity. They receive higher wages primarily because this is the only way to ensure that there be enough people who undertake such work, and the volume of their wages is in the first place determined by

the relationship between the supply and demand of labour in this field.

Whereas with regard to wage differentials due to qualification it was stated that they show a decreasing tendency historically and on a world scale, wage differentials due to the physical hardness of work tend, on the contrary, to increase. This is the case despite the fact that the differences between jobs both from the point of view of the necessary physical efforts and from that of the working conditions tend to decrease. [Technological progress and the development of labour safety and labour health regulations have decreased the (physical) burdens on almost every category of workers and this is especially so in case of those who are working under the most unfavourable conditions.] The mechanization of hard manual work and the improvement of unfavourable working conditions - not so much due to technical difficulties, rather for economic reasons - proceed slower than the demand for them increases. With increasing financial welfare and cultural level, workers' demands as regards the character of their work and their working conditions increase rather fast. The elimination of unemployment and the opportunity to choose from among several jobs also exercise an influence in this direction. The number of those willing to undertake hard manual work and unfavourable working conditions decreases at a faster rate than the number of such jobs. Consequently, the tension between demand and supply, that is, the shortage of labour, increases in these areas. The establishment of a relative balance and the satisfaction of the demand for labour require ever increasing financial stimulation. Hence, these activities have to be increasingly "overpaid" compared to average and highly qualified work which requires no special physical effort. This holds true for the socialist countries as well as for those industrially advanced capitalist countries where no masses of humble labour force coming from less developed countries are employed.

It is easy to realize logically the growing tendency of wage differentials due to the physical hardness of work, and it is also experienced day after day. However, it is not at all so easy to demonstrate it numerically. There is no statistics

which would group or categorize the labour force according to the physical hardness of work. It can only be approached partially, on a representative basis.

I have chosen to compare the wages in four trades that are explicitly hard physically (viz. the wages of loaders, bakers, masons and smelters) with the average wages in the 25 most common fields of manual work in two groups of countries that are different from the point of view of their economic development (the first group includes seven industrially advanced and medially developed European countries, whereas the second one seven non-European countries that are on a considerably lower level of economic development; the selection of the countries was to a large extent determined by the availability of the data). Despite all the limits of the comparability of the available data and the interplay of accidental factors, the results document the tendency that at a higher level of economic development the remuneration of hard manual work is relatively higher. In other words, the relative wages in all the above-mentioned four trades are considerably higher in the first group of countries than in the second one (cf. Table 7). In the industrially more advanced countries, the wages of loaders were on an average 86 per cent of the combined average wages in the 25 trades, whereas in the economically less developed countries, the corresponding figure was 69 per cent; the respective figures were 91 and 82 per cent for bakers, 102 and 87 per cent for masons, and 107 and 91 per cent for smelters. (For detailed figures see Table 7.)

Traditions, the organization of the various strata of workers as well as the national specifics also play an important role in the wage differentials due to the hardness of work. These can also result in significant differences in the wage structure (taken now from the aspect) of countries which are on a similar level of economic development. (This is also supported by the values in Table 7.) The important factors in this respect are the degree of employment, unemployment or the shortage of labour. In the case of unemployment - other factors being identical - wage differentials due to the hardness of work and to working conditions are always smaller than in the case

Table 7. Wages in some trades involving hard manual work in the percentage of the average wages in 25 trades in countries with different levels of economic development (October 1973)

Country	Loaders	Bakers	Masons	Smelters
<i>First group of countries:</i>				
Austria	103	111	78	108
Belgium	72	93	88	-
Great Britain	87	91	125	-
Greece	100	72	133	115
Holland	107	100	106	99
Romania	70	87	100	111
Spain	66	85	85	103
Average	86	91	102	107
<i>Second group of countries:</i>				
Bolivia	81	76	76	-
Brazil	48	63	76	98
Morocco	57	71	54	77
Pakistan	74	100	118	72
Peru	77	81	99	81
Tunisia	86	95	82	128
Venezuela	63	88	105	-
Average	69	82	87	91

Source: based on data of the *ILO Bulletin of Labour Statistics*, 2nd quarter, 1974.

of full employment or a shortage of labour. (In the case of unemployment, those who cannot get any other job, who do not receive adequate unemployment benefit are compelled to undertake physically strenuous and hard work even for relatively low wages.)

In the period after the Second World War in the industrially advanced capitalist countries, there was often a shortage

of labour not only with regard to jobs involving hard manual work, but also with regard to monotonous work (for example, along the assembly lines). This is primarily due to an increase in the level of general education. More educated people having tasted the experience of intellectual activity are looking also for variety in their work and can suffer a high degree of monotony only with difficulty. The effect of this on wage differentials can hardly be experienced as yet, but it nevertheless does exist. Companies are often compelled to reduce the large-scale fluctuations in these jobs by paying various extra wages or higher wages. (Various technologies reducing monotony as well as work organization have an essential role to play in this. However, their discussion goes beyond the limits of our subject.)

An increase in wage differentials due to the hardness of work does not necessarily lead in the direction of a general increase in wage differentials, nor does it necessarily enhance the dispersion of wages. Since even at higher levels of development, a considerable part of manual work - regarding the wage scale as a whole - belongs to the category of paying lower wages, an increase in these wage differentials often promote the levelling of wages. Furthermore, the effect of easing hard manual work is again ambiguous; whether it works in the direction of levelling, depends on whose physical burden is reduced in the given case: those workers' who receive lower or those who receive higher wages. If the burden of those receiving higher than average wages, for example that of miners, is reduced, then it has a diminishing effect on the totality of wage differentials, and vice versa.

WAGE DIFFERENTIALS AMONG SECTORS AND BRANCHES

Qualification and the physical hardness of work are basic factors of wage differentials. It is these factors that play a primary role in the wage differentials among the various sectors and industrial branches, too. Wages are the highest in those sectors and industrial branches where the ratio of highly

qualified workers is big and work is physically hard and strenuous. Other factors also playing an important role in wage differentials among the sectors and branches are the composition of workers according to sex and age, the territorial (geographical) location and the size of the companies.

Hungarian economic literature as well as textbooks often attribute the wage differentials among sectors and branches to their differing "national economic importance". It can hardly be interpreted in this way. What does the "national economic importance" of a sector depend on? What is "more important": agriculture or the engineering industry? This question, independent of space and time, can hardly be answered; the wage differentials among the sectors and branches can hardly be explained on this basis. At the same time, however, in addition to the factors discussed above (necessary qualification, physical hardness, etc.), the relations between the demand and supply of labour are also very important. Where demand for labour is much greater than its supply, it is only possible to satisfy this demand through paying higher wages. And where the demand is lagging behind the supply of labour, wages are relatively lower, at least compared to the situation described above (regarding qualification, physical hardness, etc.). According to historical experiences, the relations between the demand and supply of labour within any industrial branch primarily depend on two factors. On the one hand, on the date of the establishment of the given branch, and on the other, on its growth rate. Wages are usually higher in newly established, modern industrial branches than in older ones. The old and traditional industrial branches could at that time satisfy their demand for labour with low wages characteristic of the beginning of industrialization. The historically younger industrial branches can only attract workers with higher wages. And this is the explanation why - if other factors are identical - they have to pay higher wages than the "older" ones. In old industrial branches, such as the textile, leather, shoe and clothing industries, wages are low. At the same time, in recent industrial branches, such as the electric, chemical, synthetic material and car industries, they are high.

The other factor influencing the relations between the demand and supply of labour is the growth rate of the given industrial branch. Industrial branches which increase both their production and, in the interest of this, the number of their workers at a fast pace (in Hungary the so-called preferential branches also belong to this category), usually pay higher wages than those whose growth rate is low, whose size increases only at a slow pace or even stagnates. Wages in branches producing consumer goods are lower than those in branches manufacturing means of production, because both production and the number of employees grow at a slower pace in the former than in the latter.

Wage differentials among branches are primarily formed by the factors discussed above (qualification, the physical hardness of work, sex and age composition, etc.). Compared to them, the relations between the demand and supply of labour, which depends on the date of establishment of the given industrial branch as well as on its growth rate, play only a secondary role. However, wages are not low in every old industrial branch, nor are they high in every new one. For example, in mining and the building industry - although they belong among the oldest industrial branches - wages are relatively high due to the physically strenuous work and the unfavourable working conditions. And another example: wages are not high even in such a dynamically developing industrial branch which is in an expansive phase of its development and thus increases the number of its workers at a fast rate if the majority of its employees are low qualified women.¹³

Throughout the world, there have been several attempts at studying wage differentials among the branches with the help of numerical, mainly correlation, calculations. Some researchers (e.g. Reder and Slichter) have come to the conclusion that in an industrial branch wages are the higher, the greater is the ratio of skilled workers among the employees. Others (Dunlop and Garbarino) have proved the relationship between the volume of wages and the production value per working hour (productivity). Again others have pointed to the interrelationship between the volume of wages and the wage quotas (the ratio of

wage costs within the overall costs). Tamás Barna has proved the relationship between the volume of wages and capital intensity (the level of technical equipment). Studying the development of 22 industrial branches in the United States between 1923 and 1940, D. Serfort has found a positive correlation between the development of the wage level, on the one hand, and the development of productivity and employment as well as the degree of concentration of the commodity market and that of the trade unions, on the other. These results have been partly or totally refuted by several economists who also based their control examinations on correlation analyses. Obviously, the truth is that the relationships in question are so complicated and complex that they cannot be quantified unambiguously, and the results will be different, depending on the given circumstances, the chosen viewpoint, factors, or the applied abstractions, etc.

The two general characteristics of the wage differentials among the branches and of the wage structure are that they are very similar in the different countries and they are relatively stable, that is, they show only a slow change over time. In almost every country (workers') wages are the highest in the extractive branches and in raw material production, followed by the production of investment goods, and then of consumer goods, and finally, wages are the lowest in the food industry.

The similarity of the wage structure among the various industrial branches in different countries has been pointed out by several researchers. J.T. Dunlop and M. Rothbaum have found significant similarities in this respect among France, Great Britain and Italy.¹⁴ S. Lebergott has shown a high degree of correspondence among the industrial branches, arranged according to hourly wages, in Canada, Great Britain, Sweden, Switzerland, the Soviet Union and the United States.¹⁵ Bombach has proved the similarity of the wage structures in the industrial branches of the United States and of Great Britain. K. Forcheimer has pointed out the similarity of the wage structures in the industrial branches of Hungary as well as of Great Britain, Italy and the United States. Comparing the wage hierarchy according to industrial branches in nine countries, W.G. Hoffmann

has demonstrated that it is a common feature that wages are higher in the industrial branches producing investment goods and are lower in the branches producing consumer goods.

The similarity of the wage structure according to industrial branches also exists among the socialist countries. In all of them mining and/or metallurgy are the first, whereas the textile and food industries the last ones (cf. Table 8).

The basic reason behind the similarity of the wage structure of the industrial branches in various countries is that the same industrial branches throughout the world - unless the technical and technological differences between them are too big - set more or less similar requirements as regards the qualification, physical efforts, etc. of their workers. More precisely, the order of the industrial branches is similar in this respect. Namely, everywhere work is more difficult and working conditions are more unfavourable in mining and metallurgy than in the machine industry. And again everywhere, the ratio of skilled or highly skilled workers is higher in the machine industry than in the textile or the food industry. At the same time, the textile industry - and partly also the food industry - is a characteristically women's industrial branch almost everywhere in the world. On the other hand, the development of the relations between the demand and supply of labour in the individual industrial branches or groups is also greatly determined by common tendencies, namely, by the more or less general (i.e. valid for every country) interrelations of the development of the national economic and the industrial structure. The order of the establishment of the industrial branches is similar in the great majority of countries, and there is also a similarity in which branches develop relatively dynamically and which ones relatively slowly. The increasing demand for labour resulting from the growth of production in individual branches also depends on international processes, primarily on that of technological progress. Besides these basic similarities, the wage structure - especially if it is studied not according to groups of industries but in a more detailed breakdown - is naturally always affected by specific national features, traditions,

Table 8. Order of industrial branches according to the wage level in five socialist countries (1964)

Country	Mining	Iron metal-lurgy	Non-ferrous metal-lurgy	Energy production	Machine industry	Chemical industry	Building material industry	Textile industry	Food industry
Bulgaria	-2	3	1	4	6	7	5	9	9
Czechoslovakia	1	2	4	3	6	7	5	9	9
GDR	1-3	1-3	1-3	6	4	5	-	8	7
Hungary	1	2-3	2-3	-	4-5	7	6	9	8
Poland	1	2	3	4	5	6-7	6-7	9	8

Source: *Jövedelmek a háború utáni Európában* (Incomes in post-war Europe), Central Statistical Office, 1968.

Note: The values include the wages (salaries) of both the workers and the employees. But anyway, in the industrial branches where the wages of workers are high, so are usually the wages of employees, and vice versa.

power relations, characteristics of industrial development, etc.

As it was mentioned above, the wage structure of the industrial branches is characterized by its relative stability and slow change over time. The order of the volume of wages by industrial branches gets modified only rather slowly. The industrial branches which at the turn of the century, or even before, paid low wages usually belong even now to the low-paying ones, whereas those which paid higher wages in the past still belong to the better-paying ones. Several researchers (W.G. Hoffmann, H.D. Woods, F. Grumbach, H. König, H. Lampert, N.A. Tolles, S. Lebergott, etc.) have found the wage structure to be relatively stable for decades in Australia, Belgium, Canada, the Federal Republic of Germany, Great Britain, New Zealand, Norway, Sweden, Switzerland and the United States.

This stability of the wage structure over time is also valid for the socialist countries. The five socialist countries studied above showed about the same picture in this respect in 1950 as they did one and a half decades later, only mining and iron metallurgy changed place (in 1950 iron metallurgy occupied the first place and mining the second in four of the five countries, whereas that order got reversed by 1964).

The relative stability of the wage structure is, on the one hand, due to the fact that the factors of the individual branches important from the point of view of wage differentials (necessary qualification, physical strength, working conditions, ratio of women, etc.) - at least compared to each other - are rather constant. (Also in the past, work was more strenuous in mining and metallurgy than in other branches; and the textile industry employed and continues to employ mainly women, etc.) On the other hand, changes in the production and working conditions are followed by changes in the wage structure only slowly and in a moderate way. The effect of traditions, that is, the opposition to any change in the wage ratios, is very strong. (This partly covers the phenomenon that was already discussed with regard to the relationship between the wage level and productivity increase. In the capitalist countries, it is often the trade unions that fight the most strongly for

the stability of the existing wage hierarchy among the branches, and in the case of a shift in this ratio, for the restoration of the status quo.)

Although the order of the industrial branches according to the volume of wages is relatively stable, the percentage differences have been diminishing, and a slow tendency of the levelling of wage differentials can be experienced. According to a study by the International Labour Organization, the percentage differences in the average wages of workers in the metal and textile industries diminished in 9 out of 11 countries between 1938 and 1954. The same study also stated a decrease in the differences between the average wages of 18 industrial branches in Argentina, Japan and Sweden.¹⁶ Several authors have pointed out that the different wage levels among the branches have been approaching one another in the Federal Republic of Germany, France, Great Britain and Norway as well.

The levelling of the wage differentials existing among the branches can also be found in the socialist countries. In the Soviet Union between 1965 and 1971, the difference between the average wages in iron metallurgy and the light industry decreased from 63 per cent to 49 per cent. Even if not to the same extent, but a decreasing tendency is characteristic also of Hungary and other socialist countries.

The comparison of the respective data of a great number of capitalist and socialist countries shows that wage differentials between the individual industrial branches are generally smaller in the socialist countries than in the capitalist ones.¹⁷

So far only the wage differentials within industry, that is, among the industrial branches, have been discussed, and those in the sectors outside industry have not. Wages in agriculture are almost everywhere in the world smaller than wages in industry. The differences are bigger in the countries at a lower level of economic development than in the economically more advanced ones, and they show a decreasing tendency in the long run.¹⁸

At the beginning of industrialization and in its early period, big differences in incomes were required to attract the

labour force into the cities, and also the discipline which was necessary for the operation of the applied technology in the factories was rare; after a time, however, both of these factors lost much of their importance. In the West European countries the differences between wages in industry and in agriculture suddenly decreased to a great extent after the Second World War; since then, however, they have been approaching each other rather slowly and there were short periods when these differences even increased. The increasing world-wide shortage of foodstuff and raw materials originating from agriculture is expected to accelerate again the approach of agricultural and industrial wages, and may even result in places in higher wages in agriculture than in industry (Table 9).

Table 9. Wages of male agricultural workers as a percentage of industrial wages

Country	1938	1948	1954	1964
Denmark	44	65	60	63
FRG	64	66	67	75
Great Britain	48	72	69	66
Italy	43	58	60	57
Netherlands	61	83	88	88
Norway	42	70	71	68
Sweden	50	70	68	73
Switzerland	42	47	47	55

Source: *Jövedelmek a háború utáni Európában* (Incomes in post-war Europe), Central Statistical Office, 1968, p. 38.

In the socialist countries, wages in agriculture approach those in industry to a greater extent (Table 10).

The income of members of farming co-operatives is usually smaller than that of the workers of state farms, but this difference also tends to diminish.

Also in the production sectors outside industry and agriculture as well as in the non-productive sphere, wages are

Table 10. Wages in agriculture (state farms) as a percentage of industrial wages (1972)

Bulgaria	88
Czechoslovakia	98
Hungary	103
Poland*	79
Romania	95

*In 1970.

Table 11. The percentage difference between average monthly wages in various sectors and the average wages in industry in six socialist countries (1964)

Country	Commerce	Communal services	Health care	Education
Bulgaria	- 14	- 18	- 17	- 10
Czechoslovakia	- 22	- 30	- 23	- 17
GDR	- 18	-	-	-
Hungary	- 12	-	- 1	-
Poland	- 24	- 13	- 26	- 15
Soviet Union	- 35	- 36	- 35	- 22

Source: *Jövedelmek a háboru utáni Európában* (Incomes in post-war Europe), calculated on the basis of data on p. 79.

lower than in industry (cf. Table 11). This - or at least its extent - is also related to the fact that infrastructural development in the socialist countries is lagging behind the general development. The reduction and then the elimination of this lag is all the more important since these sectors are such which have an ever increasing role in the development of the living standard, of the "quality" of life as well as in social-economic progress as a whole. (The long-range "spill over" effect of public health care and education on the whole society does not need any special proof.)

REGIONAL (GEOGRAPHICAL) WAGE DIFFERENTIALS

Within the individual countries, wages are also different by regions, geographical areas. This especially holds true of countries of huge areas, but can also be found in smaller ones. There are very big regional wage differentials - from among the industrially advanced capitalist countries - in the Federal Republic of Germany, France, Great Britain and the United States. In the latter one, the biggest difference in average wages among geographical regions is over 20 per cent with regard to men, and over 30 per cent with regard to women.¹⁹ From among the socialist countries, there are significant regional wage differentials in the Soviet Union but they also exist in Hungary, for example.

No factor of the wage ratios is independent of the others. Concerning the wage differentials among the branches it has been stated that it is primarily qualification and the physical hardness of work, as well as the sex and age composition of workers, the size of the company and the geographical location of the branches that have a role. The regional wage differentials are, in turn, influenced to a great extent by the structure of the economy in the given geographical regions. Namely, in those regions where the economy is dominated by sectors/branches with low wages (agriculture, and within industry, the light or food industry, etc.), the average wage level is lower than in regions where sectors/branches with higher wages are the majority. Naturally, through this structure, all those factors - qualification, physical hardness, the sex and age composition of the labour force, etc. - which mould wage differentials among the individual sectors or branches also have an influence on the regional wage differentials. In addition, special geographical factors, such as climate and other natural conditions, are also manifested in the regional wage differentials.

Approaching it from another aspect, the factors influencing the regional - geographical - wage differentials can be divided into two groups. One group includes those factors which have an influence on the costs of the reproduction of labour

power, and the other includes those which determine the local conditions of the demand and supply of labour. As regards the first group, all the factors that have an influence on the costs of the reproduction of labour power, such as the differences in the costs of food, clothing, as well as of acquiring and maintaining a flat, have an effect on regional wage differentials. In the frigid zone, the costs of food, clothing, heating, etc. are bigger, and hence, wages there should also be higher than in places where no such extra costs are involved. (It is partly this that accounts for the higher wages in the cold northern regions of the Soviet Union.) Naturally, the costs of the reproduction of labour power also depend on the consumer prices and their regional differences: where the consumer price level is higher, wages should obviously also be higher. However, the wage differentials formed in this way are only nominal differences and do not mean differences in the real wages, i.e. in the purchasing power of wages.

The local conditions of the demand and supply of labour are determined, on the one hand, by the density and number of the population as well as by the number and composition of the available labour force, and on the other, by the degree of industrialization as well as the given industrial structure. In the industrially advanced and medially developed countries, wages are the highest in the most densely populated areas, and within these, in the cities. This is primarily due to the fact that the costs of living are higher in the cities than in the less populated parts of the country or in the villages. (In the villages, even the working-class families grow a part of the food they need, flats are cheaper, etc.) In addition, workers in the cities are generally more educated, the number of skilled workers is higher among them and they are usually also more organized. In the cities there are more big companies, which pay higher wages, than in the country. Furthermore, due to a higher degree of industrialization, in the more densely populated areas, in the cities there are usually more working opportunities and consequently there is a greater demand for labour. In smaller towns and villages, the supply of labour is often bigger than the demand, that is, there is often an excess of

labour either in an open or in a hidden form. It occurs in the underdeveloped countries that the great density of the population is not accompanied by a higher degree of industrialization and a higher demand for labour, and as a result, there is a great excess of labour even in the densely populated areas. Under these conditions, wages are not higher in these densely populated areas either than elsewhere.

The relations between the demand and supply of labour are also influenced by the natural conditions and by the cultural level. The regions which are in a disadvantageous position in this respect generally struggle with a shortage of labour, and they have to offer additional financial stimulation to attract the labour force there.

Similarly to the wage differentials due to qualification as well as those among sectors or branches, the regional wage differentials also show a decreasing tendency. In the United States, in the years of depression following the world economic crisis between 1929 and 1933, wage differentials between the northern and southern parts of the country even increased somewhat, but since the subsequent years of higher employment, they have been decreasing - true, with interruptions, and to a different degree in the various industrial branches. The superiority of wages in the western parts of the United States has also decreased. However, the order according to the volume of wages has remained unchanged among the four major geographical parts of the country; namely, wages continue to be the highest in the West, and the lowest in the South.²⁰ Regional wage differentials have also decreased - among others - in the Federal Republic of Germany, Great Britain and Italy. In France - taking into consideration 16 trades -, wage differentials between Paris and the countryside rapidly decreased from 72 to 22 per cent in the period between 1938 and 1952. Regional wage differentials show a decreasing tendency also in the socialist countries, among them in Hungary, too.

In the early phase of capitalism, due to the remnants of feudal bonds as well as to the backwardness of transport and communication, regional mobility of the labour force was very little. Employees were secluded from the markets farther away

and were unable - at least on a mass scale - to approach them or to learn about their conditions. Employers were often in a monopolistic position in determining the wages. Under such conditions regional wage differentials were necessarily big. Later, the conditions of a free flow of the labour force were created. Simultaneously, market conditions also became much easier for the employees to survey. The development of the means of the mass media (press, radio, television, etc.) has assisted workers to obtain very fast information about the working possibilities and conditions even in the most remote corner of the country. And the rapid development of the means of transport has enabled them to easily reach such territories which had formerly been regarded as distant. The dissolution of the territorial isolation of the labour markets has also been promoted - in different ways: through labour exchange, career guidance, etc. - by the state's labour force policy. This applies to an even greater extent to the information and organizing activities of the trade unions. All this has resulted in an integration of the formerly isolated regional labour markets, and on this ground in a decrease of the regional wage differentials.

THE ROLE OF THE COMPANY SIZE

In the industrially advanced capitalist countries, the size of the company is a significant factor determining wages: namely, wages are essentially higher at big companies than at small or medium size ones. This difference is on an average 10 to 15 per cent in the European capitalist countries, but there are countries where it is as high as 30 per cent. For example, in the Federal Republic of Germany, male industrial workers earned 34 per cent more at companies having 1,000 or more employees than at companies with less than 10 workers.²¹ Unskilled or semi-skilled workers of big companies earn as much as or even more than skilled workers at small companies. In the United States, wages at small companies employing 4 to 9 workers amount only to two thirds of the wages at big companies. Wage differentials due to company size are strikingly big in

Japan, where wages at companies employing 20 to 49 workers are only half of the wages at big companies, and the corresponding figure for wages at companies employing 4 to 9 workers is one third.

Higher wages at big companies are explained - among others - by the following.

a. Big companies are usually located in geographical regions where the costs of living are higher and there are more job opportunities than elsewhere, and therefore the regional wages are higher.

b. Workers at big companies are more organized and can gain higher wages for themselves. This is also connected with the fact that due to the higher organic composition of capital at big companies, work stoppages there can cause especially serious losses. At the same time, the ratio of wages within total costs is smaller, and therefore wage increases have a lesser effect on economic results.

c. With their specific technologies and the corresponding forms of work organization (mass production, broken down working steps, pace of work dictated by the machines, etc.), big companies generally require more intensive work from their workers and, at the same time, ensure less experiences of professional success and satisfaction than the small and medium size companies do. In the latter ones, work is independent, maybe multifarious, allows more individual initiatives, and the relationship between workers and managers is more direct and personal. (At the same time, working conditions are usually worse.)

As these factors are lasting ones, and workers - due to the limited number of work places there - have only limited possibilities to find employment at big companies, the wage differentials existing between the big and the smaller companies survive. Their decrease - at least in our days - can nowhere be found.

I have failed to get a - numerically verified - comprehensive picture of wage differentials between big companies, on the one hand, and small and medium-size companies, on the other, in the socialist countries. However, it is beyond doubt that

such differences also exist in these countries, but in the opposite direction. Until recently, in Hungary, for example, smaller companies (mainly industrial co-operatives) paid higher wages than the big ones. This resulted, among others, from the fact that smaller companies - due to a freer calculation of their prices (a more favourable form of price) and their more flexible adaptation to the market demands - had more financial resources to do so. However, after the modification of some regulators, this has largely been stopped, so it was rather a temporary phenomenon. (The situation is different with "private" entrepreneurs and retailers. They continue to pay to their employees higher wages than the state companies do, even if not always in an official form. So, the situation is just the opposite here as in the capitalist countries.)

HIERARCHICAL WAGE DIFFERENTIALS (DUE TO EMPLOYMENT POSITION)

A significant factor of wage differentials is the employment position, namely, the place occupied in the organizational hierarchy. Even if the level of qualification, the physical requirements, the branch, the geographical area, the company size, etc. are all identical, those who are in some sort of leading position usually have higher wages than the ordinary workers, and those in higher leading positions earn more than those who are in some lower position. This is primarily justified by the increased responsibility of leaders²² as well as their increased intellectual and nervous employment. Leaders usually have to work more and also more intensively than their staff, they have to educate themselves continuously and have to acquire special managerial knowledge, etc. In addition, the successful fulfilment of managerial tasks also requires special aptitudes and suitability.²³ Furthermore, from time immemorial, every leading post has been a confidential post, and for that reason alone, employers have to pay more.²⁴

The amount of extra wages of leaders depends - besides some general interrelations - primarily on the existing values

and norms of the given society.²⁵ In the capitalist countries, the hierarchical wage differentials are essentially higher, the wages of leaders surpass the average income of workers to a much greater degree than in the socialist countries. This especially holds true of the earnings, the incomes of top managers. Naturally, there is no possibility of an accurate comparison here, the less so because the earnings of top managers are usually not made public by the capitalist enterprises.

The measure of hierarchical wage differentials can be approached in two ways. On the one hand, "from outside", on the basis of extremes, that is, whether, for example, the difference between the wages of the company manager and those of the lowest paid worker is adequate. On the other hand, "from inside", that is, on the basis of whether the wage differentials between the individual stages of the hierarchy (foremen, heads of sections, heads of departments, etc.) are adequate.

As regards the first question, the wages (salaries) of top company managers in Hungary were about three times as high as the average wages of workers in 1971 and about five times as high as those of the lowest paid workers. This difference shows a decreasing tendency, although it was not at all to be considered as excessive (Table 12).

According to several studies, in Hungary it is the employment position - i.e. the place occupied in the organizational hierarchy - which has the greatest weight among the factors having an influence on wages. A main Hungarian form of granting a wage increase is promotion to a leading post. (This must be traced back to the fact that it is easier to promote somebody to a higher post than to differentiate the wages of those who have the same employment position. In this latter case, it is the individuals who have to be qualified, whereas in the previous one, only the employment position has to be.) This has serious negative consequences: it results in an overgrowth of leading posts, in an undesirable increase in the number of the hierarchical levels, and as a consequence, in an overcomplication of the whole company or office organization. At the same time, it also leads to granting leading posts to people who are less suitable for such positions and could work more use-

Table 12. Monthly average wages by grades of employment in the socialist sector

	1971	1972	1974	1975	1980	1981	1982
	Forint						
Top company managers	5,957	6,145	6,883	7,166	8,957	9,708	10,590
Medium level company leaders and executives	3,361	3,519	3,987	4,214	5,523	5,862	-
Workers and employees	2,219	2,254	2,648	2,875	3,952	4,228	4,636
	Workers and employees = 100						
Top company managers	268	272	255	249	227	230	228
Medium level company leaders and executives	151	156	148	147	140	139	-

Source: *Foglalkoztatottság és kereseti arányok* (Employment and wage ratios), 1975, 1981; and *Statistikai évkönyv* (Statistical yearbook), 1982, Central Statistical Office; A lakosság jövedelmének alakulása 1950-1975 (The development of the incomes of the population 1950-1975), Central Statistical Office, working paper.

fully if they were not leaders. True, the regulators make it possible to give extra wages to experts with an outstanding performance, so that their wages could even be higher than those of their bosses; this is especially important in the case of independent creative work. However, this possibility is only very rarely utilized by the companies, i.e., the order of classification according to employment position is left intact even if somebody has an outstanding performance.²⁶ According to my experience, this is also due to the fact that the companies can hardly utilize outstanding abilities outside the leading posts. Another factor against the above-mentioned excessively "hierarchical" view is that those who work at higher levels in the hierarchy often have only higher *ideal* responsibility, but in fact, they often take the actual consequences of their decisions and activities to a smaller extent than those who work at a lower level and whose responsibility is much more concrete and less obscure.

Hierarchical wage differentials show a decreasing tendency on a world scale. This is primarily due to the fact that the differences in responsibility among the individual levels of employment position tend to diminish. With an increase in the level of technical equipment, instruments of an ever increasing value are entrusted to the workers, and in modern production, the carelessness of a simple mechanic can also cause serious damages. At the same time - with an increase in the general level of education - more and more people become suitable for performing work which involves greater responsibility. The increased weight of the physical hardness of work and of working conditions in wage differentials partly also has an effect in the direction of decreasing hierarchical wage differentials. Furthermore, in the past, a master craftsman undoubtedly knew more than a journeyman, and a journeyman knew more than an apprentice. A journeyman - at least in principle - could not know anything what his master did not know, and the same applied to the relationship between an apprentice and a journeyman. Nowadays, these relations are much more complicated. Staff members often have special knowledge and information. It happens ever more often - and this is more or less necessary - that in their

special field of work. staff members have more extensive knowledge than their superiors. This also promotes the decreasing tendency of hierarchical wage differentials.

Wages of experts who do not hold leading posts are often not satisfactory; as they are, they are not in proportion to the responsibility involved in these people's work and they limit the requirements that could be claimed from these experts. For example, in the Hungarian building and building material industries in the mid-1970s, the incomes of technical and economic experts performing substantial work (including premiums, bonuses and profit shares) amounted on average only to 50 to 55 per cent of the incomes of medium level leaders. In all probability, this also contributes to the present situation in the building industry, namely, that there is a considerable shortage of good designers while at the same time there is an "abundance" of leaders.

WAGE DIFFERENTIALS BY SEX AND AGE

The factors of wage differentials discussed so far are connected partly with the nature and requirements of the working task (qualification, physical hardness), and partly with the location of work in a wider sense of the word (branch, geographical area, company size, place in the institutional hierarchy). The factors to be discussed below are connected with the person who performs the work. In addition to wage differentials by sex and age, the wage differentials according to origin or nationality also belong here, but these latter ones are not covered in the present paper.

WAGE DIFFERENTIALS BY SEX

The average wages of women are considerably lower than those of men in both the capitalist and the socialist countries. The difference is about 40 per cent in Canada, Great Britain and the United States and about 30 per cent in Austria, Belgium, the Federal Republic of Germany, France and Holland. In

Japan, the wages of women amount to about half of those of men. In Hungary, the difference is around 30 per cent, and the situation is similar in the other socialist countries, although law prohibits any discrimination against women's work in wage determination.

When women's work appeared historically, the wages paid for it had only a supplementary role in covering the reproduction costs of families, and until recently, the female labour force reserves were much bigger than those of the male labour force. The effects of these factors still manifest themselves.

The differences in wages between men and women are partly due to the fact that women are not suitable for physically especially strenuous work (i.e. which requires great muscular strength), their professional qualification is usually lower than that of men, they are absent from work for a shorter or longer period of time because of childbirth and baby-care and thus their professional career is broken. And later - due to their much bigger share of the burdens of housekeeping and family care - they can concentrate their energy less on their tasks at the working place. As it can be seen, these factors are not simply of a biological origin. They are largely connected with the historically and socially developed role of women in the division of labour within the family, and this can only partly be justified by biological characteristics. (The difference in the wages between men and women grows by the age. At the beginning of the career it is smaller and then - due to the reasons discussed above - it increases more and more. This especially holds true of those intellectual professions which require outstandingly high qualification and continuous further training.)

In addition, the lower wages of women can also be traced back to conscious or unconscious discrimination existing in people's views and approaches. Its most obvious and rudest form is when women are paid lower wages than men for the same work. The serious human and social injustice involved in this issue has been relentlessly revealed even by the economist John Stuart Mill - who otherwise cannot be considered as particularly progressive. "When the efficiency is equal, but the pay

unequal, the only explanation that can be given is custom; grounded either in prejudice or in the present constitution of society which, making almost every woman, socially speaking, an appendage of some man, enables men to take systematically the lion's share of whatever belongs to both."²⁷

In the socialist countries this rudest form of discrimination is already very rare. However, the lower wage level of typically female jobs, namely of industrial branches which mainly employ women, is still typical. (We have in mind here, for example, the textile industry, the ready-made clothes industry and the shop-assistants.) The typically female jobs are generally considered to be "easy" *per se*, however burdensome it is to perform them in reality.²⁸ There is a rather close relationship between the order of industrial branches according to average wages and the ratio of female employees (Table 13).

Table 13. The ratio of female employees and the average wages in the individual branches of the state industry on December 31, 1973

Industrial branch	Ratio of women (per cent)	Monthly average wages (Ft)
Mining	8.4	3,530
Electric energy industry	18.1	2,473
Metallurgy	21.6	2,694
Machine industry	36.2	2,394
Building material industry	39.2	2,390
Chemical industry	41.1	2,390
Food industry	49.8	2,306
Other branches	54.6	2,205
Light industry	67.9	2,144
Average	42.2	2,458

Source: *Statisztikai Évkönyv* (Statistical Yearbook), 1974.

It can be seen that in the industrial branches where the ratio of women is higher than average, the average wages are lower than the all-industrial average, and that the average wages are the highest in those branches where the ratio of women is the lowest. The correlation calculation resulted in $r = 0.8769$ in the negative direction.²⁹ Miss Riesz has also observed that for similar work women get higher wages in the branches which mainly employ men than in the so-called "female" branches, and vice versa, in the typically "female" branches, men also earn less than in other branches. Parallel with the "feminizing" of a profession, its relative income level usually decreases.

A similarly deeply rooted form of discrimination is the more limited possibility of professional advance even for those women who have adequate knowledge and experience. Naturally, this is primarily not a question of wages, but its consequences are also significant in this respect. In Hungary, the wages of university graduated women amount to only 72 per cent of those of men with similar qualification, and another interesting datum, in the category of the highest paid "top level leaders", the number of men is 16 times higher than that of women. It is also telling that among employees working in a piece rate system, the wage differentials between men and women are much lower than in the case when wages are determined on the basis of classification into personal wage categories. On the whole, in 1982 the average wages of women were 69.8 per cent of those of men. The difference within the same age-group and same profession (which also means the same level of qualification) was 6-18 per cent.

The differences (also on a percentage basis) between the wages of men and women show a decreasing tendency all over the world. This wage differential which is 30 to 40 per cent in the industrially advanced capitalist countries today was around 50 per cent in the late last century. This decreasing tendency can also be demonstrated in the period after the Second World War; in this period, however, it was not uninterrupted, but followed the ups and downs in economic progress. During the period of a shortage of labour, when the available male labour force cannot

meet the demands, the wages of women usually grow at a faster rate than those of men, whereas in the case of an oversupply of labour, the decrease of these differences becomes interrupted.

This decrease in discrimination is the result of the social struggle waged against it, which has become especially intense in our age, while its economic basis is created by an increase in the ratio of women with professional qualification as well as by an increase in the demand for labour; and it is also due to the fact that the various types of work requiring different physical effort are approaching each other. (Nowadays, women can carry out many such activities which earlier - i.e. before their mechanization - they were unable to, due to their physical hardness.)

The lagging of women's wages behind those of men is not simply a question of waging, but is a much more complicated social and economic problem. Its solution requires much more social, economic and, at the same time, family efforts.

WAGE DIFFERENTIALS BY AGE AND SENIORITY

Wages usually differ also by the age and seniority of workers, that is, these are also wage-determining factors. These wage differentials have a double function: they remunerate, on the one hand, the working experience gained in practice, and on the other, the loyalty to the company. Out of these two functions, the first one is the more important. In most jobs it is the practical and professional experience which determines whether a worker can perform his task only on a narrower or on a wider scale - within the framework of his qualification. Several activities and functions can only be performed successfully on the basis of longer experience. Age and seniority can only very inaccurately represent experience, in the same way as the years of training can qualification.

Seniority is primarily used as a measure of practical experience contributing to an increase in productivity or in work performance where individual performance cannot be measured unambiguously. Hence, it is a widespread measure in the case of the remuneration of office work and of especially complicated

work; however, its application is not limited to such cases only. In several capitalist countries (France, Japan, the United States, etc.), age and seniority determine promotion within the company to a considerable extent, and this even applies to manual workers (also semi-skilled workers included). Senior workers become foremen, work group leaders and supervisors, who naturally receive higher wages. This is also related to the fact that under modern conditions the production process is organized at the group or company level, and thus the performance of an individual worker cannot be separated from that of others, and as a result, the differences in abilities are less apparent in an exact way, which means that this does not provide an adequate basis for choosing whom to promote. As the individual work performances cannot be measured objectively, the trade unions - as representatives of certain efforts to achieve levelling - also support promotion and wage increases on the basis of seniority. (However, the differences between countries and companies are again great in this respect. There are places where, even without promotion, workers receive continuously higher wages due to seniority, whereas at other places, seniority has only a minimum role or no role at all in wage differentials.)

On a world scale, experience shows that while the wages of higher qualified people - and especially of those holding leading posts - increase regularly and significantly by the age, this increase is much smaller in the case of the wages of manual workers. They reach the upper wage limit relatively soon.

In Hungary, the wages of those under 20 amount to 66 per cent of the average, whereas the corresponding figure is 86 per cent at the age of 20 to 24, and 100 per cent at the age of 27 to 28. After that, up to the age of 60, the wage level is higher than the average, and then it again declines below the average. Within that, manual workers reach the average wages of their own group already at the age of 22 to 25, whereas intellectual workers only about 10 years later. At the same time, in the case of the majority of manual workers, a decrease in wages starts already at the age of 50 - due to a decrease in perform-

ance -, whereas no such decrease occurs in the case of intellectual workers, not even at an older age.

According to the literature, in Western Europe, the wage curve of manual workers reaches its peak at an average of 35 years. After that, their wages - at least in relative terms - decrease as a result of a decrease in their physical productivity.

In Hungary, the system of age-bonuses - i.e. wages automatically increasing with seniority - exists only in certain intellectual professions (teachers, scientific researchers, etc.). There are views that the same system should be extended to cover manual workers as well, and in the first place to those who perform physically hard work. Namely, in everyday practice in Hungary, the problem that their productivity begins to decrease well before retirement age is bridged by establishing the basic wages of older workers - within the limits of their category - at the highest possible level. As a result, older workers receive considerably higher wages than the younger ones for the very same work, and the latter ones make a grievance of this. Therefore, - at least in these areas - it does seem to be sensible to separate measurable productivity and seniority in waging.³⁰ Furthermore, skilled workers with decades of experience often possess such mental capital which - even if it does not manifest itself in their everyday productivity - represents a great value for the company.

In certain - mainly capitalist - countries it is rather only the years spent at the company that are taken into consideration when wage increases are given due to seniority. Under socialist conditions - where in the final analysis nearly the whole economy could almost be considered the same "company" until recently - this does not seem to be expedient. Loyalty to a given company has to be stimulated by special allowances granted to long-staying members, whereas the part of wages automatically increasing with seniority has a different function.

DEVELOPMENT TENDENCIES OF WAGE RATIOS

THE DECREASING TENDENCY OF WAGE DIFFERENTIALS

We have examined the first group of factors influencing the wage ratios, namely, the factors of the so-called "qualitative" wage differentials, which basically determine the volume and centre of wages of the different working categories compared to each other. We have seen that the wage differentials by qualification, sectors and branches, regions, hierarchy and sex are all decreasing, whereas no definite tendency can be established concerning the development of wage differentials due to company size and age. It is only the wage differentials due to the physical hardness of labour and to the working conditions that show a unanimous and dynamic increase. However, as it was pointed out, it does not necessarily lead towards a general increase in wage differentials; on the contrary, it most often has actually just the opposite effect. In the final analysis, considering either the relationship between the highest and the lowest wages or the different indexes of the dispersion of wages or the indicators of inequalities, *the wage structure as a whole is characterized by a tendency of levelling on a world scale.* In the long run, the relative percentual wage differentials show a decrease in every country.³¹

Besides the already discussed development of the role of the individual factors, there are also other circumstances contributing to the tendency of levelling. One is, for example, that due to the changes in the structure of the economy and in that of employment, there is a decrease in the ratio of unskilled workers (i.e. of those belonging to the lowest wage category) and also in that of agricultural employees who, too, receive lower than average wages. The levelling tendency is also strengthened by the increasing influence of those social and political forces which try to exert an effect in the direction of reducing the differences in incomes of the various strata. And as it was discussed above, it is also promoted by the fact that the price level increases at a greater pace than before. Experience shows that at the place where and at the time when prices increase dynamically, the levelling tendencies

of the wage structure are also strong. Understandably, it is always the most urging in the lower wage categories to compensate for the increase in consumer prices.

The levelling of wage differentials is a tendency which is realized only in the long run, through several interruptions. If we take only shorter periods, wage differentials often even increase (for example, the income differentials grew in the United States and the Federal Republic of Germany in the 1950s). It is supported by both theoretical considerations and practical experiences that the wage structure is characterized by a levelling at the time of an increase in the rate of employment, and by differentiation at the time of a decrease in that rate (especially during depression).

The progress of levelling is slowed down by the effect of significant forces and interests in the direction of maintaining the already established wage structure. In this respect, the trade unions have a double attitude. As participants in the general struggle for social and economic equality, they safeguard the interests of the lowest paid strata to a greater extent and try to gain for them a higher than average rate of wage increase. However, as bodies representing the interests of individual groups and strata, the unions seek at least to stabilize the relative position of those represented by them, and are opposed not only to an absolute but also to a relative deterioration in that position. In the West European capitalist countries, the levelling of wages is nowadays also slowed down by the mass employment of low paid "guest workers".

According to the available data, the decrease in wage differentials takes place at a faster rate in the socialist countries than in the capitalist ones, and it can be traced from one decade to the next. In the Soviet Union as well as in other socialist countries, first the lowest wages increased at the fastest rate, and then the medium level wages. The distance between the minimum and maximum, as well as the minimum and medium wages has been decreasing. In Romania, for example, the wages of those in the highest income category were 20 times as high as the wages of those in the lowest income category in

1950, whereas the corresponding figure was 10 in 1965, 7 in 1970 and only 6 in the mid-1970s.

In Hungary, immediately after the Second World War, when there were not enough material means to satisfy even the most basic demands of the masses, income differentials necessarily shrank to a very great extent; soon afterwards, however, parallel with the consolidation of the economy, they started to grow again. Since the 1950s they have been more or less continuously showing a decreasing tendency. The approach has been especially fast in the decade covering the period between the mid-1960s and the mid-1970s. In 1967, the wages of the best paid 10 per cent workers and employees were on average 455 per cent of the wages of the worst paid 10 per cent workers and employees. The same ratio was 396 per cent in 1970, and 257 per cent in 1974. This trend continued to prevail in the second half of the 1970s, too. (This is to be meant without taking into consideration the uncontrolled, unofficial incomes. If the latter ones were also considered - which is presently impossible to do -, the picture would be different.)

INCOME RATIOS IN COUNTRIES WITH DIFFERENT SOCIAL SYSTEMS

The comparison of income ratios between countries involves many difficulties and can only be realized to a limited extent. The nomenclature of qualification levels, professions and jobs, the content of the individual categories, the extent of taxes on wages, etc. are all differing from country to country, and in certain cases, the only data available are the *income* of workers and employees, which also contain certain social allowances. For my part I can only confine myself to a very simplified comparison of wage ratios in the capitalist and the socialist countries, and to outlining a few basic characteristics.

If only the wage ratios of manual (industrial) workers are examined, the differentiation of wages is not smaller in the socialist than in the capitalist countries. In the case of this stratum, the situation is only influenced by the differing ex-

tent of the shortage or abundance of certain groups of workers in the given country and by the national characteristics, but not by the difference in the social system. For example, according to official data, the ratios between the wages of the lowest and the highest paid industrial workers, or between those of the unskilled, the semi-skilled and the skilled workers are very close to each other in the Soviet Union and the United States, whereas in the Federal Republic of Germany, this distance is smaller than in several socialist countries, including the Soviet Union (Table 14).

Table 14. The ratio of the wages of industrial workers by groups of qualification in the Soviet Union and the Federal Republic of Germany

	Unskilled workers	Semi-skilled workers	Skilled workers
Soviet Union	100	128	160
FRG	100	117	137

Source: Data on the Soviet Union from Вестник статистики, 1970, No. 10; 1977, No. 1. Data on the FRG: *Statistisches Jahrbuch für die Bundesrepublik Deutschland*, 1970, p. 458.

In Hungary in 1980, semi-skilled workers earned on average 119 per cent while skilled workers 145 per cent of the wages of unskilled workers.

The situation becomes different if we study the wage ratios of not only the workers, but of all those living on wages and salaries, i.e. both workers and employees together. Whereas in Hungary in 1968, the wages and salaries of 90 per cent of the workers and employees were between 1,000 and 4,000 forints, i.e. the distance was fourfold, in France, they were between 3,000 and 20,000 francs, i.e. the distance was over sixfold.³² In the Federal Republic of Germany in the mid-1970s, the ratio of the lowest and the highest wages was 1 to 20,³³ while in Hungary, as it was already mentioned above, it was 1 to 7-8.

This greater dispersion of wage and salary ratios in the capitalist countries is basically due to the fact that the relative wages (salaries) of highly qualified specialists and of those in leading posts are significantly higher there than in Hungary and in the other socialist countries. For example, in France in 1974, engineers in the region of Paris received on average 5.8 times more salaries than the minimum wages, and in the countryside 5.5 times more. The ratios are more or less similar in other West European countries as well. The corresponding Hungarian figure in 1974 was approximately 2.

Naturally, the wage or salary ratios are not identical with the real distribution of personal *incomes*. To assess the latter ones, also the social allowances outside the wages and the price ratios of the consumer goods have to be taken into account. The first factor - social allowances - does not require any special explanation. Concerning the second one - the price ratios -, let me only say that where the prices of goods satisfying basic needs and consumed in great amounts by the low paid strata are artificially kept low, there the relative conditions of these strata are obviously better than where the nominal wage ratios are the same but the price policy and the price ratios disregard social considerations. If we take these circumstances also into consideration, it becomes even more apparent that distribution in the socialist countries is more equal.

THE WEIGHT OF THE DIFFERENT WAGE DETERMINING FACTORS IN THE HUNGARIAN WAGE STRUCTURE

In 1967, the Hungarian Central Statistical Office conducted a detailed survey of the wages of the Hungarian population, covering 16,000 households, and within this framework, it examined the role of the different factors in the dispersion of wages.³⁴

The final results of the survey are summarized in Table 15.

Table 15. The percentual role of some factors in the dispersion of wages in 1967

Character of work	Industrial branch	Qualifications	Age group	Sex of worker
22.4	1.0	10.0	8.9	17.7

On evaluating the results, it has to be taken into consideration that the factors examined are not independent of each other, but they together - either strengthening or weakening each other's effect - cause the wages to disperse, and therefore their separation is artificial to a certain extent and is only of an approximate validity.

We can see that the role of the national economic branch in wage differentials can be neglected. (The sectors/branches taken into consideration were industry, the building industry, agriculture, trade, services and public utilities.) At the same time, the age and sex - and especially the sex - of workers are factors which can cause significant differences in wages. There is also a significant relation between qualifications and wages. The wages of those having university qualification were 51.1 per cent higher than the national average, and the corresponding figure for those having a secondary school certificate is 9.3 per cent. However, this relation is not as close as one might think on the basis of these figures. Namely, in the group which includes those in leading posts and intellectuals, the salaries of those without higher level qualification were 4.8 per cent higher than of those with university graduation. And in the group of manual workers, there was actually an inverse relation between the volume of wages and the level of education. Skilled workers with secondary school qualification earned only 94 per cent and those with 8 to 11 classes of education received only 91.3 per cent of the wages of those with less than 8 classes of schooling. The situation was similar with the unskilled and semi-skilled workers, too. This phenomenon can primarily be explained by the fact that workers belonging to the older age group, having greater professional experience and therefore relatively higher wages, usually have a lower educa-

tional level than the younger workers. Actually, similar factors play a role in the case of those in leading posts and of intellectuals, with the additional factor that in their case, older age and the related greater experience are often accompanied by higher positions as well.

Of all the factors examined, the "character of work" has the greatest weight. This contains the most important characteristics of employment (intellectual or physical work, subordinate or leading post, the level of qualification, etc.). Besides qualification, the character of work primarily expresses the place occupied in the hierarchy of management.

Several surveys also demonstrate that from among the factors which determine the wage differentials, the place occupied in the hierarchy of management has an outstanding role in Hungary. Higher qualification is usually only appreciated financially in an adequate way if it is accompanied by some leading post. The Hungarian system of stimulation (taking only official wages into consideration) is characterized by a rather hierarchical approach. This is true despite the fact that the present financial stimulation is inadequate in the case of certain leading posts (e.g. that of foremen).

Before the Second World War wage differentials were very big in Hungary, especially the differences between the wages of intellectuals and physical workers, as well as between those of qualified and unskilled workers. (The question of those in leading posts is now disregarded.) The salaries of technical employees were 3 times higher and of office employees 2.4 times higher than the average wages of workers, and the skilled workers received about 3 times higher wages than the unskilled ones. These differences necessarily had to be reduced. However, the extent of levelling has gradually become greater than desirable in many respects. A major reason behind this was a considerable shortage of labour, primarily in those jobs which were simpler than the average and which were physically hard. In order to satisfy the burning labour demand at least by and large, the wages in these jobs had to be increased at a rate faster than average. The strong enforcement of the socio-political consideration, also firmly supported by the masses,

that primarily the financial situation of the lowest paid strata should be improved, also had an effect in this direction. After the early 1960s, it became a central goal to increase the over-reduced wage differentials in order to enhance financial stimulation, but due to the reasons discussed above, that goal has not been realized.³⁵

Those wage differentials which result exclusively from higher posts need not be increased - with the exception of certain strata (e.g. foremen). However, the wage differences between lower and higher qualified workers should be increased in several areas. Furthermore, it seems to be necessary to increase the over-reduced wage differentials also when greater performance or higher level work in a given job is to be remunerated.

NOTES TO CHAPTER 2

¹ Numerical relationships between the costs of training, the level of training and the wage differentials have been studied by several authors both in the West and in the socialist countries. For example, according to the calculations of the Soviet economist Kunelsky on the basis of differences between the training costs, the modelled distance between the wages of the unskilled workers and those of the skilled workers active in the Soviet machine industry in the 1960s was not much different from the real distance [see (Kunelsky, P.E.) Кунельский, П.Э.: Зарплата, доходы, стимулирование (Wages, incomes and stimulation), Экономика, Москва, 1968, p. 84].

A similar result was achieved in Hungary by János Kovács with regard to industrial workers. However, in the case of those having medium and high level qualification, the real values differ considerably from the modelled numbers [see, János Kovács: *Szakképzés és közgazdaság* (Professional training and the national economy), Közgazdasági és Jogi Könyvkiadó, Budapest, 1968, p. 134].

² In this respect, the differences in attitudes between the various social strata are rather great. With regard to families in a better financial situation and on a higher cultural level, this is a less significant point. These families are often willing to send their children to school only to secure them a profession which is physically easier, intellectually more substantial, and which receives greater social respect. The situation is different with regard to families living under more difficult financial conditions and being less cultured. They - in an understandable way -

see hardly any sense of long years of further training, requiring great financial sacrifices from them, if that does not result in an improvement of their financial situation as well. Approaching it from this point of view, higher wages for qualified work also constitute a factor of the openness of society.

3 This is especially clear, for example, in the case of those who continue their studies while working; and although the financial burdens of these people due to further training is minimal, they are nevertheless justified in their claim for higher wages after completing their studies.

4 See Ober, H.: Occupational Wage Differentials 1907-1947, *Monthly Labour Review*, Vol. 67, 1968, p. 128.

5 See the *International Labour Review*, March 1956, p. 275.

6 See (Blyakhman, L.S.) Бляхман, Л.С.: Производительность и оплата труда в период развернутого строительства коммунизма (Productivity and wages in the course of the construction of communism), Лениздат, 1964, p. 142.

7 On judging the differences in wages due to qualification, it is not enough to compare the annual or the monthly wages; it is the so-called "life income" (the total accumulated incomes gained during the years in work) that has to be taken into account. Because of their longer studies, those with higher qualification become earners later than those with a lower educational level (the difference can be as high as 8 to 10 years), and therefore, the difference between their life incomes is smaller than between their monthly or annual incomes. This, in turn, is partly compensated by the fact that intellectual workers (i.e. higher qualified persons) can usually practice their original profession longer, to an older age, than their lower qualified counterparts can.

8 *Revue Internationale du Travail*, April 1975, p. 356.

9 Laymen would think that a comparison of wage ratios among countries does not encounter great difficulties, as there is no need for converting the purchasing power of the different currencies, and the ratios can directly be compared. However, in reality the situation is different. Due to differences in grouping and in the system of concepts as well as in the content of the individual categories, the available data, which are insufficient anyway, can only be compared to a very limited extent. The categories of "unskilled", "semi-skilled" and "skilled workers" may have different content in one country than in another. And it is even more so with regard to the designation of experts with medium or high level qualification. In addition, the various effects of the different factors are interwoven, namely, wage differentials due to qualification rarely appear in a pure form. The higher wages of experts with high level education do not necessarily result from their higher qualification, but may also be due to their leading post. To "filter" this out - especially in the case of an international comparison - is almost insolvable.

- 10 See *Jövedelmek a háború utáni Európában* (Incomes in post-war Europe), Central Statistical Office, 1968.
- 11 At the time when the quantitative goals were in the forefront - viz. to produce great quantities of the same, or basically the same, goods -, there was actually no need either for a great number of engineers having a creative mind and producing always something new, or for economists with an undertaking and inventive spirit. "Business" could also be done on the basis of routine and experience, and mediocre experts could also do several of these jobs. Nowadays, the requirements are different, and this should also be expressed in the wages.
- 12 If there are several shifts, for example, it makes in itself the otherwise simple work difficult and exhausting. The same applies, above a certain limit, to work intensity and to the excessively monotonous activities, which may cause physical or psychic harm to the worker.
- 13 Newly established industrial branches are not necessarily the most dynamically developing ones. Furthermore, there are also old industrial branches for the products of which demand is dynamically increasing (e.g. the paper industry). In these branches wages are relatively high. Wages are generally the lowest in those branches which were established long ago and for the products of which demand increases only slowly or even stagnates; consequently, the same applies to their demand for labour (e.g., the silk industry and certain branches of the food industry).
- 14 See Dunlop, J.T. and Rothbaum, M.: International Comparison of Wage Structures, *International Labour Review*, Vol. 71 (4), April 1975.
- 15 Lebergott, S.: Wage Structures, *Review of Economics and Statistics*, November 1947.
- 16 See *International Labour Review*, March 1956, p. 275.
- 17 See Poszmik, E.: A kereseti arányokat befolyásoló tényezők (Factors affecting wage ratios). Manuscript.
- 18 These differences are extremely big in the third world. In India, wages in agriculture are only about one third of those in industry, whereas in the industrially advanced capitalist countries they are at least a half, or two thirds.
- 19 See *Social Trends*, 1973, No. 4.
- 20 See Bloch, J.W.: Regional Wage Differentials 1907-1946, *Monthly Labour Review*, Vol. 66, April 1948; Hanna, F.A.: *State Income Differentials 1919-1954*, Durham, N.C. 1959.
- 21 Lampert, H.: *Die Lohnstruktur der Industrie. Ein Beitrag zu einer Theorie der Lohnstruktur*, West Berlin, 1963, p. 61.
- 22 Responsibility is meant here as managerial responsibility. In fact, besides managerial responsibility, there are many other forms of responsibility (responsibility for the maintenance of the equipment operated, for the quality of goods produced, in the case of technical employees, for the devel-

opment of production and the products, etc.). All these have to be expressed in wages, also because increased responsibility always requires increased attention, care, intellectual and nervous efforts.

- 23 Individuals with special aptitudes or knowledge - if society needs them - are in a specific monopolistic position, which has to be recognized also financially. Every type of work requiring special or rare abilities (e.g., artistic talent, aptitude for scientific activities, managerial skills, etc.) has to be rewarded higher by society. This is necessary for encouraging those with such aptitudes to undertake special efforts in order to develop and realize their abilities to the maximum as well as to take the risk of whether their efforts will bring results.
- 24 Already Adam Smith referred to confidence as a factor resulting in wage differences in his *The Wealth of Nations*. In this work, he in fact explained the wage differentials among the different trades (or the "inequalities arising from the nature of the employments" - as he called) with five factors: "I. The agreeableness or disagreeableness of the employments themselves; II. The easiness and cheapness, or the difficulty and expense of learning them; III. The constancy or inconstancy of employment in them; IV. The small or great trust which must be reposed in those who exercise them; and V. the probability or improbability of success in them." (In liberal professions, in artistic careers, etc., there is a much greater risk of whether the individual will succeed in the chosen profession.) Smith, A.: *An Inquiry into the Nature and Causes of the Wealth of Nations*, George Routledge and Son, Limited, London, 1898, p. 77.
- 25 It is interesting to note Gábor Révész's related concept, according to which the wage ratios among the hierarchically classifiable types of work - proceeding from the bottom to the top - are determined by the measure of dispersion of the wages of those who perform an identical type of work. In other words, the higher are the income differentials according to performance among those who perform the same type of work, the more dispersed the income ratios among the hierarchically classifiable types of work should be (*Közgazdasági Szemle*, 1973, No. 9).
- 26 See Ferge, Zs.: Keresetek, jövedelem, adózás (Wages, income, taxation), *Valóság*, No. 3, 1978, p. 29.
- 27 Mill, J.St.: *Principles of Political Economy, with some of their applications to social philosophy*, Longmans, Green and Co., London, MDCCCLXV, p. 242.
- 28 In addition, in the typically female professions, the ratio of employees working in several shifts - even in night shifts - is very high.
- 29 See Riesz, M.: A nők foglalkoztatásának néhány vonása (Some features of the employment of women), Thesis, MS.
- 30 See Szeben, É.: Preferenciarendszerünk néhány dilemmája (Some dilemmas of our system of preferences), *Munkaügyi-kutatási Közlemények*, 1977, No. 1, p. 7.

- 31 Wage ratios can be defined numerically in many ways. The most simple approach is to take the distance between the lowest and the highest, the minimum and the maximum wages. However, that gives only a very rough picture, because it may happen that these extreme values are not at all characteristic of the masses as a whole, and only an insignificant number of the workers receive such wages. A more tinged picture is gained through the examination of the distance between the average wages of those belonging to different wage categories (e.g., lower, middle and upper brackets). Even more expressive are the percentage distribution of workers belonging to the different wage categories and the dispersion indexes as well as the inequality indicators calculated on this basis. It is also quite usual to compare the so-called "deciles", i.e. those 10 per cent who have the highest and those 10 per cent who have the lowest wages.
- However, the distances between the wages can also be measured in different ways. On the one hand, as a relative, percentual distance, in other words, as the *quotient* of wages, and on the other, as the absolute *difference* between wages expressed in money. Although the first is the more frequent way of measuring, the second also has its significance. Namely, what is important is not only that one worker earns how many times more than another, but also that how much more he earns, because this is what determines what he can buy for this additional part of his income. And furthermore, the decrease in the relative, percentual distance does not mean, at the same time, a decrease in the absolute wage differentials, which usually increase: one per cent of difference in wages is equal to an ever bigger absolute sum, and not only nominally, but also in real value (i.e. calculated in purchasing power).
- 32 See Pongrácz, L.: *A kereseti arányok távlati fejlesztése* (The long-run development of income ratios), Közgazdasági és Jogi Könyvkiadó, 1975.
- 33 See Marth, K.: *Nettoreallohonororientierung der Gewerkschaften, oder die Löhne sind an allem schuld, Konjunkturpolitik*, 1975, No. 5, p. 319.
- 34 See *Statistikai Időszaki Közlemények*, Vol. 214: *A keresetek szóródása és szerepe a munkás-alkalmazotti háztartások jövedelmében* (The dispersion and the role of wages in the household incomes of workers and employees).
- 35 In theory, increase in wage differentials and a fast rate of increase of the wages of the lowest paid strata are not necessarily contradictory to each other. In reality, however, there is rarely such an abundance of means available for the increase in material welfare that both goals could be realized simultaneously. And furthermore, the situation of the low paid strata can rarely be improved in a substantial way without improving their relative situation, i.e. compared to the other strata. Namely, whether a stratum feels its needs to be satisfied or not, and if yes, to what extent, always depends also on its relative position occupied in society, and the significance of this relative position seems even to increase with social and economic progress.

CHAPTER 3

THE ROLE OF WAGES AND OF FACTORS OUTSIDE WAGES IN THE ALLOCATION OF THE LABOUR FORCE (COMPENSATORY WAGE DIFFERENTIALS)¹

Compensatory wage differentials result from the fact that there is a discrepancy between the demand and supply of labour in respect of certain job types. If demand and supply always corresponded fully to each other with regard to every group, then only qualitative wage differentials and wage differentials according to performance would exist. However, this is never the case. The demand for and the supply of certain job types can only in exceptional cases and temporarily correspond fully to each other. Compensatory wage differentials assert themselves through competition between the employees or the employers. If the supply of a given group of the labour force is bigger than the demand for it, then the employees compete with each other, and as a result, the wages of this group decrease. If it is the other way round, i.e., demand exceeds supply, then the employers compete with each other to acquire the labour force, and therefore, the respective wages increase. However, the competition manifests itself not only within the given job type but to some extent also between several types. Although only to a limited extent, the labour force belonging to different job types can substitute each other, and the labour force can move from one group to another. (Several jobs can be done by more qualified as well as by less qualified workers. In some cases, employees change profession, etc.). Therefore, although the wages of the various groups of workers are basically different due to qualitative reasons (the character, location, etc. of the work performed), the extent of the differences between them is considerably determined by the demand for and the supply of labour.

Compensatory wage differentials have a determining role in ensuring a structural correspondence between the demand and the supply of labour. Below, I shall study the role of both these wage differentials and the factors outside wages in the changes of the supply of labour, as well as the connection between them in the process of labour force allocation. (By the allocation of the labour force, I mean the job opportunities, the structure and the restructuring of the labour force, as well as the conscious "channelling" and promotion of this process.) The basic dimensions of the allocation of the labour force are: (1) jobs, professions, trades, and the specializations within them; (2) the work places (national economic sectors and industrial branches, companies and institutions); (3) allocation among geographical areas and settlements.

THE CLASSICAL LABOUR MARKET

In the concept of classical free competition, wages are the absolute determinant of the allocation of the labour force. That is, the labour force is available according to the volume of wages. An increase in wages results in an increase in the supply of the related type of labour, whereas a decrease in wages leads to a decrease in the related supply of labour. The mechanism is similar to that operating on the commodity market. If there is a shortage of labour in a certain type of job, its wages increase, which results in a flow of the labour force into the area. This lasts until the supply of labour exceeds its demand. At that moment, the situation changes: wages begin to decrease, which leads to the migration of the labour force, namely, many people leave the trade and those seeking employment take their chance in some other area. After a time, there is again a shortage of labour, wages increase, that is, the whole process starts from the very beginning.

However, this concept is oversimplified. No perfect and unlimited free competition has ever existed; not even on the commodity market, and certainly even less so on the labour market which has always been a special and "imperfect" market, signifi-

cantly different from the commodity market. First of all the "production" of the labour force cannot be extended at such a fast rate as that of ordinary goods, that is, the supply of the labour force cannot be increased at will. At the same time, since the income deriving from paid work is the exclusive, or at least the basic, source of subsistence for the workers and their families, they are under all conditions compelled to undertake work, so they appear on the labour market as sellers, and they can only do without it for a very limited period of time. Consequently, the supply of labour cannot decrease below a certain level and thus the supply of labour cannot as flexibly follow the changes in wages as the supply of goods can the changes in prices. This holds true not only globally, but also structurally, by individual categories.

The different parts of the labour market are much more separated and are more strictly confined within limits than those of the commodity market. Hence, it is much more difficult to change the structure and composition of the supply of labour than those of the supply of goods. This is partly due to the fact that undertaking a job - even if it takes place under very depressing economic pressure - never means the selling of some sort of inanimate object, in which process only rational economic considerations are asserted, but is the complex action of individuals who have their own will, that is, it is a complex action which is interwoven with sociological and psychological moments and which is not exclusively determined by wages. (The difficulties in mobility between professions, work places and geographical regions are also due to these reasons.) At the same time, the majority of the trades and professions require special qualification which not everybody has the possibility to acquire. The structure of the supply of labour is restricted by the rather rigid limits of the career choices as well as of career modification. The labour market would only be a "perfect" market if the labour force could migrate without any restrictions to places where - proportionately to the work performed - wages are high, and could leave the places where wages are low. However, this has never been the case.

THE MODERN CAPITALIST LABOUR MARKET AND THE LABOUR MARKET OF THE SOCIALIST COUNTRIES

In modern capitalist economy, there are additional new factors which limit the role of wages in labour force allocation. On the contemporary capitalist labour market, huge, mainly monopolistic, organizations of both the employers and the employees struggle with each other, also involving the state power in this struggle. The capitalist state has never been indifferent to the developments in the labour market, but its interventions have become multiplied and have changed qualitatively. The respective institutions influence the volume of wages partly indirectly, i.e. through influencing the demand and supply of labour, and partly directly, namely, through fixing the wages in the collective agreements, or determining them centrally.

Under the conditions of free competition, the mobility of the labour force among the various work places (companies, industrial branches, geographical areas, etc.) is effected by the differences in wages paid for the same work. However, both the agreements concluded between the organizations of the employers and those of the employees as well as the wages determined by the state reflect an endeavour to unify the wages. Therefore, wage differentials of this type can only exist to a limited extent. The administrative limitation of the mobility of the labour force (controlled immigration, restricted possibility of changing work place, etc.) may also happen. But the allocation of the labour force among professions and trades is mainly regulated in our days through institutions, namely, through the school system and the structure of training, which is sometimes also completed with career advising. In the industrially advanced capitalist countries, there are strong efforts on the part of certain interest safeguarding professional organizations and chambers to limit the choice of a particular career. All this is very far from the "classical" mechanism of allocation. This fact is increasingly recognized by modern bourgeois economics as well. Everyday experiences have made it clear that the functioning of the labour market under the

present circumstances is not simply based on the interplay between demand and supply, but the institutional factors also have a determining role in it.

Although with a completely different social and political content, the labour market in the socialist countries is also "institutionalized". Its conditions are not determined by the free interplay of the market forces but by the conscious policy of the social and state bodies. Does all this mean that the allocation mechanism based on the relationship between wages and the demand and supply of labour wastes away in an institutionalized economy and within that in the socialist economy? No, not at all. Wages continue to play a significant role in the allocation of the labour force among professions, work places and geographical regions also under modern conditions.

There are two general preconditions which can ensure the assertion of the allocation function of wages: (1) the freedom of the labour force to choose profession and work place, and (2) the expression of the relationship between the demand and supply of labour in the wages. Below, we are going to examine to what extent these conditions exist under the circumstances of modern capitalist economy and especially under the circumstances of socialism.

THE FREEDOM OF THE LABOUR FORCE TO CHOOSE PROFESSION AND WORK PLACE

Wages can only exercise their effect in allocation if professions, trades and work places can freely be chosen. The "distribution" of the labour force in a compulsory or administrative way obstructs the functioning of the allocation mechanism based on the relationship between wages and the demand and supply of labour. For this mechanism to be effective, it must be ensured that the individual could choose his profession, trade, or work place, etc. without any special restrictions, that is, that he could choose the one which guarantees favourable conditions for him, also including favourable wages.

A completely free choice of profession, trade and work place, without any restrictions, has always been Utopia. There has never been a situation in which every employee had access to every profession, trade and work place. The guilds strictly determined the number of apprentices and journeymen to be employed, and not just anybody was admitted. In the Middle Ages and the early phase of capitalism, the *economic and social* limits (due to social class and origin) of choosing a career were extremely severe. The big masses of people followed the trade of their fathers and grandfathers. The son of a peasant became a peasant himself, the son of an artisan became an artisan, and they usually stayed in the same geographical region as well. Under circumstances when society is very closed and mobility between generations is little, only very few have the possibility to choose a career freely (and under the influence of the attraction of higher wages). Undoubtedly, this closeness of society relaxed and the choice of a career became freer with the spread of capitalist conditions. It does not require any special proof that as a result of socialist transformation, social mobility has increased to a great extent, and the financial and social position of the parents has limited the choice of a career only to a smaller extent. Consequently, there are less obstacles on this side as regards the choice of a career which is attractive because of the high wages it offers.

The situation is different with the *institutional or administrative* limits, the significance of which has undoubtedly increased both in the modern capitalist economy and in socialism. First of all, the system of education has an important role in this respect (we shall discuss it separately below). As regards the administrative limits, there were periods in the development of Hungary when there were many such restrictions relating to the choice or a change of a work place. These restrictions, when applied, can rather be considered only as temporary measures, necessitated by a difficult situation. The freedom to choose a profession, a trade and a work place is an immanent part of the freedom of the individual.² The "distribution" of the labour force by purely administrative methods is alien to the socialist system. And if it is so, then the finan-

cial interest is an irreplaceable means of channelling the labour force. There is no and there cannot be such a system of planning and management of the labour force in socialism, which could solve the allocation and the reallocation of the labour force among professions, trades and work places without utilizing financial incentives through wages. In the socialist countries, the possible administrative solutions are almost always completed with financial incentives, with the utilization of the allocation function of wages.³

The possibility of a free choice of work place and profession only becomes a reality if employees have a clear view of the labour market and are adequately informed about the working and wage conditions. The easier it is to survey the labour market, the better the allocation function of wages can assert itself. If it is not the case, i.e. if the individual parts of the labour markets are separated and the flow of information between them is weak, wages can only have a very limited influence on the choice of a profession or a work place. That is, relatively big differences may survive even for longer periods in the remuneration of similar jobs, without having a mobilizing effect on the labour force. With the progress of economic and social development, the labour market can be ever better surveyed. In the past, information rather circulated through family members and close acquaintances only, as they were the basic "channels of information". In our days, due partly to the dynamic development of transport and mass communications, and partly to the evolvement of the activities of the trade unions and the respective state bodies dealing with labour management and career guidance, information about working and wage conditions spreads very fast and in a wide circle.

EXPRESSION OF THE RELATIONSHIP BETWEEN THE DEMAND AND THE SUPPLY OF LABOUR IN WAGES

The relation between wages and the demand and supply of labour is also specific in the sense that wages by their nature are less sensitive to changes on the market than the prices of

goods are. The excess of the labour force generally does not bring (relative) wages down to the extent, and its shortage does not increase them to the extent, as it is the case with goods. The decrease of wages below the usual level - and even their relative decrease compared to the wages of other strata - can cause serious social conflicts. Hence, the wage ratios are less changeable and more rigid than the price ratios are. This follows from the fact that wages are never simply the price of a commodity but at the same time also personal incomes which determine the financial position and the social status of the workers and their families. The flexibility of wages - taken in this sense is even more limited in institutionalized economies. However, this does not mean that the demand and supply of labour do not have an effect on wages or that wages do not at all adjust themselves to the development of demand and supply.

In modern capitalism, where wages basically do not develop on the free market but are usually formed on the basis of agreements between the appropriate interest representative organizations or according to state regulations, the effect of the relations between demand and supply is primarily expressed in the wage tariff systems established in this way. These agreements and state regulations are in the final analysis expressions of the power relations between employers and employees, which are to a great extent formed by the demand and supply of labour in the particular profession or trade, industrial branch or geographical region. The organizations of employers wish to include such wages in the agreements, which promote the realization of their labour policy goals. Naturally, the trade unions also greatly rely in their wage demands on those labour market conditions which are favourable for those whom they represent. However, the companies - if their interest requires it - often disregard the regulations which are unfavourable for them. The actual wages better reflect the situation on the labour market than the official wage tariffs do. In many cases the small and medium-size companies are not covered by the collective agreements or the state wage regulations. Hence, wages paid for similar work at different companies, in different industrial branches and geographical regions can significantly differ from

each other, and so this work place allocation role of wages does not disappear in modern capitalism either.⁴

The demand and supply of labour is also extensively expressed in the wage ratios *in the socialist countries*: partly through the centrally established wage tariff system and partly through the practical realization of this system. The effects of the relationship between demand and supply are built into the central wage tariff system, and hence, slower or faster, but the wages follow the lasting and tendency-like shifts in the structure of the demand and supply of labour. The wage ratios are established on the basis of different characteristics of work (required qualification, responsibility, physical hardness of work, etc.). However, the actual weight of the individual work characteristics depends to a great extent on the demand and supply relations. At the same time, wage ratios usually do not specify exact sums, but a - rather wide - scale with a lower and an upper limit, and the place of actual wages within it is primarily influenced by the relations between the demand and supply of the given category of workers. If the development of the central wage tariff system lags behind the changes in the labour market, and therefore the existing wage scales can no longer offer the companies an adequate scope for their labour policy activity, then practice - mostly with the agreement of the control authorities, but sometimes even without it - disregards the outdated wage rates in one way or another.

A basic principle of the socialist ideological and political conception is the payment of equal wages for the same work. But even this is realized partly in a way subordinated to the relations between the demand and supply of labour. For example, until recently, wages which some Hungarian companies paid at their provincial factory were considerably lower - for similar work - than what they paid at their factory in the capital. The situation has been changing since many of the provincial factories also struggle with a shortage of labour.⁵

The economic independence of the socialist company is also expressed in the wages: the system of wage regulations may provide differing possibilities (depending on company performance)

to increase wages at the different companies. (So far it is valid for every type of economic management. The difference lies in: which indicator - production value, production cost, profits, etc. - has the most weight when measuring a company's performance, as well as in the extent this difference may reach.) And this may lead to the emergence of such company funds which make differing remuneration of similar jobs possible. At the same time, the companies also have a certain degree of independence in using their possibilities to increase wages, and so they can use wage increases for widening those sections of the labour market where there is "short supply" of a profession. In addition, the state control authorities also allow higher wage increases than is laid down in the system of regulations or may grant extra financial means (e.g. wage preferences) in order to ease the shortage of labour in certain areas.

The industrial co-operative companies are covered by the central wage tariff system only to a limited extent. Generally, their independence in the formation of personal incomes is greater than that of the state companies, and hence the labour market affects them to a greater extent.⁶

As we could see, the basic conditions for the assertion of the allocation function of wages do exist both in the modern capitalist economy and in the socialist countries - even if in several respects only to a limited extent.

THE MOST IMPORTANT FACTORS OF THE ALLOCATION OF THE LABOUR FORCE OUTSIDE WAGES, AND THEIR RELATION WITH WAGES

THE SCHOOL SYSTEM

In modern society where the population is prepared for different careers in educational institutions, the employment structure of the labour force is to a great extent determined by the school system. It is a vain hope for many people to choose a career which ensures outstanding incomes, since in the end only as many can gain employment in the given profession as are trained for that at the appropriate educational institu-

tions. In socialism, the increased role of direct social influence in the allocation of the labour force is primarily realized through the school system.

However, the structure of the educational network never determines in itself the allocation of the labour force among the professions. The reasons can be summed up in the following.

a. There are many such professions and jobs which require no qualification, only some general knowledge and certain skills (e.g. the unskilled or semi-skilled as well as the simple office jobs). The allocation of the labour force among these areas of employment is not at all determined by the educational system; instead, wages have a direct effect on the supply of labour.

b. The same qualification may enable one to engage not only in one, but in several professions. The possibility of convertibility and mobility is already smaller here than in the previous case, but it nevertheless exists. For example, having graduated at the faculty of humanities, one does not have to be a teacher, but can also utilize his or her knowledge in other areas, and in the same way, having graduated at the faculty of sciences, one is welcome not only in education, but also in industry and research institutes, etc. Where these people endeavour to find employment is considerably influenced by the existing wage ratios.

c. Qualification can be obtained not only at schools: at the beginning of industrialization, vocational training was exclusively realized at the work place. When the machine industry became a large-scale industry, it established a network of vocational training in the form of schools, but this has never been the only way of training. There have always been other forms, being more flexible in adjusting themselves to the always changing quantitative, qualitative and local demands.⁷ It seems that at present and in the near future, i.e. in the period of partially automated production when the trades requiring theoretical qualification and those requiring manual abilities are rather sharply divided, training at the work place is again gaining importance as it is more suitable for training semi-skilled workers.⁸

The great overweight of the school system in vocational training in Hungary is partly of necessity. It is due to the contradiction that adolescents at the age of 14 to 16 cannot be employed properly in modern production, while at the same time, elementary school education ends for their overwhelming majority at the age of 14.

Specialization within professions requiring a high level of theoretical knowledge is increasingly taking place outside the school network or at institutions which are only very loosely connected to schools; in these cases the number of those to be admitted is limited only to a smaller extent. The situation is similar with the continuation of education besides work, and thus with the obtaining of a higher or new vocational qualification - even if it takes places in the framework of the school system.

d. There are not enough applicants for educational institutions which qualify for less attractive professions or trades. In addition, many leave the less attractive areas of employment even if they obtained the necessary qualification and had actually started to work in the given profession or trade and look for some other job. For example, for decades it has been difficult in Hungary to draw enough applicants to vocational schools which train their students to become miners, foundrymen, turners, welders, bakers, nurses, as well as to certain colleges. The greatest migration can be observed in these very jobs.

Among the less attractive areas of employment there are such which offer higher than average wages, but it is their especially unfavourable working conditions which have a repelling effect. However, in the majority of cases, the unfavourable working conditions are accompanied with low wages, in which case an increase in wages may lead to an increase in the number of applicants. (Of course it takes time until the changes in wages are realized by the public and they have an effect on the decision of those choosing a career.)

With an increase in prosperity and cultural level, learning and the choice of professions which require higher level knowledge become a wider demand. A considerable part of the

parents - if they can afford - send their children to school even if there is only a small difference between the wages for qualified and less qualified work. (The global supply of skilled workers depends only to a little extent on the wage differentials due to qualification. According to many western authors, the shortage of skilled workers is not less in those capitalist countries where the differences in the wages of qualified and non-qualified workers are great than in those countries where they are small. The situation is similar in the socialist countries, too.) Parents do not primarily regard the education of their children as an economic investment. They do not choose a career for their children by calculating in advance the marginal proceeds of the capital invested in training, nevertheless - in addition to other considerations - they go far to weigh the expectable income possibilities. And this choice has an effect on both the quantitative and the qualitative allocation of the labour force among the various professions.⁹

Wage ratios may also have an influence on the number of admissions to educational institutions. In the capitalist countries, at the privately owned educational institutions, the number of admissions is greatly adjusted to the number of applicants, and often there is a similar situation in the case of other educational institutions run by the state or by public bodies. It is only some organizations representing the interests of a few privileged liberal professions - physicians, surgeons, lawyers, etc. - which can achieve strict limitations in the number of those entering these professions.

Under socialist conditions, the relationship between the number of applicants and the number of admissions to the same institution (or faculty) is not, and cannot be, so tight. We cannot undertake to have masses of people who cannot find employment appropriate to their qualification, which entails serious social and individual consequences.¹⁰ However, from time to time there is strong social pressure to increase the number of admissions to educational institutions which qualify for professions with favourable conditions - and it is not always without success.

But there is also a special inverse relationship. In certain cases low wages result in an increase in the number of admissions. Namely, it is advantageous for the companies to employ higher qualified labour force - whose wages are hardly higher or not higher at all than the wages of those with lower qualifications - even if they utilize only a fraction of their professional knowledge. Therefore, they demand this type of labour force and if there is overtraining, it remains hidden; as a consequence, the training of big numbers of students at the corresponding universities, colleges or faculties continues, and the number of admissions may even be increased. Such a situation has occurred, for example, in Hungary in several fields of training engineers and production engineers. As a result of the relatively low wages of engineers, the companies have demanded many of them, and this great demand has induced the training of big numbers of engineers also in those fields where neither the present nor even the future needs would justify it. According to several representative surveys, in Hungary only about 40 to 50 per cent of the engineers are employed in such jobs which greatly require the utilization of their professional knowledge. This is a serious waste of human and material resources, and the reason behind this phenomenon is the fact that due to the distortions of the wage ratios, the signalling system of the labour market indicates false demands towards training.

Although, in modern societies, the school system has taken over a considerable part of the former channelling role of wages in the allocation of the labour force among professions, it does not mean that the labour market - and within that, the wages - no longer exert their influence on allocation. And although the school system is relatively loosely connected to the demands of the labour market, and it is even independent of it to some extent, it can never be completely independent. The impulses of the labour market affect the school system, and, in the final analysis, the school system has to meet the demands of the labour market (naturally, not only its present, but also its future demands).

THE CONTENT CHARACTERISTICS OF WORK AND THE ROLE OF THE WORKING CONDITIONS

As it has already been mentioned, wages have never been the only orientation factor in choosing a profession or a job; there have always been other considerations playing a role as well. Among them, the content characteristics of work and the working conditions have especial significance. The allocation effects of wages and of these above-mentioned factors do not assert themselves side by side, but mostly at the expense of each other. The role of the content characteristics of work and of the working conditions in allocation is - to the detriment of wages - increasing.¹¹

At a very low standard of living, where the satisfaction of basic biological needs depends on the wages, it is naturally the most important to achieve higher wages which can ensure the satisfaction of these needs. Compared to this, all other factors related to work become insignificant. Later, with an increase in welfare and security, as well as in the educational and the general cultural level, the situation changes: the weight of the working conditions and of the work content greatly increases in the value system of social judgements. And this also means that the role of these factors in choosing a career or a job is increasing too. The "price" of burdensome work becomes ever higher. The extra wages which in the past were enough to stimulate workers to undertake burdensome working conditions or more difficult and intensive than the average work or unfavourable working schedule, will later prove to be not enough. The fulfilment of the same function requires more and more extra wages (also ever greater in ratios). (A clear example of this was the need in Hungary in the mid-1970s to increase generally and radically the bonuses paid for workers working in more than one shift.) Simultaneously, the value of leisure time also increases: a considerable part of the workers are only willing to give it up in return for ever bigger extra wages, or are willing to undertake ever bigger financial sacrifices for an increase in their leisure time. With the general increase in free days and paid holidays, which leads to a de-

crease in the differences in this respect, the special attraction of certain professions (e.g. of teaching), which traditionally ensured much leisure time, diminishes.

When choosing a profession or a job nowadays, a considerable part of the workers give priority to comfort and they want their work to be less strenuous. They choose the more comfortable work as against the more burdensome and strenuous one, even if they receive much less wages. However, this does not hold true of every stratum and group of workers.

The majority of employees evaluate the working conditions as a function of wages. The stimulative force of wages in this respect will long survive, and it has to survive, but with a decreasing efficiency. The mechanization of the most burdensome types of work is a prime economic and humane requirement, but within the foreseeable future, there is no possibility to eliminate all the burdensome working conditions and all physically strenuous work.¹²

THE SOCIAL PRESTIGE OF WORK

It can be stated with certainty that the content characteristics of work as well as the working conditions have an increasing role in the choice of a career or a job at the expense of the role of wages; however, the same cannot be stated so unambiguously with regard to the social prestige of work. Nevertheless, its significance should not be underestimated.

The social prestige of the different types of work has changed much in the course of history. In ancient times, every activity which had a material product was regarded as unbecoming for a free man, and even the teaching of children fell into the same category and was mainly performed by slaves. In the Middle Ages and the initial period of capitalism there were also many scorned professions. In the time of Adam Smith, even the profession of a poet or an actor was regarded as disgraceful, and Jenő Heltai, the Hungarian writer, also wrote a novel about "actors, journalists and other rascals" - though, true, with great affection. However, it must be remembered that these

professions were financially rather uncertain at that time. Actually, the valuation of professions independently of profitability is alien to the nature of capitalism. If it yet exists, it is rather a feudal remnant. However, in the same way as there exists no "pure" capitalism in the economy, so does it not exist in the people's minds either. In the capitalist countries - naturally to varying degrees -, some people are always willing to make significant financial sacrifices in order to carry out some "gentlemen-like" activity.¹³

Social prestige and appreciation have a great role in the choice of a profession or a job also under socialist conditions. It is well known that a considerable part of secondary school leavers feel reluctant to do manual work and are attracted by "the desk", even though office work is less varied and, moreover, pays worse. The high social prestige of certain "professions with a diploma" in the public value system is clear, and there is a special attraction based on this. However, in the majority of cases, the social prestige of work does not exercise its influence in itself, i.e. independently of the other allocation factors, but in a way closely interwoven with them. In the case of the most attractive professions, social prestige is usually accompanied by other favourable circumstances: good income possibilities, working conditions, etc. The attraction of office work is also due to its relatively clean and comfortable nature. Reluctance to do some work with low social prestige is the strongest in those cases where it also involves disadvantageous working conditions, limitation of personal freedom (e.g. in personal service), or low wages.

There is a rather close connection between social prestige and wages. This can especially be observed during the changes, the "mobility" of this sort of prestige: namely, when prestige decreases, there is usually also a deterioration in the profession's position in the social wage hierarchy, and vice versa.¹⁴ Under the conditions of socialism, this close connection is quite natural, for both should express the same, namely, the work done.

Recently, several economists and sociologists have attributed ever increasing significance in the allocation of the

labour force to workers' satisfaction and the atmosphere at the work place. The role of these factors cannot be debated, they do have a great importance. However, it is also certain that - similarly to the social prestige of work - the atmosphere at the work place or the workers' satisfaction are not independent of the other factors related to work, including wages. This has also been proved by several surveys.

SOCIAL PROVISIONS. THE "INFRASTRUCTURAL" CONDITIONS OF WORK

In addition to working conditions in the narrower sense of the word, the circumstances of work in a broader sense, i.e. the "infrastructural" conditions of work - and within that, the social provisions - also have a significant influence, especially on the choice of a job.

Among the numerous types of social benefits in Hungary, it is the supply of children's institutions and flats that has the strongest allocation effect. The possibility of placing their children in such institutions is one of the most important considerations of mothers with small children when making a choice among jobs. This is due to the fact that the number of these institutions, the majority of which belong to various companies, is not sufficient, and the distribution of the number of places among the various companies is rather uneven. If this situation is changed, the effect of the supply of children's institutions on allocation will by and large cease to exist.

The granting of a flat on favourable terms is one of the strongest allocation factors in both the socialist and the industrially advanced capitalist countries. According to various surveys, its effect on channelling the labour force is sometimes bigger than that of wages. A very frequent reason behind the migration of the labour force is the hopelessness of obtaining a flat at one work place, and the more favourable prospects in this respect at another.¹⁵ The intensity of the allocation effect of granting a flat is a function of the shortage of flats, and/or of the relationship between the financial condi-

tions of obtaining a flat and the volume of wages. In economies where flats are traded freely - or at least partially freely - the granting of a flat amounts to the granting of a big sum of money or a preferential credit.

The distance between one's flat and work place, as well as the accessibility of the work place, may also play a significant role in the choice of a job. Accessibility depends partly on the circumstances of transport, and so with the improvement of transport, the effect of this factor on allocation decreases. In the same way as the distance between one's flat and work place has an effect on the choice of a job, so may the distance between the school and the residence have an effect on the choice of a career. It still often occurs in the countryside that young people - more or less independently of their inclinations and abilities - go to the nearest vocational training school, which then also determines their future career.

Where living is uncertain, the security of the profession or of the job, and the related financial security also have a significant role in allocation. A profession or job ensuring relatively smaller wages but lasting security is generally more attractive than the one promising higher wages but threatening with a possible loss of the job. (For example, it was very attractive in Hungary before 1945 to be employed by the state or the municipality, which also meant pension.) Guaranteed, fix wages are usually preferred to possible higher-than-average wages which strongly fluctuate. In Hungary, where every job is "secure", involves pension, is completed with a wide range of social security allowances, and the overwhelming majority of wages are also guaranteed, these circumstances no longer represent a special attractive force. In those areas where in the past the security of wages, of the job and of old age provisions represented the main attractive force (for example, at the railways), the "discontinuance of these special advantages" (viz. they have become general in the meantime) now has to be compensated in some other way, primarily through higher wages.

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We have reviewed above some especially important factors of the allocation of the labour force outside wages. The role of several of them (the school system, the working conditions in the narrow sense of the word, etc.) is increasing at the expense of the role of wages. The effect of others (the social prestige of work, the atmosphere at the work place, etc.) asserts itself in a way more or less interwoven with the effect of wages. In the final analysis, *almost every factor of allocation outside wages is somehow connected with the labour market mechanism* based on the relationship between wages and the demand and supply of labour. (The knowledge of the volume of wages also has an effect on the applications for admission to schools as well as on the evaluation of the working conditions.) Even though with a decreasing tendency, wages continue to have an outstanding role in the allocation of the labour force.

With the evolvement of state monopoly capitalism, especially in the post Second World War period, it became increasingly clear that wages no longer had that absolute effect on allocation, which was attributed to them by classical economics and then by the school of the marginal productivity theory. As a reaction to it, some economists have broken with the concept which emphasized the dominant role of wages in allocation, and now advocate the superiority of the factors of allocation outside wages. I think this represents the other extreme.

THE NUMERICAL EXPRESSION OF THE ALLOCATION EFFECT OF WAGES

Almost every numerical survey reflects the outstanding role of wages in the allocation of the labour force, and primarily in changing a job. In my opinion their role is generally bigger than the results of these surveys seem to indicate.

According to a representative survey carried out continuously at companies in Budapest between 1967 and 1971, dissatisfaction with wages explains more than one fifth of all job changes (Table 16). Only the unspecified "other reasons" had a higher share than that. Knowing the relations between the different factors and wages, one cannot help raising the question

Table 16. The reasons for changing job in Budapest

Reasons	1967	1968	1969	1970	1971
Changes at the place of employment (reconstruction, extension of the workshop, etc.)	0.4	0.7	0.5	0.7	0.6
Distance between the place of residence and the work place	14.5	13.4	13.2	14.2	15.0
Working conditions, the degree of hardness of work	8.1	8.7	8.7	7.2	7.3
Dissatisfaction with wages	19.6	21.4	20.7	22.0	22.6
Dissatisfaction with human relations, with leaders	3.6	3.3	2.9	2.9	2.7
Lack of possibility of professional self-assertion, promotion	3.4	3.0	3.6	3.2	3.4
Other reasons	50.4	49.5	50.4	49.8	48.4
Total	100.0	100.0	100.0	100.0	100.0
Number of those surveyed	21,293	29,289	35,628	34,455	31,377

Source: Paper by László Kóvári based on the 1967-1971 volumes of the *Budapesti Statisztikai Tájékoztató* (Budapest Statistical Bulletin) and studies by the Labour Department of the Executive Committee of the Budapest Municipal Council. Published in Venyige, J., Józsa, Ö. and Gyetvai, L.: *Munkaerő-szerkezet és mobilitás* (The structure of the labour force and mobility), Közgazdasági és Jogi Könyvkiadó, 1975, p. 170.

whether these "other reasons" do not also include some factors which are related to the level of wages. Or, whether dissatisfaction with the managers do not cover conflicts about the setting of wages, too. Surveys carried out since 1971 - probably due to the refinement of the methods of examination - have

shown a somewhat bigger weight of the dissatisfaction with wages, at the expense of the "other reasons".

According to another survey carried out among university graduates,¹⁶ the level of wages felt by the employees as inadequate compared to their abilities was at second place among the reasons for changing their jobs, while the first place was occupied by "there was no possibility of promotion". The author of the quoted article does himself note that the latter reason also refers to factors related to salaries. And the same may apply to the reasons for quitting, which figured under the heading of "inappropriate system of financial interests" and "they have failed to fulfil their promise".

According to a survey carried out in the United States, the most frequent reason for changing a job is "the hope of improvement of the professional status", and financial considerations come only after this.¹⁷ However, is "the hope of improvement of the professional status" not connected with certain financial expectations or does the reason such as "the lack of perspective for progress" not cover also some elements related to wages? Our answer is definitely "yes". Furthermore, one should not forget either that the prime source of such surveys can only be the statement of the person interviewed. And workers are very often unable to correctly assess, even for themselves, the reasons behind their intention to change their job, and it is very uncertain that they reveal them fully sincerely in the presence of others.¹⁸ In addition, in the final decision to change a job there are usually not only one but several reasons playing a role, whereas the company questionnaires usually ask the person leaving to name only one reason.

From the point of view of the question under consideration, those are the most telling surveys which study the relationship between the change of a job and wages on the basis of the numerical development of the wages of those who changed jobs. These studies show that - irrespective of the reason given by the worker - the change of a job in Hungary was in the overwhelming majority of cases accompanied by a wage increase. Hence it can be assumed that even in cases when the worker feels and gives something different as the reason for changing

Table 17. Relationship between a change of job and wages in the socialist sector of Hungarian industry, between September 1973 and September 1974 (per cent)

Category	Increase in the basic wages of industrial workers	
	changing their jobs	not changing jobs
Skilled workers	6.6	4.3
Semi-skilled workers	6.4	5.3
Unskilled workers	5.0	4.6

Source: A szocialista iparban foglalkoztatottak létszám-összetétele és kereseti viszonyai (The composition of the labour force employed in the socialist industry and their wage relations), *Statisztikai Időszaki Közlemények*, Central Statistical Office, 1977, No. 396, p. 71.

his job, the prospect of a wage increase also plays a role in his decision (cf. Table 17).

There is a view in Hungary which unanimously condemns any change of profession or job for higher wages. In reality, such an attitude is natural and is partly also necessary, for the individual is primarily informed about the social significance of the different types of work and jobs through the wage ratios. And if this signalling system does not function properly and is misorienting, then it is this system which needs to be improved first of all. One cannot expect from the masses of workers to hold up lastingly an attitude which is contradictory to their individual interests, and it is very erroneous to rely on such an attitude in the long run. This is a basic truth of Marxism which is already considered to be almost a commonplace.

THE ALLOCATION EFFECT OF WAGES AND OF OTHER FACTORS ON THE DIFFERENT CATEGORIES OF EMPLOYEES

The factors influencing allocation exercise their effect on the different categories of employees in a different way. Here age, sex, the level of qualification and the financial situation have an outstanding significance.

When choosing (or changing) either a career or a job, wages have a much greater attractive force for young people than for elders who already have less entrepreneurial spirit and adaptability. Then, in the years before retirement, the role of wages and incomes, which at this time determine the amount of old age pensions, understandably increases again. Besides, or even ahead of, wages, the granting of flats on preferential terms has an outstanding effect on young people.

At least for the time being, the motives for choosing a career or a job also significantly differ by sex. According to a Hungarian survey, whereas boys - in both the villages and the cities - give priority in their career choice to trades and professions which provide good income possibilities, in the case of girls, favourable working conditions (and in the first place clean work) play a bigger role.¹⁹ In addition, due to their place in the family division of labour, women consider the "infrastructural" conditions of work as very significant when choosing a job; namely, primarily the supply of children's institutions, as well as the distance between the place of residence and the place of work.

There is a very close relationship between the allocation motivation and the level of qualification. With an increase in the level of qualification - and primarily in that of general education -, the significance of the content characteristics of work as well as of working conditions increases to a great extent even at the expense of wages. The higher qualification and the more education the individual has, the more he or she is attracted by varied and interesting work and the more he/she feels reluctant to engage in physically hard or dull and monotonous activities. And the same attitude is planted into his/her children as well. The primary reason for sending children to school is no longer that they should earn more, but at

least to the same extent that they be able to perform physically easier and at the same time intellectually more contentful work.

Until very recently, higher wages prompted first of all the unskilled and semi-skilled workers and only to a little extent the skilled workers to change their jobs. However, this situation is changing. Although the uneducated workers continue to be influenced the most by higher wages, a considerable part of the semi-skilled workers - primarily in the technically advanced countries - are becoming less mobile than the skilled workers. This is due to the fact that whereas in the past semi-skilled workers constituted a single mass that was not structured from the point of view of the level of qualification, nowadays there are two groups which start to become clearly distinguished. The first group consists of semi-skilled workers having a simple job they had been trained for in only a few days, or weeks at most. They are really quick to change jobs even for a relatively small difference in wages. The semi-skilled workers belonging to the second group have complicated jobs, and although they received several months, often even more than half a year, of training, they were nevertheless trained to carry out a specific job at a specific work place. If they change their work place, they lose their qualification obtained in this way and are reduced to the level of unskilled workers. Therefore, this type of semi-skilled workers are less mobile and they change their work place with more difficulty than the skilled workers. This is all the more the situation since in the mechanized big industry, there is an increasingly limited scope of traditional trades (shoemaking, tailoring, etc.) that can be utilized only in a single branch of industry, and there are increasingly more trades (adjusting and maintenance of machines, etc.) for which the demand is high almost everywhere. Skilled workers belonging to this latter category easily react to change their work place if there are substantial wage differences in prospect somewhere else.

It is difficult for especially highly qualified workers to change their work place, since it usually takes them a long time to acquire the necessary expertise and knowledge of local

conditions, which is needed for adequately fulfilling their job. Frequent changes of work places - even if in return for temporarily higher wages - are unfavourable for them in the long run.

The role of wages in the allocation of the labour force also depends on the degree of material supply which, in turn, depends on wages. The extent to which the attractive force of wages in the choice of a job plays a role also depends on the income level. The lower is the income of the individual, the bigger is the stimulation of higher wages to change his/her job. Those who most frequently change their jobs belong to the category of the lower than average paid workers. On the other hand, the higher is the income of the worker, the bigger is the role, when choosing a job, of such factors as the character of the work task, the working conditions, the prospects of professional progress, etc. This is also related to the fact that the higher paid individuals have, in general, higher than average schooling. At the same time, a change of job by higher paid workers generally also involves a wage increase. Even in their case it is very exceptional that they change a higher paying job for a lower paying one even if all the other conditions are more favourable.

In fact, the material supply of an individual is determined not only by his or her own income, but by the income and the financial situation of the whole family. The financial "start" situation of young people at the beginning of their career basically depends on the income and the financial situation of their parents. This results in a certain inequality in the possibilities of choosing a career or a job. Those with a financially less advantageous background are more compelled to consider direct, short-term financial advantages and therefore to accept jobs which in other respects (working conditions, possibility of professional progress, geographical location, etc.) are less favourable. This immanent feature of the present system of distribution, namely that it also entails financial differences in the situation of the descendants, should be toned down in order to achieve a more adequate allocation of the labour force and a better management of talents.

The role of some individual factors in the different aspects of allocation has been mentioned in some concrete cases. Here we attempt to summarize the main points in short.

The level of wages, i.e. the income possibilities, within a given profession or trade has the strongest effect on *the choice of a job* if the new work place is not too far away from the place of residence, in other words, if it does not require a change of residence or long daily travels. Besides wages, a strong influence on the choice of a job is also exercised by the working conditions and the level of social provisions connected to the work place; however, the effect of the atmosphere at the work place, as well as the adaptation to the collective, cannot be underestimated either.

In the choice of a profession wages have a smaller but still very significant role. They have an extremely strong influence on the *qualitative* allocation of the labour force among the different professions. The content characteristics of work and the working conditions have a big and ever increasing effect. The influence of social prestige clearly asserts itself in the choice of a profession, but much less so in the other two aspects of allocation (viz. the choice of a job and the territorial allocation of the labour force).

In the territorial allocation of the labour force and especially in its distribution between the big towns and the smaller settlements, instead of the wages and the working conditions, it is primarily the general living conditions which have an attractive or a repulsive effect. Here the possibility of obtaining a flat as well as the material and cultural infrastructure of the settlement gain in importance (the level of supply with public utilities, transport, the commercial network and other services, the supply of health care and children's institutions, the possibilities of cultural activities and entertainment, etc.).

A considerable part of Hungarian employees do not work at their place of residence, but travel long distances to their work place, in other words, they "commute". In Hungary, there are about one million daily commuters and 300,000 people (mainly men) who commute at bigger intervals. This is a special form

of the territorial movement and mobility of the labour force, which - especially if the distance between the work place and the place of residence is big and transport facilities are bad - may be the source of several serious problems.

THE ALLOCATION OF THE LABOUR FORCE AND DISTRIBUTION ACCORDING TO WORK

When considering the way of assertion of the allocation function of wages, we usually think, almost exclusively, of the deviation of the wage ratios from the ratios of the work performed. This is the aspect which is emphasized by several textbooks as well.

"Certain conditions - efforts to bring the demand and supply of labour in balance, the special development of certain geographical areas, social reasons, etc. - often make it necessary to divert the wage ratios from the ratios of the work performed... Distribution according to work can only fulfil its function in this way: besides the stimulation of the individuals, it also has to stimulate the whole society to utilize its available labour force potential in the most sensible way, that is, optimally distributed among the various fields of production."²⁰ "Deviation from the ratios of the work performed is primarily required by the fact that wages should promote the allocation and the reallocation of the labour force among the different national economic branches, geographical areas, professions and the various companies."²¹

The expedient allocation of the labour force requires such wage ratios that are first of all in harmony with the work performed. Wage ratios corresponding to the work performed are at the same time also a basic means of allocation. There will only be an adequate number of employees willing to undertake work requiring higher than average qualification or responsibility, or that which is done under physically hard and burdensome conditions, if they are accordingly better paid. If these principles are not observed, there will be disturbances in the quantitative and qualitative allocation of the labour force.

As we could see, according to Adam Smith's theory of the labour market, this market is in balance if through a continuous reallocation of the labour force, caused by the wage differentials, the net advantage of the different sorts of labour is levelled up and becomes equal. On its analogy, under the conditions of socialism, the labour market would be in balance only if through the continuous reallocation of the labour force, caused by the wage differentials, the wage ratios paid for the different types of work corresponded to the ratios of the work performed, that is, if in accordance with the work performed, every type of work were paid by and large equally well. In other words, allocation also presupposes a constant deviation of the wage ratios from the ratios of the work performed, but the wage ratios should move around the ratios of the work performed. In the same way as in the case of goods, where an adequate structure of the demand and supply can only be guaranteed if the prices are not excessively detached from the costs, so can the wage ratios only promote a correct allocation of the labour force if they are not detached from the ratios of the work performed.²²

However, it is not fortunate to view the wage ratios according to the work performed as if they were completely independent of the relations of the demand and supply of labour. The basic factors of the wage centre determined by the work performed are, on the one hand, the necessary qualifications required for the fulfilment of the work task and, on the other, the intellectual, physical and nervous efforts required during work. The importance of these factors compared to each other is not constant; as it has already been discussed, it shifts under the influence of lasting, tendency-like changes in the structure of the demand and supply of labour. Hence, in this way, the lasting, tendency-like changes taking place in the structure of the demand and supply of labour - through their effect on the relative weight of these factors - are expressed and built into the wage centre corresponding to the work performed. (For example, if the number of employees undertaking hard physical work decreases to an extent which is already not counterbalanced by an adequate transformation of the structure of de-

mand, this increases the weight of the physical hardness of work from the point of view of waging.²³ Therefore, if the wage ratios conform to the ratios of the work performed, then they follow the lasting tendencies of the shifts in the weight of the factors determining the wage centre, and thus - in broad outlines - they also promote the establishment of a balance between the demand and supply of labour.

However, it is naturally not enough if the wage ratios are only adjusted to the lasting tendencies of the relations between the demand and supply of labour, by which they promote an adequate allocation in broad outlines, but they also have to move around the wage centre in accordance with the changes of the short-term, the transitional or the local relations of demand and supply.²⁴ The diverting of the wage ratios from the ratios of the work performed is necessary if the desirable allocation cannot be reached through wages which correspond to the work performed.

The assertion of the allocation role of wages cannot even in the short run be identified with the diverting of wages from the work performed. To achieve it, approaching to and departing from the work performed may as well be needed. In many cases, the reason behind the non-correspondence between the demand and supply of labour is that wages are detached from the work performed. The shortage of labour in certain areas can often be traced back to wages that are unproportionately low compared to the work performed, and vice versa. In this case, the desirable allocation can be promoted by approaching the wage ratios to the ratio of the work performed.²⁵

As it has already been mentioned, there is no exact measure for the comparison of the different types of work; the numerical requirements of distribution according to work are not "laid down" anywhere. Hence, the wage ratios corresponding to or deviating from the work performed cannot be established with certainty either. Actually, there is only one clear case of deviation from remuneration according to the work performed; namely, when for work that is in every respect similar different wages are paid at different factories, in different industrial branches and in different geographical areas. In the case

of remuneration of different types of work, deviation from the ratio of the work performed means that the difference in the wages paid for these types of work is bigger or smaller than what purely results from their characteristics. This cannot be established in an exact way, it is only the detachment, the unjustified difference, or the lack of a justified difference which "give a signal" of their existence; it leads to unfavourable qualitative allocation, counter-selection, produces dissatisfaction, and harms the working morale. If the balance between the demand and supply of labour can only be established in this way, then *the solution should be looked for somewhere else, among the factors outside wages or among the institutional factors.*²⁶

Wages are an indispensable but not the exclusive means of the allocation of the labour force, and they cannot be applied without limitation. Primarily those differences and problems of the demand and supply of labour can be remedied through wage policy, which were actually caused by waging. They can also be applied when the main cause of the problems is something else, but in this case, the main cause should also be "treated".

CENTRAL LABOUR FORCE MANAGEMENT AND THE LABOUR MARKET

The formation of the structure of the labour force as required by the changes in the production structure, that is, its adjustment to the desirable production structure, cannot be realized if only wage policy and other labour market means (company allowances outside wages, etc.) are resorted to. To achieve this, a combination of the methods of the labour market and those of the central labour force management is necessary.

The regrouping of the labour force with the help of the labour market methods primarily means the application of the wage differentials for this purpose: a slower increase (relative decrease) of wages, or the payment of lower wages for similar work at places where the goal is to reduce the work force, and a faster increase of wages or the payment of higher wages for similar work at places where there is a need to in-

crease the work force. It has the advantage that it is based on a positive stimulative effect: workers change their work place at their own initiative, and it prompts primarily those to change their work place - namely those enterprising young people who show great adaptability - whose movement is the most desirable from an all-social point of view as well.

Besides these undisputable advantages, the regrouping of the labour force by way of wage differentials also has its significant limits.

a. Due to the special economic and social significance of wages, every working stratum greatly adheres not only to the absolute level of its wages, but also to its relative place occupied in the social wage hierarchy. Any effort aimed at modifying the existing wage structure meets with strong opposition and, at the same time, it may elicit - economically unjustified - "spilling over" demands for wage increases. Namely, the workers who are active in those companies, industrial branches or geographical areas where higher remuneration is paid, continue to adhere to an increase in their wages even after the elimination of the labour shortage in order to keep in line with the average rate of wage increases.

b. Since - in an understandable way - people's "gravitation" is strong to stay at their work place, at their place of residence or in the profession accustomed to, through a modification of the wage ratios it is much more difficult to make the work force leave a given area (company, branch) than to attract it to an area which pays higher wages.

c. The reaction of the supply of labour to the changes in the wage ratios cannot be exactly calculated nor regulated. It cannot be stated exactly how big wage differentials are required to achieve the desirable mobility of the labour force. The labour force may also leave such areas from where it would not be desirable at all. And it takes a long time to reverse the flow of the labour force when it has already started.

d. The stimulation of the regrouping of the labour force through wages, that is, the payment of different wages for similar work, enables companies which reduce their work force due to their uneconomic activity to conceal their uneconomic

production and thus to prolong their activities of this type for a time by way of paying lower wages than the others.

In the case of *regrouping the labour force by transferring it in an organized way* - in its pure form -, identical wages are paid for identical work in every area (branch, company, etc.). The necessary regrouping of the labour force, that is, the adjustment of its composition to the production structure that has changed or is going to be changed, is carried out through the closing down of work places in the retrogressive areas and the direction of the workers thus released to the expanding areas.

According to the conclusions of a survey made by OECD experts, considerable changes took place in the industrially advanced capitalist countries after the Second World War in their sectoral employment structure without, however, any substantial modification of their sectoral income structure. In the expanding branches it was primarily not the higher wages but the fact that they had free jobs which made it possible for them to increase the number of their employees at a faster than average rate. Work force significantly increased in several branches where the wages were lower than average (for example in the servicing sector). At the same time, in the retrogressive branches the reason for the decrease of the work force was not the lower wages, but the elimination of work places and the subsequent dismissals.²⁷ Other experiences also show that in the capitalist countries where the labour force has undergone extensive structural restructification, it has basically taken place everywhere through the "dismissal mechanism".

The "dismissal mechanism" does not function under socialist conditions in the same way as it does in the capitalist countries. Under socialism every citizen able to work should be granted not only the right to work, but also the possibility to work. It means that there are no such structural changes which would lead to unemployment. However, the regrouping of the labour force, which may be required when changing the economic structure, can no longer take place in a way it did during the period of extensive development. In the extensive phase of development, the change of the economic structure took place

basically through the different rates of development of the different branches, and reduction was exceptionally rare and insignificant. Accordingly, it was the *attraction* of the labour force to the areas to be developed at a fast rate which caused a problem, and to make the labour force leave an area was not really an issue. Nowadays, however, the reduction of certain branches is unavoidable and so is the rechannelling of the labour force therefrom. But, as it has already been mentioned, it is much easier to attract the labour force to an area through wage differentials than to make it leave an area. The labour force cannot be prompted to leave the stagnating or retrogressive areas by purely wage policy means; for that, the work places concerned should be closed down as a first step.

In Hungary, the closing down of work places - up to now - has played only a minimum role in the development of the employment structure. The movement of the labour force starts out not from the companies but basically from the workers. According to a survey by the Hungarian Central Statistical Office, in the late 1960s and the early 1970s, 86 per cent of the changes of a work place by professionals with medium and high level qualification took place at the initiative of the employees, and only 14 per cent of them were prompted by the companies.²⁸ This ratio seems to be even smaller in the case of manual workers and employees having simple office jobs. The labour market in Hungary is clearly a market of the employees, where the needs of the companies are completely relegated into the background, despite the fact that in recent years this situation has changed somewhat to the better. The basic reason behind this situation is *the lack of a balance of employment*, that is, *the general and large-scale over-demand for labour*. And this is the main hindrance of the establishment of such an employment structure which would promote the development of an effective economic structure.

If there are considerably more jobs than employees, then the whole system of labour force management becomes disturbed. Under such conditions, wages cannot adequately fulfil their allocation function. To obtain labour force, every company and institution goes as far as its final limits in increasing wages.

In this way, it becomes the abundance or the shortage of the financial means available for wage increases that forms the wage ratios, and through this the allocation of the labour force, and not the real need. Under the influence of the "wage competition", that is for higher wages, many workers change their work place unnecessarily from a national economic point of view, and there is no guarantee that they choose those jobs from among the numerous vacant ones which the national economic interest would require.

Therefore, the key question is the development of the number of jobs so that they be in harmony with the available labour force. Such a development policy and system of regulators would be needed which would limit the establishment of new jobs and would stimulate the termination of the uneconomical and outdated jobs and work places. To achieve this, different means can be applied, for example, the realization of an adequate system of wage regulation, or to increase the price of labour, etc. I think, however, that from this point of view the interest of the economic managers is also important, because until very recently, they were basically interested - both financially and with regard to social prestige - in an ever bigger number of work force at their company.

The necessary transformation of the structure of the labour force is primarily not a company but an all-social task; it cannot be solved only within the companies' frameworks, it also requires central labour force management measures. The problem of granting employment to people released by the termination of jobs cannot simply be shifted on to the company. It cannot be realized without measures such as the development of the activities of the labour force management organs, the organization of necessary retraining and the assumption of its financial burdens as well as of those of changing a profession or the place of residence by the state, etc. All this does not mean that the mechanism of the labour market is switched off, on the contrary, all this constitutes a condition of its proper functioning.

The individual, human problems involved in the regrouping of the labour force in a way as it is desirable from a social

point of view can be very serious even if it is very carefully prepared and realized.²⁹ It may involve three types of movement of the labour force: change of job and work place, change of profession and/or change of place of residence. Each of these may cause in itself serious ordeals for the workers concerned as well as for their families, and it may even happen that they have to face all three simultaneously. This type of difficulties of those who change their job because of national economic interests have to be compensated with higher wages as far as possible. This does not cause any special problem if the new job offered to the worker is placed at the same or at a higher level in the existing wage hierarchy than the former one. However, it occurs ever more often that due to a higher level of mechanization and the modern equipment applied, work at the new place is physically less strenuous and working conditions are more favourable, and, as a result, wages here are lower than they were at the old work place. In this case, the more favourable working conditions may be an attractive force, but the majority of the workers cannot suffer a large-scale decrease in their wages even under such conditions. This situation has to be eased even if by temporary solutions.

Obviously, the choice of a job is not only affected by the relationship between the wages at the old and at the new work place, but also by the relationship between the wages at the newly offered work place and those at other work places that might also come into question. Workers will hardly accept the work place offered to them - however important it is from a national economic point of view - if they can get much higher wages with similar efforts at some other work place. Therefore, it is very important that the wage ratios should by and large be "in order" with regard to the whole of the national economy. In Hungary at present this is disturbed by several circumstances, among others, by an ever wider circle of "invisible" incomes (honorariums, i.e. sums paid to express gratitude, tips, bribes) earned in addition to the official wages. This has a disorganizing effect on the allocation of the labour force among the professions and work places, and within that on its qualitative allocation.³⁰

- 1 This chapter was elaborated on the basis of an earlier article of the author published in *Közgazdasági Szemle*, March 1978.
- 2 Naturally, this cannot be interpreted in an extreme way either. It does not violate human rights if a newly graduated physician or teacher can only start his or her career in the countryside.
- 3 This was also the case in Hungary in the 1950s when in the most dynamically developing branches wages were outstandingly high. But even in China, where the administrative methods are known to have a major share in the allocation of the labour force, wages are higher in the provinces with a limited supply of labour than in the others.
- 4 The attitude of the trade unions is not quite unanimous in this respect. Their basic endeavour in principle is to secure identical wages for identical work. At the same time, however, they also have to represent partial, local interests, and naturally they have to utilize every possibility to realize these interests. Therefore, they sometimes deviate from their basic principle in everyday practice.
- 5 See Pongrácz, L.: *A kereseti arányok távlati fejlesztése* (The long-term development of wage ratios), *Közgazdasági és Jogi Könyvkiadó*, 1975, pp. 143-145.
- 6 The central wage tariff system has only a very indirect effect on the remuneration of work in the agricultural co-operatives.
- 7 In Hungary-between 1949 and 1975, 36.8 per cent of the skilled workers acquired their vocational qualification at various courses and not at schools. Before 1965, that same figure was over 50 per cent. [Source: Pogány, Gy.: *A munkamegosztás rendszeréről és fejlődéséről* (On the system and development of the division of labour), 1977, p. 189. - Mimeographed.]
- 8 "In the course of modernization,... a system of simpler vocational training... as well as of practical training should be established at the work places." [Cravero, R.: *A népgazdaság munkaerő-szükséglete és az oktatás távlati fejlesztése* (The demand for labour of the national economy and the perspective development of training), *Társadalmi Szemle*, 1977, No. 5, p. 85.]
- 9 Wage ratios have a greater role in the qualitative allocation than in the quantitative one. Namely, educational institutions training for professions which promise good incomes can select from a greater number and more talented and better prepared applicants than the others. (In Hungary in 1975 the number of applicants was bigger than the number of those admitted by 3.58 times at the medical universities, whereas the corresponding figure was only 1.99 at the technical universities, 1.81 at the universities of arts and

sciences and 1.75 at the teachers' training colleges. At several other universities and teachers' training colleges the number of applicants hardly reached the possible number of admission.) Where the number of applicants is abundant, most of the weaker candidates do not even apply for admission.

- 10 This does not mean that the Hungarian educational structure fully corresponds to our social and economic needs [see on the subject János Timár: A köznevelési rendszer távlati fejlesztésének néhány kérdése (Some questions of the prospective development of the system of public education), *Valóság*, No. 1, 1976].
- 11 The significant role of non-financial factors in choosing a profession was - almost ahead of his time - noted already by Adam Smith. He integrated it into his concept of "net advantage" which constitutes an essential part of his overall concept of the labour market. According to this, wages are only one factor of the net advantage of the different professions, which means the sum of the financial and non-financial advantages reduced by the financial and non-financial disadvantages. The labour market is in balance when the net advantage of the various sorts of labour becomes balanced and by and large equal, which takes place through the reallocation of the labour force caused by the wage differentials.
- 12 Despite what was said above, it should not be left to wage policy alone to ensure the occupation of the physically burdensome jobs, as this problem cannot be solved exclusively through financial incentives. If it were, it might result in entangled wage ratios which may involve very harmful consequences in other respects, for example, in that of the utilization of the available intellectual potential. An adequate number of employees ready to undertake work which is more burdensome than the average should - in addition to financial stimulation - be ensured through the elimination of the general shortage of labour and through the establishment of an appropriate school system.
- 13 In this respect, there are rather great differences between the individual countries. The special attitude of capitalism is especially strong in the United States. The social prestige of work has a much smaller role there than in the countries where the power of traditions is greater.
- 14 It can often be heard and read, for example, that the social prestige of turnery has decreased to a considerable extent over the past few decades. A study of the related data shows that it has also got much farther down in the income hierarchy. Or let us mention another example, that of teaching. The results achieved in the field of improving the financial position of teachers, who have a key position in the formation of both the general cultural level and the public spirit, will place this stratum higher on the scale of social prestige.
- 15 See (Ророва, I.M.) Попова, И.М.: Стимулирование трудовой деятельности как способ управления (Stimulation of work as a means of control), Киев, 1976, p. 167.

- 16 See Berényi, J.: Kilépések, elvárások. A felsőfokú végzettségűek munkahely-változtatásai (Quits and expectations. Employees with higher level education changing their work places), *Munkaügyi Szemle*, February 1977, p. 11.
- 17 *Les salaires et la mobilité de la main-d'oeuvre*, OECD, Paris, 1965, p. 85.
- 18 According to a conclusion by the Hungarian Central Statistical Office, some of the workers surveyed have hidden their financial reasons for changing their job behind some other reasons. A characteristic "cover reason" is, e.g. "the family". [Képzettség és kereset (Qualification and wages), Vol. III, 1971, *KSH Statisztikai Időszaki Közlemények*, No. 396, p. 71.]
- 19 See Viszt, E.: *A munkaerő szakmai mobilitása* (The professional mobility of the labour force), Akadémiai Kiadó, 1975, p. 19.
- 20 A szocializmus politikai gazdaságtana (The political economy of socialism), Textbook, Kossuth Könyvkiadó, 1973, pp. 275-276.
- 21 *Ibid.*, p. 284.
- 22 There is a view which maintains that the precondition of the adequate allocation of the labour force is the levelling up of the m/v rate among the different professions, because a lasting difference of the m/v rate results in an excess of labour force in certain professions, and in its shortage in some others. In fact, it is the level of wages compared not to the value produced by the worker, but to the work performed by him which allocates. Workers are interested not in the surplus-value they produce, but in how their work is paid related to their qualification, intellectual, physical and nervous efforts. Possibly, they would choose a profession where, with similar abilities and efforts, they can get higher wages - irrespective of the rate of the surplus-value.
- 23 Without intending to force any parallel, I would like to mention that the building of the lasting, tendency-like non-correspondence of demand and supply into the wage centre is not alien to the Marxist theory of prices. Let us think, for example, of the theory of land rent.
- 24 "The various types of work are continuously devalued or revalued, depending on how much they are needed at the given time or location in relation to the labour force available in the given field of the economy." [Forgács, K.: Kísérlet a munka szerinti elosztás részletesebb kifejtésére (An attempt at a more detailed exposition of distribution according to work), *Közgazdasági Szemle*, March 1977, p. 302.]
- 25 This could be illustrated with several examples. Let us take one from among them. In the early 1970s, the Hungarian aluminium industry struggled with a serious shortage of labour, which basically resulted from the fact that the wages of bauxite miners were considerably below those of coal miners working in the same geographical area, although their

work was not at all easier than that of the latter ones. That situation could only be remedied through increasing the wages of the bauxite miners, i.e. through the elimination of the disproportion in wages.

- 26 I have already referred to such a case with regard to the problem of the occupation of physically burdensome jobs.
- 27 *Les salaires et la mobilité de la main-d'oeuvre*, OECD, Paris 1965, p. 13
- 28 *Képzettség és kereset* (Qualification and wages), Vol. II, Central Statistical Office, 1971, p. 63.
- 29 Therefore, the transformation of the labour force structure belongs among the most difficult tasks involved in the transformation of the whole production structure [see Friss, I.: *Iparfejlesztés és gazdaságpolitika* (Industrial development and economic policy), *Társadalmi Szemle*, 1973, No. 1, p. 35.]
- 30 These "invisible" incomes often have connection neither with the work performed nor with the relationship between the demand and supply of the given category of labour. They can rather be traced back to the defenceless position of those who wish to avail themselves of certain services and to the advantageous position of those who dispose of certain services or goods, of which supply is only limited.

CHAPTER 4

THE ROLE OF WAGE DIFFERENTIALS IN STIMULATING FOR AN INCREASE IN PRODUCTIVITY.

WAGE DIFFERENTIALS ACCORDING TO PERFORMANCE¹

The qualitative and compensating wage differentials are *wage differentials between different categories* (groups) of workers. However, to achieve the stimulative effect of wages it is absolutely necessary to have *individual wage differentials* - depending on work performance - within the different categories, that is, in the same jobs. Individuals have to be stimulated not only to become able to fulfil certain tasks and to undertake jobs at a place and of a type where and which is needed by society, but also to perform adequately in the job they undertake. In this chapter I shall primarily study the problems of individual wage differentials serving this goal from the point of view of their effect on an increase in productivity and on the possible acceleration of economic growth. However, since the increase in productivity and, within that, individual work performances are also greatly influenced by the wage ratios between the different categories of workers, I shall return to these latter problems as well.

In this study, I have generally interpreted the concept of an increase of productivity in a broad sense. In some cases, in addition to the increase in the amount of goods produced by a unit of labour, I have also taken into consideration the modernization of the products, the improvement in their quality as well as the favourable changes in the product structure resulting in an increase of productivity at a company level. Furthermore, I also include in it the increase in the amount of products brought about by an increase of work intensity - its effect, with the exception of very rare cases, cannot be separ-

ated in practice from the increase of productivity in the classical, Marxist sense -, as well as the better utilization of the working tools, machines and equipment if it results in an increase of labour productivity at the company level. However, I primarily concentrate my attention on the stimulation to save live labour, which has especial significance nowadays. During my study, I have primarily considered the experiences and problems of industrial companies.

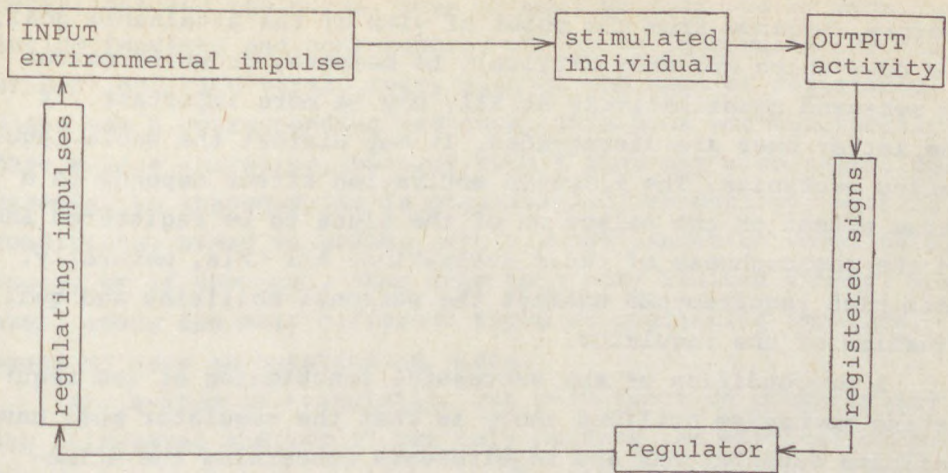
Financial stimulation - and, within that, the differentiation of wages - is only one of the factors influencing the level and increase of productivity. Its effect cannot be numerically separated from that of the other factors, and with the exception of some rare cases, it cannot be quantified. But this does not, of course, mean that its study is not significant.²

According to a survey of the Hungarian National Committee for Technical Development, the lower level of technical equipment in the Hungarian machine industry compared to the West European countries explains only about one third of the difference in the level of productivity, the rest is due to insufficient organization, stimulation and work discipline.³

THE GENERAL MECHANISM OF STIMULATION

The general system of stimulation can be examined from numerous aspects. Here, we shall approach it from the aspect of regulation theory. From this point of view, stimulation can be regarded as a regulator based on the principle of negative feedback. Representing it in a schematic way, we obtain the following diagram (see top of next page).

Expounding it in words: in order to achieve adequate motivation, the body or the person (let us say, the foreman or the shop-manager) that performs the role of the regulator, after taking into consideration the registered signs, emits regulating impulses which prompt the stimulated individual to produce the required output. However, the behaviour of the individual is influenced not only by the regulating impulses starting out from the regulator, but also by the totality of the effects



reaching him or her, that is, by all the environmental impulses. Some of these have their origin outside the work place (the influence of the family, of friends, etc.); others reach the individual at the work place, but do not originate from the regulator, instead, they result from the technical conditions, technology, the production and the work process, the attitude of the workmates and the collective, etc. The impulses of this latter type do not necessarily fit in with the stimulation goal set by the regulator. It may happen that the technical conditions, the organization of the production and the work process, or the attitude of the collective hinder the realization of the goals set by the regulator. Which effect becomes stronger depends on the power relations within the environmental impulses and is finally decided by the struggle among them.

The regulator has to be able to select from a multitude of outputs (expressed partly by the work performance and partly by so-called "sociological" manifestations, such as satisfaction, dissatisfaction, emotional relationship between the members of the collective, etc.) those which are important for the purpose, that is, the ones which have to be registered. The regulator also has to be able to adequately interpret these registered impulses and emit the necessary regulating - and within that, stimulative - impulses. It is not sufficient for the regulator to take into consideration only a few signs which are easy to

measure, because from the point of view of the attainable goal, the ones which are more difficult to measure, or which cannot be measured quantitatively at all, may be more important. If the latter ones are disregarded, it may distort the whole regulating mechanism. The elicited motivation effect depends to a large extent on the selection of the signs to be registered and on the thoroughness of their evaluation. All this, naturally, sets high requirements against the personal abilities and qualification of the regulator.

A precondition of the successful functioning of the regulating mechanism outlined above is that the regulator must have definite expectations and requirements concerning the stimulated individual. The regulator must have adequate norms to which he can compare or measure the output signs. Accordingly, the task of comparing and measuring should not be interpreted in the mathematical sense, because that is only possible in a few cases. However, comparison and measuring in this broad sense are indispensable. *There can be no regulation without measuring.* It is on the basis of the results that the regulator develops and modifies the regulating and stimulating impulses.

The regulator does not have an unlimited autonomy in the emission of regulating and stimulating impulses. His activity and behaviour are limited by the impulses of other regulating circles directed at him. (For example, a foreman fulfilling the role of a regulator has to act within the limits set by the rules and instructions elaborated at a higher level of management, by the hierarchical and functional control bodies of the company. These bodies or their representatives - e.g. the shop-manager, production engineer, examiner of finished goods, etc. - may also give direct orders to the workers under the control of this foreman.) However, this limitation cannot be of an extent that it would question his authority. *Every regulation requires adequate authority;* without this, it becomes formal.

A precondition of the functioning of the stimulation mechanism is that the stimulated individual should be interested in the realization of the expectations set against him or her. This requires that if the individual produces output signs (e.g. work performance) that are favourable compared to the ex-

pectations and the norms, then it must be followed by such regulating impulses and consequences which are favourable for him or her, and vice versa. Every sign of the mass of registered signs has a corresponding response. This does not necessarily have a wage character, because such a sign may also refer, for example, to inadequacies in organization, technology, working conditions, human relations, etc., which cannot be remedied by wages, or if they can, then only to a very limited extent. However, among the many different types of regulating impulses, wages do have an outstanding place.

Any system of stimulation can only function properly and the stimulated individual can only produce the expected outputs (performance, attitude) if he or she can *have a direct effect* on one or the other factor of the goal of the motivation. Anyone may be made interested in many things, but it does not mean stimulation.⁴ In addition, the stimulated individual has to be able to interpret the regulating impulses in accordance with the attainable goal, to adequately react to them, and to have the necessary abilities (talent, expertise, etc.). All this, however, is only a precondition, but not a guarantee for the attainment of the desired goal. It is a very important circumstance that the stimulated individual is a personality who has his or her own separate interest, who belongs also to a group which has its own interests, and who - if there is a possibility - tries to influence the regulation process through his/her outputs in his/her own interests. In extreme cases, this may go as far as to consciously produce distorted outputs (by withholding work performance, concealing innovations, etc.). In such cases, some sort of a "contra-regulating circle" is established. This can be corrected or prevented through widening the circle of the registered signs (by making the evaluation more complex) and through modifying the regulating impulses.

Every regulation is differentiation in so far as it presupposes such a differentiated formation of the regulating impulses which conforms to the output signs. More favourable output signs (e.g. work performance) have to be rewarded with more favourable regulating impulses. This also means differen-

tiation if only one worker is involved. If a worker receives, say, 100 forints for the production of 100 work pieces and 150 forints for 150 work pieces, then it is already wage differentiation according to performance. Our scheme presents only a single regulating circle, that is, it contains the possibility of differentiating the regulating impulses only over time, with regard to one single worker. This is the basic form of every stimulation. If individual performances are not followed by the individual wages, then wage differentiation according to performance between different workers is simply impossible.⁵ Wage differentiation among workers with different performance can be regarded as the coexistence of several regulating, stimulative circles, while their coexistence also means that they mutually exercise an influence on each other. By comparing the output signs emitted by several workers, the regulator gets sound foundations on which to develop his expectations and, based on those, his regulating impulses. Furthermore, due to the very nature of things, there is usually a certain competition developing among workers working at the same place, and this increases the stimulating effect.

HOW THE VARIOUS WORKING PEOPLE AFFECT PRODUCTIVITY, AND THE PROBLEM OF THEIR STIMULATION

I continue my study with the examination of the following issue: at the present level of development of production forces, what sort of influence can the different groups of workers have on what factors of productivity and in what way, and what sort of conclusions might be drawn from all that with regard to the possibilities of their stimulation?⁶

I am going to study the situation of three groups of company workers from the above points of view:

1. staff workers;
2. workers employed in key positions, but not in leading positions;

3. workers in leading positions (within this latter group, I shall discuss separately some problems of medium-level leaders).

THE STIMULATION OF MANUAL WORKERS AND OF STAFF EMPLOYEES

Basically, individual workers can exercise an effect on the level of productivity in two ways: on the one hand, through the factors of the productivity potential and, on the other, through the factors of the utilization of that productivity potential. Below I shall study the various cases of their stimulation.

a. Manual workers can in the first place influence the utilization of the given productivity potential. In the majority of cases, this still takes place in the traditional way in the socialist countries. Many of the workers regulate the rhythm and pace of their work themselves. Through a better organization of their activity and a better utilization of their worktime, they have a possibility of increasing the quantity of products (the number of processed pieces) manufactured in a unit of time. Under such circumstances - and if the scale of the series is appropriate, the quality requirements are not too high, and both the quantitative and the qualitative performance can easily be checked -, the increase of productivity can be best served by wages increasing in proportion to the quantitative performance. This can have a piece-wage character, that is, when the wages of workers doing the same work differ only in proportion to their quantitative performance and maybe to those qualitative differences that can be measured in an exact way, or it can be that sort of a "performance wage" which also expresses those characteristics of the workers which are not adequately expressed in their quantitative performance, but are important for the company (practice in the trade, manysidedness, adaptability, loyalty to the company, etc.).⁷ This is done in the following way: by taking into consideration the characteristics described above, a basic wage is determined for the worker, which is then increased or decreased depending on the

quantitative (and the exactly measured qualitative) performance. (This, in the majority of cases, is realized in practice by way of multiplying the basic wage by the performed percentage of the work norm.)

In the Hungarian industry - due to the applied technology and work organization - the application of this system of waging is still justified in a relatively great number of fields. Compared to this, the number of those paid by performance is low, and many of them work in forms of a degressive type, which only have a limited stimulating effect. This situation is usually explained by the limiting effect of the central wage regulation which determines the average level of wages payable by the companies. This is partly true, but other, more deep causes also play a role here. I shall return to them below.

b. In modern production, the pace of work is increasingly regulated by the machine. Workers cannot increase the quantity of products manufactured during a unit of time according to their own abilities and efforts, as it is limited by the parameters of the equipment. They can primarily influence productivity by decreasing idle time and by guaranteeing the required quality. Therefore, stimulation should primarily be directed at this. The adequate form of waging is time-wages which are, however, made dependent on the fulfilment of given indexes, or they may also be supplemented by individual or collective premiums which again depend on the fulfilment of these indexes.⁸ Time-wages made dependent on performance or supplemented by premium are the adequate form of waging also at those places where the qualitative requirements, the economical use of materials, etc. have especially great significance.

In the case of these forms of stimulation, which correspond to modern production, the *establishment of correct basic wages conforming to the real qualities of the workers* has a decisive significance. However, there are many problems in this field. Differentiation is weak and it often does not correspond to the most important factors from the point of view of production.

Recently, at a company in the machine industry employing about 6,000 workers, where the main form of waging applied is time-wages made dependent on performance, the workers were asked to tell their opinion about the system of establishing basic wages as well as about the principles involved in it.⁹

More precisely, workers were asked to say that in their opinion what the ratio of the wage-determining factors made dependent on performance was and what the ratio of those independent of performance was. Those carrying out the survey classified the following among the factors made dependent on performance: higher quantitative performance, higher qualification, talent, flair for initiation and innovation, the quality of work, participation in self-education or institutionalized further training, and professional ambitions. They regarded as factors independent of performance the loyalty to the company, social position of the worker, compliance with managerial instructions, adaptation to the collective, political and human reliability, as well as participation in voluntary work. According to an overwhelming majority of the replies received, at this company it is primarily the factors independent of performance that are asserted in the establishment of wages, and the factors made dependent on performance are pushed to the background.

Undoubtedly, there are questionable points in this survey. For example, it is doubtful whether it is correct to classify compliance with managerial instructions, adaptation to the collective, or even loyalty to the company among the factors that are unambiguously independent of performance (i.e. that do not directly influence performance). Furthermore, it is not sure at all that the workers have an absolutely objective judgement of the company's practice of establishing wages. The question is very delicate, affecting everybody, and therefore it is probable that the opinions also express a certain degree of exaggeration and bias. However, it is also hardly believable that they lack any realistic foundation.

c. In the period of extensive development, the main goal of wage differentiation is to stimulate workers to increase the quantity produced. However, in the phase of intensive develop-

ment, this task becomes modified, because the prime goal is not necessarily to increase production, but also the requirement of saving work force comes into prominence. And in this respect, the possibilities are less limited. Although under the conditions of modern technology workers can have only little influence on the quantity of production, their number might, however, be changed. There may be a possibility to increase the number of the machines operated by one worker, or to unite different jobs in one, etc. These have become the most important methods of increasing productivity. Therefore, the primary aim should be to make the workers interested in saving work force. The most evident form of this is to distribute a part of the wages saved in this way among the workers who have achieved that saving. However, this is a solution far from being free of problems. If a considerable part of the wages saved is distributed, it may cause disproportions and serious tensions. But if only an insignificant part of the wages is distributed, then it does not have a stimulative effect. I shall return to this dilemma later.

d. The waging and stimulation of *office workers* have been extremely neglected. In the overwhelming majority of cases, even a minimum of quantitative requirements is missing. Wages are usually differentiated on the basis of formal characteristics: educational level, seniority, etc. The most important in this field would be the realistic determination of the job tasks and the consistent checking of their fulfilment. If a worker undertakes - and fulfils - more than what is laid down in his/her job description, then he/she should be granted higher remuneration. There are great resources in this field, which could be utilized to save labour force. Namely, there are especially ample opportunities to combine job tasks as well as various jobs, and, primarily, to better organize office work. The utilization of these possibilities would be all the more important, since these fields "devour" the labour force.

Above, we have reviewed some of the most frequent problems of the stimulation of staff workers, as they appear in everyday practice. However, *the increase of productivity* - taking the productivity potential as given - is *primarily conditioned by*

the organization of production and by work organization, while stimulation has only a complementary role in it. And the creation of these conditions does not depend on the staff workers but on the managers and on workers in key position.

THE SITUATION AND THE STIMULATION OF WORKERS EMPLOYED IN KEY POSITIONS WHICH ARE NOT LEADING POSTS

Until very recently it was one of the greatest shortcomings of the Hungarian system of stimulation that it was primarily directed at the workers at the workbench, intending to stimulate them for ever greater performance, while it devoted considerably less attention to those working strata whose members, one by one, influence the level of productivity to a much greater extent.

Under given technological and organizational circumstances, a worker can possibly increase his performance by 20 to 30 per cent. At the same time, those who design and construct the products, those who develop the required technology as well as those who organize the work processes have many times more possibilities to increase productivity. Let us give a - negative - example to substantiate what was said above. According to both the Hungarian and the foreign professional literature, workers are responsible for 5 to 20 per cent of all the faults in manufacture, while designers and production technologists for 15 to 80 per cent.

In the earlier phases of the development of the forces of production, the question was raised differently. The functions of the development of technology, of the organization of production and of work organization were not separated from the workers to the extent as are now in modern large factories. When they were separated, then these functions were performed by the entrepreneur himself, or by a few experts who were working directly under him. Under the present conditions, when these functions are performed by a huge technical and economic staff which is far from the direct control of the company management, *the stimulation for increasing productivity should*

primarily be centred on this staff. In Hungary, however, the control over this staff as well as its stimulation are very underdeveloped.

There are several phenomena which indicate the inadequacy of stimulation as regards the technical and economic staff. For example, the number of innovations is extremely low in Hungary compared to the international standard (see Table 18).

Table 18. Number of registered innovations per 100,000 capita in 1971

Bulgaria	23.9	Britain	44.6
Czechoslovakia	42.0	Finland	19.9
GDR	26.6	Japan	78.1
Hungary	11.6	Sweden	55.5
Poland	16.9	Switzerland	100.6
Soviet Union	51.0	United States	35.2

Source: Tasnádi, E.: Az újító mozgalom elvi-gyakorlati kérdései (The theoretical and practical questions of the innovation movement), *Szakszervezeti Szemle*, No. 2, 1974, p. 32.

Within the whole of the economic and technical staff, a special place is occupied by those who have a job of key importance. They do not necessarily have a leading post (here we are dealing with those who are not in leading positions), but due to their job, they have great influence both on the increase of the productivity potential (those engaged in the development of products and manufacturing, those who plan the investments, technologists, marketing people, etc.) and on the utilization of the given productivity potential (organizers, labour experts, maintainers, etc.). It seems that workers employed in key positions which are not leading posts constitute a stratum whose abilities and capacities are utilized to the smallest extent from among all the working strata in Hungary. They usually per-

form much less than they would be able to under favourable conditions and with adequate stimulation.

Their waging - primarily through an increase in their basic wages corresponding to their performance, but also through various premiums or bonuses - should promote the evolvement of their creative and initiative abilities, their receptivity to what is new, and it should also stimulate them to keep pace with scientific development. However, all this is realized only to a very small extent. The problem starts with the fact that the wage level of these categories is very low, and those who are not promoted to a leading post have only very limited possibilities of financial advance. For example, the salaries of engineers who are not in leading positions are hardly more than the wages of skilled workers, although the actual technical work is essentially performed by them.

The relative wages of technical employees - indicated in Table 19 - show a strongly decreasing tendency and by 1974 they were only 15 per cent higher than the wages of skilled workers.

Table 19. Wage ratios in the Hungarian socialist industry

	1964			1969			1974		
Unskilled workers	100			100			100		
Semi-skilled workers	107			107			109		
Skilled workers	137 100			140 100			142 100		
Workers total	118 86 100			119 85 100			122 86 100		
Technical employees	175 128 149			172 123 144			163 115 133		
Office workers	113 82 96			112 80 94			109 77 90		

Source: The calculation was based on the data of the KSH *Idősszaki Közlemények* on the composition and the income relations of the employees in the socialist industry, as well as on the respective volumes of *Statisztikai Évkönyvek* (Statistical Yearbooks).

This situation results, on the one hand, in a sort of counter-selection as regards the personal composition, since many young people with excellent qualities are discouraged to choose this career. On the other hand, those with adequate qualities and knowledge who are in the job become disillusioned and are compelled to utilize a significant part of their energy outside their official job. Company managers do not - and under the given conditions cannot - set adequate requirements which would utilize all the energies and knowledge of these people. At the same time, it is difficult to measure their performance in an exact manner, only very competent leaders are able to adequately estimate it. But, even if there are such leaders - who are rather rare - they have hardly any possibility to acknowledge outstanding performance with outstanding financial remuneration. The basic wages are more or less equal, they differ only according to seniority, whereas bonuses are insignificant.

The main problem lies not in the form of stimulation but in the general financial under-appreciation of this stratum that plays an extremely important role. It is especially striking if we compare their situation with that of other groups that have a more or less similar level of qualification. The financial situation of most of them is probably not more favourable than that of teachers (who are considered to be the worst-paid stratum among the intellectuals, having only slightly more wages than the skilled workers) because the latter, due to their more leisure time, as well as their less strict working hours, have more time and possibilities to engage in activities earning extra income. We could even say that official bodies almost expect the teachers to engage in such extra activities (especially in the countryside). (It is a different question that this is carried out at the expense of their teaching and education activity which constitutes their main task.)

At most of our companies the wages of the intellectual and of the manual workers are continuously compared to each other, and it is regarded as a positive result if the differences between them decrease or disappear. This view is unjustified, and this categorization is rather artificial and already outdated. It is well known that many of the so-called manual workers per-

form a very high level of intellectual activity, whereas the category of intellectual workers ranges from the simplest office workers to the general managers and also includes the group of experts in key positions discussed above. Naturally, it is a correct endeavour to ensure that simple office work would not pay more than manual work requiring similar educational qualification but involving more physical hardness; however, generally this has already been realized. At the same time, the limitation of the income possibilities of the experts in question may cause serious national economic damage, and therefore - at least in the long run - it cannot be advantageous politically either.

THE STIMULATION OF MANAGERS

Managers can primarily influence the production results through an adequate control over the work of their staff members. Obviously, in the first place they will stimulate their staff members to perform such work, in the realization of which they are also interested. Managers' work must be judged on the basis of the actual results of the unit under their management, as this is a precondition for them to be able to stimulate their staff members to increase their contribution to an improvement in performance and productivity as well as to differentiate their wages accordingly.

There are widely diverging views about the role financial interestedness and the so-called moral incentives, as well as the possibility of satisfying creative ambitions can play in the stimulation of managers. There are some who maintain that the latter two have a decisive importance and financial incentives have only a secondary role. This view is not correct, as it is also clear from several examples taken from everyday life. In reality, the financial aspect does not have a secondary importance for leaders either; however, it asserts itself in a special way in their case. Perhaps the most characteristic one is its close interconnection with the previous factors. Namely, it is obvious that managers who receive relatively high salaries

and give the maximum of their efforts can hardly be stimulated for an outstanding extra performance or for a deviation from the usual direction of their activities in return for some additional financial remuneration (which may be only an insignificant amount compared to their regular salary). *Those in leading posts generally strive for the maintenance of their position* which provides them with a high income they have got accustomed to as well as moral respect and social prestige. Some of them also have the aim to acquire a higher post. Therefore, managers should be made interested in these things in the first place.

Managers' activities - which in the majority of cases are highly complex - cannot be evaluated with absolute accuracy, since such an evaluation cannot be made by simply taking into consideration some indicators. This is all the more so as the company achievements necessarily also reflect the influence of circumstances independent of the managerial performance (for example, the development of profits is also greatly influenced by the price changes as well as by the various factors of the system of prices, which the company management can neither exercise an effect on nor can it recompensate them to any significant degree, etc.). In addition, the results of the most important elements of managerial activities usually evolve only in a longer period and they only very rarely do so in the given year. At the same time, when evaluating managerial activities, it is not only the work actually done that must be taken into consideration, but also what was not done; in other words, the missed opportunities should also be considered. And the evaluation of these is especially difficult. And finally, it cannot be disregarded either that the data required for the evaluation of leaders - at least in the case of the top company managers - are in their own hands. And these data - within certain limits - can be "manipulated". (It is not only a Hungarian experience that managers are almost always able to document the indicators which are needed to safeguard the incomes they are accustomed to, or, at least, the circumstances which serve as an excuse for non-performance.)

Due to what was said above, even the most sophisticated system of stimulation can only to a very limited extent make the managers adequately interested in effective management and, within that, in an increase of productivity. It seems to be sensible that the wages of managers should not follow step by step every temporary fluctuation in the profits of the production unit under their control (i.e., that they should not simply depend on the annual profit), they should only be connected with them in the long run, in their tendency. Every short-term interestedness stimulates for wasteful management. The remuneration, the promotion and the demotion of managers should be made dependent on how adequate strategies they work out for the unit they control and how they realize them.

Managers should primarily be made interested in such a way that they could maintain their position which ensures high income and social prestige for them only in the case of lasting good performance. These days much is said about the need for socialist companies and their managers to take risks. Its only realistic way is exactly what we have just mentioned: managers may only retain their position as long as they are able to perform their function at a high level. Under the conditions of the socialist countries, it is difficult to imagine any other form of taking risks. However, the realization of this principle would require a more flexible practice of replacing managers, and also that managers who are unable to adequately fulfil their task should not obtain a position of a similar level at some other place.

Actually, the practice of replacing managers whose activities are evaluated as weak is not rare. The problem is rather that managers who failed at their "examination" at one place obtain again a managerial position at another. According to a survey conducted in some big factories at Újpest (an outer district of Budapest), a special circulation can be observed, which results in the fact that almost the same persons remain in the managerial posts, i.e. only the posts at the different places change hands. In addition, as a chain reaction, an unjustifiably high number of such managers are also involved (i.e. they are also removed from their place) in this circula-

tion, who have been in their position only for a short period of time, and whose removal only serves to clear the way for managers who failed at some other place. This process is partly due to some wrong interpretation of humanism. In reality, humanism towards the individual should be co-ordinated with humanism towards society as a whole. We should not be humanistic to individuals - not even to the most worthy ones - in a way that society as a whole should suffer its serious consequences. In this field, humanism towards the individual should in the first place be served by breaking with the view that one's leave or removal from a managerial post is in any case regarded as a "fall".

Appropriate selection of managers is a key question of productivity increase. Even the best stimulation can only promote the evolvment of the existing abilities and knowledge, but it cannot substitute them. Probably the responsible authorities cannot better promote the cause of efficiency - and within that, that of productivity - than by the appropriate selection of managers. And vice versa: they cannot cause bigger harm by anything else than by failing in this respect. Company independence, and independence within the company, is only a possibility. The extent and success of its realization primarily depend on those who should make use of it.¹⁰

I cannot undertake to answer the very important question of when the work of a manager can be regarded as "good", and what concrete criteria should be applied in evaluating managerial activities. I shall only make some remarks from the point of view of the promotion of productivity increase.

Due to its position, top company management exercises an effect on both the productivity potential of the company, and the level of utilization of this potential. However, while its effect on the utilization of the productivity potential is indirect (it is realized through its influence on the medium-level leaders and of staff workers employed in key positions), its effect on the productivity potential (the product structure and the technological structure) is direct and is extremely strong. The shaping and the development of this potential is one of the prime tasks of top company management. The most im-

portant requirement raised against top company management is that they should initiate and carry out in a well-considered but undertaking way all those changes which would promote the development of both the product and the technological structures. It is this managerial style that should be supported and stimulated both financially and morally, and not the one which schematically follows the usual path and always waits for instructions from above.

As regards the forms of waging of top company managers, the various premiums and bonuses traditionally have a very great weight. Actually - as it also follows from what has been said above -, here it is not the basic salaries and the premiums separately, but the total incomes which have a stimulative effect. A significant part of the managers' incomes has been made "moving" (although, as we could see, this "movement" is rather a formal theoretical possibility only), and this is probably also connected with the fact that in this way it is seemingly simpler to guarantee a justifiable, relatively high income for managers without greater public opposition. It is, however, very questionable whether this is really so. Anyway, according to various observations, most of the top level company managers do their utmost and they do not spare themselves. Therefore, in this case stimulation should not be aimed at increasing their efforts, but at channelling them in the right direction.

SOME PROBLEMS CONNECTED WITH THE SITUATION OF MEDIUM-LEVEL LEADERS AT COMPANIES

The followings are regarded as medium-level leaders at companies: foremen, shop-managers, department heads, etc. Below, I shall regard foremen as the "prototype" of medium-level company leaders, and when talking about medium-level company leaders, I have them in mind first of all.¹¹

Through their control activities, medium-level leaders are able to influence in the first place the utilization of the productivity potential, as this is decided in the workshops and at the (technological, financial, etc.) departments which di-

rectly regulate and assist the activities of the workshops.¹² In the final analysis, they fulfil the role of the "regulator" in the stimulation scheme in the overwhelming majority of cases. It is they who directly put into practice regulation, broken down to persons. Unfortunately, they often fulfil this extremely important function in an unsatisfactory way.

As it was already discussed above, regulators must be able both to correctly assess the "output signs" which are expressed in work performance, in different "sociological" manifestations and to emit effective regulative and stimulative impulses. All this requires high level general and professional qualification, knowledge of the human character, and ability to treat people. Unfortunately, medium-level leaders, and primarily foremen, possess these abilities only to a limited extent. This is closely connected with the fact that their wage level does not correspond to these requirements. In several cases, the wages of skilled workers under their control are close to or even higher than their wages.¹³ This naturally hinders proper selection. At the same time, there is considerable "egalitarianism" among foremen. According to a survey conducted among more than one thousand foremen at companies under the direction of the Ministry of Metallurgy and Machine Industry, it is exclusively the differences due to age which result in substantial differences in their wages. Other, equally well measurable factors - such as educational qualification, the time spent at the company or in the same position, etc. - have only an insignificant effect. (The situation is similar with regard to decorations, which are considered to represent moral acknowledgement.¹⁴)

These phenomena, even if not to the same extent, can also be observed with regard to other layers of medium-level leaders. The amounts of premiums they receive are also characterized by "egalitarianism". It often happens that their premiums are made dependent not on the achievements of the workshop or department they control, but on the indicators of the whole company (returns from sales, profits, wage level, etc.), which they actually cannot exercise a direct influence on. One of the reasons - in the opinion of some people, the main reason - behind this

phenomenon is the fact that the realization of the tasks of individual company units does not in itself guarantee an adequate company result, and if this result is not achieved, then there is no fund to cover the leaders' premiums.¹⁵ In addition, the granting of premiums to leaders on the basis of the achievements of the economic unit under their control presupposes that these achievements appear separately, that these units are to a certain extent independent and that their leaders have an adequate sphere of authority. However, these conditions are largely missing. In reality, medium-level leaders do not constitute an independent level of the system of company management. Forty-two per cent of the foremen interviewed in the framework of the survey mentioned above were not consulted when the plan of the workshop was elaborated (!), and, in addition, one third of those whose opinion was asked also said that this was only formal and their opinion was really not taken into consideration. The situation is the same, or even worse, as regards their sphere of authority concerning waging. Thirty-six per cent of the foremen asked said they had no right and possibility to decide on the wages of their staff, 22 per cent of them said they had in practice no authority to take disciplinary action against those who would deserve it, and 41 per cent of them declared to have no authority to give rewards, that is, they could only submit proposals in this respect to the higher level management. Although lately there have been legal rules laying down the sphere of authority of foremen concerning waging, in practice it has led only to little changes. And this situation makes the "regulatory" activities of medium-level leaders, as well as the increase of productivity through stimulative wage differentials in both the technical and the production units very difficult.

THE GENERAL DILEMMAS OF STIMULATION FOR INCREASING PRODUCTIVITY, AND THE WAYS OF THEIR EASING

Above, we have studied the problems of stimulation for increasing productivity separately, by layers of leaders, and we largely remained at the surface phenomena. Below, we shall try

to "dig" somewhat deeper down. We think that the problems arising with regard to the different layers - and having many common features - are not incidental, but are to a considerable extent connected with the general dilemmas of stimulation for increasing productivity. Hence, these are the ones which we have to learn much more about and for which we have to seek the ways of how to ease them.

THE UNEQUAL POSSIBILITIES OF INCREASING PRODUCTIVITY.
STIMULATION OF THE RELATIVELY WELL-MEASURABLE WORK
PERFORMANCES

The most obvious way of stimulation for increasing productivity, namely, the payment of wages which grow proportionately to the increase of productivity, i.e. the provision of strong financial reward for the increase of productivity, seems to be very simple. In reality, however, it generally encounters serious immanent difficulties. The first obstacle is represented by the unequal possibilities of productivity increase. This is often mentioned in connection with the problems of company wage regulations, namely, that the increase of the company wage level cannot be linked with the increase in productivity, because the objective possibilities of the individual companies in increasing productivity are very different. Although this is true, it is not simply a problem of company wage regulation, but a general dilemma of stimulation for increasing productivity, which starts already at the individual work units.

At the various work units - be it a factory or a workshop within it - the possibilities of increasing productivity are very different: on the one hand, because the reserves of this type as regards the applied technology and work organization are very different and, moreover, their utilization does not primarily depend on the workers directly engaged in production, and on the other, because it is quite obvious that workers - or groups of workers - who formerly worked with less discipline and intensity have more possibility to increase productivity than those who also earlier did their best to fulfil their

tasks. (The problem of "base interest"¹⁶ arises already here, with regard to the stimulation of the individual worker.) Therefore, wages growing proportionately to the productivity increase can be a source of serious disproportions and may result in a large-scale divergence between work performance and wages. The tensions thus emerging are not "only" harmful from a moral point of view, by offending the sense of justice, but they may also involve serious economic consequences. Namely, not only the absolute but also the relative amount of wages has a stimulative effect. Any change of wages affects not only those whose absolute wages have been changed, but also others through its indirect effect, since it also results in a change in the relative wages of all those whose absolute wages have remained unchanged. If the increased efforts of individual workers or groups of workers are rewarded with very big extra wages, then this will in all probability significantly stimulate the performance of *these* workers. However, big extra wages that are unjustifiably high compared to the wages of others may lead to dissatisfaction and, through this, to a decrease in the work performance of the rest of the workers. Consequently, what we gain on the one hand, we may lose on the other. And the process does not end here. Under the effect of irritatingly high wages, those will probably also gain wage increases, whose performance has not increased and whose wage increases are thus covered neither by them nor by anybody else. And wage increases without material coverage - if they are on a large scale - threaten with upsetting the balance between the commodity stocks and the outflow of incomes. It is a widespread view that - especially under the present conditions - in order to increase productivity at a faster rate, we also have to assume bigger tensions in wages and greater disproportions in incomes. It follows from what we have just said above that we have to think it over very carefully how far we can go in this field. When deciding, the above described negative effects which "spill over" also have to be taken into consideration.

The inequality of the possibilities of increasing productivity cannot be eliminated, they are the necessary concomitants of any development. The negative consequences of stronger

financial stimulation can be eased by establishing an appropriate relationship between performance requirements and the related wages. In the first place, there is a need for *appropriate performance requirements*, because "the present system of regulation is characterized by stimulation without definite requirements";¹⁷ and stimulation without requirements is nothing else but throwing money down the drain.

The requirements in case of work performance which can be relatively well measured (not very complicated, repetitive jobs) have to be different from those where the work performance cannot exactly be measured. In the first case, the solution lies in the co-ordination of the relationship between the performance requirements and the related wages (i.e. the reduction of the disproportions existing in this field), possibly not only within a company but also between companies. The "harmonization" of wages independently of the performance requirements - which is a strong tendency - considerably curbs stimulation for increasing productivity by limiting its possibilities. Not only wages must be co-ordinated but the related performance requirements as well. There should not be too big differences in the remuneration of performances of a similar level either within a company or between companies. (In the industrially advanced capitalist countries, such co-ordination activities are carried out by the organizations of both the employees and the employers. And the trade unions control not only the wages but - especially in the case of disputes - also the performance requirements.) A more daring stimulation for increasing productivity - which is really needed nowadays - involves the serious negative consequences outlined above the least if it is based to an increased extent on well-founded and co-ordinated performance requirements. The road leading to it is rather traditional: the development of the *calculation of industrial (work) norms*, which has been so much neglected these days. Naturally, we cannot wait with stronger stimulation until it is based on performance requirements which are absolutely firm in every respect and are also co-ordinated on a national economic level (actually, such a situation will never exist in reality, because the developing state of balance becomes upset

again and again, and it has to be restored continually). The efforts aimed at realizing this goal should be completed with the "drawing forth" of the yet untapped reserves of productivity through increased stimulation, even at the expense of minor disproportions. In other words, we do not completely reject this latter method, but in our view it can only be applied with very great care and caution, and it cannot be the main way of easing the problem.

*SOME QUESTIONS OF THE ELABORATION AND THE CHANGING
OF WORK NORMS*

The elaboration of work norms as well as their changing in line with the changes in circumstances also have their own immanent contradictions, having the same roots as the dilemmas of stimulation for increasing productivity have. Loose norms do not stimulate, whereas the frequent readjustment of norm prompts the workers to withhold performance and hinders their innovative initiatives as well as the revealing of their innovations. (The revealed improvement of the working method sooner or later leads to the readjustment of norms. Therefore, in the majority of cases, it is better for the worker to conceal his innovation. The direct advantages resulting from the innovation bonus may be smaller than the long-term advantages resulting from loose norms.)

The withholding of performance shows an especially strong tendency where the readjustment of norms takes place merely in a statistical way, on the basis of the percentage of performances. However, this cannot fully be eliminated, because technically founded norms can only be elaborated for a part of the work tasks. And the technically unfounded norms turn out to be loose only after a time, perhaps just from the high percentage of performance, and such norms have to be readjusted in order to increase their stimulative effect or in order to reduce the disproportions in wages even if there have been no changes in the technical or the working conditions. With an increase in experience, even the technically founded norms may become loose, and this again necessitates their change.

All over the world, efforts are made to solve these contradictions. In the Soviet Union, for example, there are companies which attempt to make the workers themselves interested in the readjustment of the norms or in taking initiatives to that effect. In case the readjustment is initiated by them, half of the wages saved in this way are distributed among them as wage compensation for a period of several months. At some other places, they have developed such a system of stimulation that it is a better choice for the workers financially to fulfil the strict norms to 100 per cent than to overfulfil the loose norms. Solutions of this type may sometimes produce good results, but they rather have only temporary effects and are naturally unable to eliminate the contradictions themselves. The most expedient solution seems to be to apply, wherever possible, technically founded norms. The readjustment of norms should become an element of production and work organization. Centrally initiated readjustments of the norms are rather able to limit the outflow of purchasing power only, than to promote rational stimulation, and they usually strengthen the withholding of performance.

Norms should not exclusively be regarded as a category of wages according to performance, since in many cases, they are also a precondition of the proper organization of the work of those who receive time-wages. Time-wages linked with definite performance also require the establishment of norms. Furthermore, the merging of different jobs or the reduction of the work force operating the equipment should also usually be preceded by norm-analysis because this can reveal the reserves and thus provide a sound basis for the reduction of the work force. The establishment and calculation of norms could also have great significance in simple office work and in office management where work organization is extremely weak, jobs are often separated without justification, and for new tasks always new workers are employed. The latent - or not so very latent - labour force reserves could in the first place be explored through the application of adequate norms. The laying down of performance requirements on the basis of norms could lead to a

significant increase in work intensity as well as to a reduction in the work force at many places.

In Hungary, one of the major obstacles to carrying out norm analyses at a higher level is the deficiency in the qualification and the aptitude of those engaged in this activity. This also compels the norm calculators to accept compromises and to retreat from time to time in relation to the workers who have more practical experiences concerning the performance of the given task and who are, naturally, primarily led by their own interests in this question. (The existing shortage of labour also influences the determination of norms negatively.) The deficiency in the qualification of norm calculators is connected with the low level of remuneration of this job, that is, with their low wage level. As a result, in many cases such people are employed as norm calculators who are not fully qualified for this job. Naturally, this low wage level is also an expression of the fact that this work is not appreciated properly either by the companies or by society.

THE UNCERTAIN MEASURABILITY OF A SIGNIFICANT PART OF WORK PERFORMANCES

The development of the calculation of norms and the application of technically founded norms are extremely important wherever there is a possibility to do so. However, in the final analysis, it is only possible in a very limited field of activities, as in the case of a significant and ever increasing part of the jobs, traditional norms cannot be applied and the performance requirements cannot be expressed in figures. As it has already been mentioned, modern large-scale industry has raised such requirements against workers - reliability, accuracy, ability of adaptation, etc. - which can only be measured indirectly and with uncertainty, and which can hardly be expressed quantitatively. This same holds true, to an even greater extent, for engineers and economists, as well as for anybody engaged in any complex work. It is not by chance then that financial "egalitarianism" and the differentiation of wages on the

basis of mere formal factors (educational level, seniority, age, etc.) are the most frequent in the case of these types of work.¹⁸

Work performance that cannot be measured in an exact way is also very frequent in the non-productive sphere: in education, health service, etc. In these areas, the object of the activity is the human being itself and therefore the quality of work has especial significance and the mistakes may have extremely serious consequences; at the same time, however, it is very difficult to control quality (in many cases the results achieved depend to a great extent on factors which are independent of the influence of the person carrying out the activity, e.g., the composition of classes in the case of teachers, etc.). That is, the uncertain measurability of work performance is also characteristic of these areas, and the possible directions of the easing of its effects are probably similar, too.

In the case of the evaluation of work performance that can only be measured with uncertainty and never exactly, it is difficult to avoid that those moments which can only subjectively be measured should come to the foreground.¹⁹ In these areas *the individual value judgement of the immediate superior* should be granted much greater prestige and role instead of some forced, inadequate measure. Here there is no possibility to choose whether wages should be differentiated on the basis of exact criteria or on the basis of partly subjective judgements. The question could rather be put in the following way: either we give more room for the individual value judgements of the leaders or we give up effective stimulation and give way to "egalitarianism" and to wage differentiation on the basis of merely formal criteria.

The wages of the individual workers - at every level - should basically be determined by their immediate superior who knows them the best. The determination of wage differentials should in the first place belong to the sphere of authority of the foreman, the department head, etc. As it was already mentioned above, the situation is not satisfactory in this respect, as the role of the immediate superiors in wage differentiation is rather limited. The medium- and low-level leaders at com-

panies have not enough possibilities to decide on the waging of their staff workers.²⁰ There is a view that nowadays leaders have the least authority in the questions of waging. There is much truth in it. The extension of the authority of immediate superiors in waging also requires the strengthening of their overall prestige, that is, their "power position".

Many people oppose that the characteristics which can only subjectively be evaluated should receive more weight, because they identify this with subjectivity, partiality and biased value judgement, and they think that if greater role is given to the individual leaders' value judgement, it means to give free way to their arbitrariness. However, this identification is wrong. We have no reason to suppose that leaders would make use of their increased authority in a partial and biased way as a matter of course. But, even if this were the case, there are means which could greatly reduce that danger. They are the following: (1) the appropriate selection and interestedness of leaders; (2) the assertion of the role of control of the work place collective; (3) the application of such methods of performance evaluation, which make the basically subjective evaluation more founded by building objective elements into it. The first of these means, the selection and interestedness of leaders, was - at least in broad outlines - already discussed above. The second, the role of the work place collective, will be discussed further below in more detail. Here, I would like to make a few remarks with regard to the third.

Several attempts have been made both in Hungary and abroad to make leaders' evaluations better founded. The best known and most widely spread are the different "point systems". These evaluate, by points on a scale, the fulfilment of various requirements (which can usually not be measured), and the results of this evaluation are then reflected in the wages. Although this does not make the basically subjective evaluation objective (already the selection and the weighting of the factors to be evaluated contain subjective elements, and giving a "mark" unambiguously reflects the leader's value judgement), nevertheless, compelling the leaders to study the work of their staff more thoroughly and in detail makes their evaluations undoubt-

edly more founded. Naturally, the point system is only one of the procedures aimed at making leaders' evaluations more founded. The adequate ways and means should be looked for everywhere in harmony with the given circumstances.

Even in the case of jobs that cannot be measured in an exact way, efforts should be made to evaluate the work done in as well founded a way as possible, that is, to measure the "immeasurable".²¹ People are inclined to evaluate even the performance of those engaged in very complex work on the basis of factors that can be measured relatively easily, primarily on the basis of quantitative factors. (Even the performance of scientific research is often evaluated on the basis of the number of publications.) In fact, generally it is just the most important factors that can be measured the least. Leaders have to undertake to "measure" these as well. They have to dare to "measure", and they have to be granted the necessary support for this.

SOCIAL PRESSURE IN THE DIRECTION OF LEVELLING

The increased role of leaders' value judgements - as it was already discussed above - has to be accompanied by the control of the work place collective. Although it is true that the involvement of the collective in performance evaluation does not make it objective - since the collective, too, can only evaluate in a subjective way if there is no objective measure -, it is hoped that due to a bigger number of opinions, many of the errors following from subjective evaluation compensate each other and, in this way, the result will become more realistic. However, this does not mean at all that every problem is thus solved. This is rather a possibility only. It would be harmful demagogy to accept the view that "the word of the people is the word of God". The collective may also be wrong, and its attitude should also be formed and developed. Nowadays, there is an especially strong tendency in the views of the collectives in general, and in Hungary in particular, to support levelling, which definitely curbs effective stimulation. This attitude generally promotes "equalization", is opposed to

a deviation from the average wages in either direction, that is, tends to curb the development of both essentially higher and essentially lower than average wages. The well-known reluctance of leaders to substantially differentiate wages in the same jobs is closely related to the fact that the collective or the unions or other social organizations representing the collective do not, or hardly, support them in these efforts.²²

Although in the case of performances that can well be measured objectively there is also a strong social pressure in the direction of levelling, it is still stronger in the case of performances that cannot be measured exactly, viz., in the case of especially complex jobs. In these fields the collectives - and also the organizations representing them - often incline to tone down the recognition of outstanding individual performances. (This holds true not only of financial rewards, but also of the granting of decorations and titles which mean higher social prestige. There is a tendency also in this field to ensure that possibly everybody would have sooner or later his or her turn.) This is likely due to the fact that at every work place - and this is but natural - those constitute the majority who have average abilities and performance (compared to the level existing there), and consequently, they can exercise considerable influence on the public mood there. If there is no strong counterforce to their influence, the activities of outstanding creative individuals will become limited and mediocracy will prevail; the serious economic and social consequences of this situation do not need any special proof.

This danger is not only an abstract possibility but a very real one, especially because leaders in Hungary have a double dependence. On the one hand, they depend on the higher level management and, on the other, on the collective under their leadership as well as on the organizations representing that collective. They undoubtedly need the support of the latter ones for gaining and maintaining their position as well as for their possible promotion. All this means that the possibility of differentiating wages as required for the stimulation of productivity increase depends to a considerable extent on the degree of support of the members of the collective as well as

of the social organizations which represent and at the same time control and shape the collective.

However, opposition is not confined only to the differentiation of wages, it also affects the differentiation of performances. There also exists a tendency which gets the members of the collective to produce only the usual performance. Those who regularly produce more than usual often feel a grudge against themselves and they may even be frozen out.²³

This phenomenon occurs not only among manual workers, but also among the most highly qualified intellectual workers. The explanation is the one and the same: those providing an outstanding performance harm the relative position of the others, their activity may lead to more severe norms either in the direct or in the abstract sense of the word. Obviously, wherever this happens, it means that the group interests take the upper hand over the all-social interests.

In an earlier section of this study, I described an extension of the immediate superiors' authority to influence wages as a precondition of effective stimulation. However, experience shows that the extension of the medium- and low-level leaders' authority to influence waging is ineffective if the social pressure aimed at levelling is strong, and as a result, no extensive wage differentiation takes place.²⁴

Perhaps the most important precondition of a more considerable differentiation of wages, which is needed for a more effective stimulation of productivity increase, is the forcing back of the pressure aimed at levelling. In other words, it should be achieved that the social organizations exercise an effect on the collective so that it would not curb but rather assist the leaders' endeavours to differentiate between wages and to assert their founded value judgements. This is a very difficult task, but without it there is hardly any chance of progress in the problem under examination.

Differentiation does not necessarily mean individual differentiation. It was already mentioned above that in modern production, in the case of group, brigade, etc. work, the performance of the individual worker often cannot be separated from that of the others. In these cases, the - largely unfounded -

differentiation between individuals should not be forced, instead, differentiation between groups and smaller collectives should be applied on the basis of performances which can really be measured. This type of differentiation is often welcomed by the general public as well. (In the past, every member of a harvest team was demanded to work according to his or her abilities, but there was no differentiation in the distribution of income; only the lazy ones were not tolerated. The remnants of this spirit are still alive. Instead of eliminating this spirit, it should be used as a basis to build on in appropriate cases.)

I have started to study economic questions, and yet the final conclusions are not purely of an economic character. This is due to the fact that the causes are not simply economic either, and the directions of the solution can only be found on the basis of the causes.

CONDITIONS, OUTSIDE THE COMPANY, OF EFFECTIVELY STIMULATING PRODUCTIVITY INCREASE

The effective stimulation of productivity increase and the use of wage differentials for this purpose raise several requirements against the economic environment of the company, too. These requirements form some of the conditions of further development. Out of these conditions - each of which might be the subject of an individual study, and many of them actually are - I only pick out a few as a reference, confining myself only to those which are related to the question under consideration.

HARMONY BETWEEN THE DEMAND AND SUPPLY OF LABOUR

It is a precondition of an effective differentiation of wages required for the stimulation of productivity increase that the demand and supply of labour would globally and structurally correspond to each other in the national economy. Under the conditions of a large-scale shortage of labour (and from this point of view it makes no difference whether there is a

real shortage of labour, a surplus of jobs, or "simply" a "shortage of performance"), wage differentials according to performance can only be realized to a very limited extent, because workers adversely affected by differentiation threaten to leave the company which might already be struggling with a shortage of labour.²⁵ In addition, in a situation where there is a competition for the labour force, the companies usually do not have adequate financial means to differentiate between the wages according to performance, as the majority of their possibilities to increase wages are exhausted by attracting new labour force through higher wages.

The differentiation of wages necessary for the stimulation of productivity increase is hindered not only by the global shortage of labour, but also by the structural shortage of labour, that is, the structural non-correspondence between the demand and supply of labour. The problem here is not only that in the areas struggling with a shortage of labour the above-outlined phenomena will appear, but also that the mentioned structural non-correspondence may distort the wage structure in such a way that it might have a very serious negative effect on economic development as a whole. For example, the large-scale shortage of those engaged in relatively simple or physically strenuous work and, simultaneously, the relative abundance of highly qualified labour force lead to the inadequate remuneration of the latter, the serious consequences of which have already been discussed above.

Although the shortage of labour makes wage differentiation according to performance and the insurance of work discipline needed for an adequate level of productivity very difficult, it is nevertheless not the only factor playing a role in their formation. The formula is not as simple as follows: surplus of labour = strict work discipline and effective wage differentiation; whereas, shortage of labour = loose work discipline and limited possibilities of stimulation. There are several countries - in the first place among the developing countries - where despite a large-scale unemployment, work discipline is loose and financial stimulation is not very effective. At the same time, in the first place in the industrially advanced

countries, often even under the conditions of full or almost full employment, work discipline is relatively high and stimulation is effective. The factors playing a role in this have already been discussed partly: the technological level, the organization of the work process, the level of general and technical culture, the relationship between the financial demands and the possibilities of their satisfaction, etc. Not every problem related to financial stimulation is rooted in over-demand for the labour force. It seems that the shortage of labour sometimes serves as a cover for weak leaders to conceal their own faults under it.

There is a close interrelationship between the shortage of labour and wage differentials according to performance: shortage of labour hinders wage differentials according to performance, whereas one of the best ways of decreasing the shortage (over-demand) of labour is to effectively stimulate workers to realize labour force saving. Naturally, this is not the only way and not even the most important one. The best way of eliminating the shortage of labour, or at least significantly decreasing it, is to abolish the remnants of the general "economy of shortage".²⁶

APPROPRIATE INCREASE IN THE LEVEL OF REAL WAGES

As workers are justified to demand a gradual increase in their living standards - and apart from some quite exceptional cases, differentiation cannot be realized through reducing the wages of a part of the workers -, wage differentials according to performance presuppose an appropriate rate of increase in the average wage level. A faster rate of increase in the wage level creates more favourable conditions for differentiation, whereas the slowing down of the increase in the (real) wage level necessarily leads to the strengthening of levelling tendencies. Here, we are again faced with a vicious circle: stronger differentiation of wages requires a significant increase in the wage level, whereas the sources of a faster increase of the wage level can be created just by a stronger dif-

ferentiation of the wages. To get out of this circle is one of the most difficult tasks, the solution of which should be started - in all probability - from the side of the other conditions of more effective wage differentiation and faster productivity increase.

From the point of view of the question under consideration, it is not the increase in the nominal wage level but the increase in the real wage level which has a significance, since it is basically this latter one which limits the possibilities of differentiation. True, temporarily, that part of the wage level increase which is above the increase in the real wage level can also be used in a differentiated way to some extent. It may happen - and it does happen - that price increases are not immediately compensated by an adequate nominal wage increase for every worker or every group of workers. However, this means that the real wages of these workers or groups of workers temporarily decrease. Obviously, this possibility should only be utilized to a very limited extent. Every worker is entitled to the compensation for the price increases: it is not a wage increase. Therefore, differentiation can generally only be carried out within the framework of a real wage increase.

Growing consumer price level - even if the growth of nominal wages surpasses it (i.e. even if real wages grow) - exercises an influence in the direction of levelling wage differentials both in general and according to performance, and the faster the price level grows, the stronger this influence is. This is primarily due to the fact that compensation for increasing prices cannot be accurately regulated for every group of workers, and even less so for every individual worker. Those who determine the wages take understandably good care to ensure that the lowest paid workers be fully compensated, and this generally means that this stratum gets an overcompensation at the expense of the higher paid workers. When the price level increases at a fast rate, then instead of the wage differentials according to performance, it is the compensation for the price increase which comes to the fore. But anyway, a fast-rate increase in the price level strongly hinders the effect of any

sort of financial stimulation, since under such conditions it is less sensible to save for future family investments or purchase of a higher value.

It is a precondition of the stimulating effect of extra wages received for extra performance that the increased amount of money could be used properly, that there should be an adequate assortment of commodities.²⁷

The fascinating shop-windows, the appearance of newer and newer goods on the market and the extensive prestige consumption are an integral part of the capitalist system of stimulation. The extension of the assortment of goods and an adequate supply of goods enhance the stimulative effect also under socialist conditions. However, one has to reckon with other tendencies as well. First of all with the general phenomenon that the possibility of acquiring a better, more fashionable and more modern version of a commodity with identical functions is not always as tempting as was the possibility of acquiring the first one of this type of commodity. Namely, the first car, the first washing machine or refrigerator naturally brought about a bigger change in the life of the family than does its replacement later by even the most modern type. And Hungary is more and more in the phase of replacing the durable consumer goods. The solution must presumably be sought in a considerable growth of the supply of services, especially those services which help people to have more leisure time as well as those which promote the spending of this free time in an ever more pleasant way and on an ever higher level.

THE SYSTEM OF COMPANY WAGE REGULATION

The system of company wage regulation in Hungary is seen by many people as the main obstacle to stimulation for increasing productivity. Actually the question is much more complicated. It is true that the system of wage regulation has contributed to a considerable extent to the "equalizing" features of the practice of waging. At the same time, however, the various contradictions of the system of wage regulation largely stem

from the basic dilemmas of stimulation for increasing productivity.

Any wage regulation has its own immanent contradictions which stem from the circumstance that the possibilities of increasing productivity are very different in the various branches and companies. If the increase of productivity is strongly stimulated - which can in the first place be realized by increasing the wages proportionately to the productivity increase or to some other indicator which reflects the results of the productivity increase -, then serious disproportions will emerge in wages. However, if the possibility of creating disproportions in wages is considerably limited, then stimulation for increasing productivity or efficiency can only be realized to a limited extent. Every system of wage regulation is faced with this dilemma - one promotes the assertion of one side, the other assists the realization of the other side, but in the meantime each of them is compelled to accept a compromise to varying degrees in this respect.

The solutions - in their absolute form - which regulate the wage level, limit the creation of disproportions in wages, or more precisely, they prevent the wages from growing faster in one area than in the other. At the same time, they consequently also limit the possibility of stimulating an increase of productivity. The methods which regulate the relative wage level and make the increase of the company's wage level dependent on some indicators reflecting the company's results are intended to ease this problem.

The method - in its pure form - which regulates the *volume of wages*, makes a strong stimulation for increasing productivity possible; at the same time, however, it involves the danger of disproportions in wages, of extreme growth rates of wages and, as a result, the tendency of a general, unfounded increase in wages. To prevent such developments, "brakes" are built in which make wage increases over a certain limit very difficult (expensive) or sometimes even impossible for the company. However, that also slows down the stimulation of productivity increase. So we have returned to the regulation of the wage level.

As it could be seen above, an adequate increase in the average wage level is a precondition of wage differentiation required by the stimulation of productivity increase. First of all this is the point where the system of company wage regulation exercises an effect on the possibilities of wage differentiation. It is not the *type* of wage regulation which limits the possibilities of stimulation, but the *extent* of the wage increase at the company it makes possible. And this explains why different systems of wage regulation having in theory opposite effects - in case the increase in the wage level they make possible is similar - lead finally to very similar practical results.²⁸ A regulation of the volume of wages which is limited by a strong "break" of wage level increase may slow down the differentiation of wages to a greater extent than a regulation of the wage level which allows a higher average wage increase, and vice versa.

However, greater average wage increase creates only the financial possibility for stronger wage differentiation according to performance. It is a different question, how much the companies utilize this possibility. It basically depends on the power relations between the already discussed pressure for levelling and the efforts aimed at combatting it.²⁹

It is a widely accepted view that a stronger differentiation of wage increasing possibilities *among the companies* is the precondition of stronger wage differentiation *among individuals*. Formulated in this way, it does not hold; there is not such a close relationship between the two. Undoubtedly, it is advantageous if the collective as a whole has some common interest in the development of the company's results. On the one hand, this can really extend the financial resources so that outstanding individual performances can be rewarded and, on the other, it may create more favourable conditions for combatting the tendencies of levelling. (If the favourable company results are advantageous for the whole collective, then presumably the higher rewards paid for the individuals who contributed to these results with outstanding performance are more easily accepted.) However, the significance of these factors should not be made absolute, their realization depends on many other cir-

cumstances. The main precondition of stronger individual wage differentiation is not the considerable differentiation of wage increasing possibilities among companies, but rather the circumstances which were discussed in the previous chapter.

Besides the ones discussed, there are several other problems, outside the company, of the effective stimulation of productivity increase. Among others, the widening circle and the increasing extent of non-official (invisible) incomes which very much decrease the stimulative effect of official wages. I shall discuss some of these problems in the following chapters.

NOTES TO CHAPTER 4

- 1 This chapter has been written on the basis of a study made jointly with Mihály Kopányi and Erzsébet Poszmik.
- 2 There have been several attempts at numerically expressing the *combined effect* of the factors outside technical equipment and *applied technology*. According to different estimates, for example, in the industry of the Soviet Union, the improvement of the organization of production and work - including the development of financial stimulation - has accounted for almost half of the increase in productivity over the past few years [see: Пути повышения эффективности использования трудовых ресурсов в социалистической экономике (Ways of raising the effectiveness of manpower in the socialist economy), АН СССР, Институт экономики мировой социалистической системы, часть II, Москва, 1977, с. 160].
- 3 See "A magyar és egyes fejlett iparu nyugateurópai országok gépipara termelékenységének összehasonlító elemzése" (The comparative analysis of productivity in the machine industries of Hungary and certain industrially advanced West European countries), OMF, Budapest, August 1969. (Mimeo.)
- 4 In everyday usage, the difference between the concepts of interestedness and of stimulation is often blurred. In fact, the difference is very great. If somebody's wages are made dependent on the number of sunny days, then he or she becomes interested in the sun shining more, but naturally, this would not stimulate him or her to do anything - unless he or she is a religious person because then he/she would pray. The example is undoubtedly extreme, but it nevertheless happens in reality - and not too rarely - that workers are made to be interested in something on which they do not have much more influence than on the number of sunny days.
- 5 The question is raised in a different way with regard to team work where the result of the work of the individual

members does not separate from the performance of the others in the team. In this case, however, it is impossible to realize wage differentiation according to performance among the individual members.

- 6 Workers' influence on the level of productivity depends to a decisive degree on their general and professional qualification. The examination of this problem, however, exceeds the scope of this study.
- 7 The scope of application of the piecework rate shows a decreasing tendency all over the world. As a result of the fact that the importance of the above-described characteristics has increased, the application of the piecework rate has decreased even among those forms of stimulation, which are oriented towards increasing the quantity of production. In England in the mid-19th century, four fifths of the workers were employed in piecework. Nowadays, this ratio does not even reach 30 per cent in the industrially advanced capitalist countries, and it also shows a decreasing tendency in the socialist countries.
- 8 In production of this type, the individual performance of workers rarely separates from each other, and therefore, collective premiums are more often applied than individual ones.
- 9 See Büti, L.: A bérezés hatása a vállalati közvéleményre, a dolgozók munkamagatartásának, munkamoráljának alakulása a vezetői munka szemszögéből (The effect of waging on public opinion at the company, the development of workers' behaviour at work and their work morale from the point of view of managerial work), Szocialista Vállalat Kutatás, Study No. 205, Budapest, 1976 (manuscript).
- 10 "Company independence depends not on the regulators, but on whether we have independent thoughts" [from a report with Jenő Bors, Director of Hungaroton, in the weekly *Élet és Irodalom* (Life and Literature), March 11, 1978, p. 7]. Even if there is some exaggeration in this statement, there is also some deep truth in it.
- 11 Generally, group and brigade leaders also work under the control of foremen. They are regarded as the low-level leaders employed in production. Besides fulfilling their leading tasks, most of them also take part directly in production.
- 12 To increase the productivity potential is naturally the special task of a group of medium-level leaders, namely, the heads of those departments which deal with the development of products and of production as well as with investment activities, etc. Foremen, who are regarded here as medium-level leaders, are able to exercise an effect on the increase of the productivity potential only in exceptional cases, and even then not in their capacity as leaders but rather as experts (based on their accumulated production experience, through the realization of technological innovations, etc.).
- 13 See Nagy, I.: A termelés közvetlen irányítóinak szerepe, helyzete és anyagi ösztönzése (The role, situation and financial incentives of direct producers), Budapest, 1976 (manuscript).

nancial stimulation of the direct controllers of production), (Doctoral dissertation) 1975.

- 14 *Ibid.*
- 15 See Bánki, P.: A bérezés helye és szerepe a hatékonyság fokozásában. A dolgozók társadalmi, gazdasági ösztönzése (The place and role of waging in the increase of efficiency. The social and economic stimulation of workers), 1974, p. 12. (Mimeographed.)
- 16 "Base interest" means that an individual or a group or a production or economic unit is interested not in the absolute level of its performance, but only in the increase of its earlier performance.
- 17 See Bonifert, D.: Bérszabályozás és munkadíj-meghatározás (Wage regulation and the determination of wages), *Közgazdasági Szemle*, May 1978.
- 18 "Social sensitivity calls for equalization exactly when there is no objective measure to compare the different types of jobs, or when the inaccuracy of the measure used is so big that we do not know how much we have erred in the comparison" [Hergár, Gy.: Hozzászólás és javaslat a vállalati keresetszabályozás nyitott kérdéseinek megoldásához (Contribution and proposal to solve the open questions of company wage regulation), *Közgazdasági Szemle*, December 1978, p. 1483].
- 19 "In intellectual professions... in the differences of wages within the same profession a role should be granted, by necessity, to factors of performance, that in many respects can only be evaluated in a subjective manner." (Excerpt from the report of Gábor Révész at the conference on "Stimulation, Distribution according to Work and Wage Regulation. The Economic and Social Stimulation of Workers", Budapest, 1974, pp. 4-5, mimeographed.) In fact, this statement holds true not only for intellectual professions.
- 20 See, in this respect, Alfréd Sinkovits's contribution to the "Conference on the Problems of the further Development of Company Wage Regulation", November 29, 1977, published in *Közgazdasági Szemle*, February 1978, p. 223.
- 21 Zsuzsa Ferge writes: "it would be a basic social task to better approach the possibilities of measuring the immeasurable, and to make the principle and practice of wage differentiation according to performance accepted..." [Ferge, Zs.: Keresetek, jövedelem, adózás (Wages, incomes, taxation), *Valóság*, No. 3, 1978, p. 29.]
- 22 People more easily accept hierarchical wage differentials due to position than wage differentials in the same job depending on performance. This - as it was already discussed above - follows from the fact that while wage differentials by position qualify the job, wage differentials by performance qualify the individual.
- 23 This is discussed, for example, by K. Fazekas in his manuscript: "A dolgozók bér- és kereseti viszonyainak vizsgálata a Magyar Vagon- és Gépgyár Szerszám Gyáregységében" (A study

- of the wage and income relations of workers in the Tool Factory of the Hungarian Waggon and Machine Works), 1975.
- 24 During a survey conducted among shop-managers, the typical answer to the question about wage differentiation was the following: "I do not differentiate, because I have to work with these very same people tomorrow, too" [see Mrs. Werner, Gy.: A kiskereskedelem személyes érdekeltségi rendszere és a munkaerő-gazdálkodás ezzel összefüggő néhány kérdése (The system of personal interestedness in small trade and some related questions of labour force management), C.Sc. dissertation, 1977].
- 25 Under such conditions, it often happens that it is not the wages which depend on the fulfilment of norms, but on the contrary, the norms are established in a way that they would ensure high enough wages for keeping the workers who are attracted to some other company. Or, guided by the same consideration, the leaders urge the norm calculators to concede even when the workers' complaints about norms are unjustified [see Ladányi, E.: *Teljesítmény-előíráson alapuló biztosított órakereset és a mozgóbérendszer tapasztalatai* (Guaranteed hourly wages based on prescribed performance and the experiences of the system of sliding wages), published in the series of studies "Szocialista vállalat", 1976, p. 15].
- 26 The shortage of labour is often only one side of the overall "economy of shortage" (see Kornai, J.: *The Economics of Shortage*, North-Holland Publ. Co., Amsterdam, New York, Oxford, 1980.
- 27 As R. Hoch writes: "... generally it is not the higher amount of money in itself but the commodities which can be purchased from the increased wages... that stimulate for greater performance, for acquiring higher qualifications and for undertaking more responsible jobs..." [Hoch, R.: *Fogyasztáspolitikánk elméleti alapjaihoz* (On the theoretical bases of our consumption policy), *Társadalmi Szemle*, September 1977, p. 21].
- 28 "The basic problem of wage regulation is whether we should or may make wage increases at a differentiated rate possible, which means an increase in wage differentials among companies. Compared to this, it is of secondary importance which regulation technique we apply: the regulation of the volume of wages, or the regulation of the wage level." (From the contribution of Gábor Révész delivered at a conference on the "Problems of the further Development of Company Wage Regulation" held at Szeged on November 29, 1977; published in *Közgazdasági Szemle*, February 1978, p. 221.)
- 29 Every system of regulation is realized in a given social environment which also means that in the end it can realize a differentiation only to such an extent which is made possible by the public spirit, by the dominant ideas.

Effective financial stimulation through an adequate differentiation of wages has long been a recurring demand in Hungary. Under the present more difficult economic conditions, there is a renewed demand for it. However, not even a more differentiated wage scale, i.e. a wide range of wages, results in more effective stimulation if the wage differentials are random and unjustified economically, if they are not adjusted to the level of the tasks and their fulfilment and to the short supply of labour. Therefore, what is primary here is the direction of stimulation. If the direction of stimulation is given, then its intensity depends on the extent of the attainable wage differentials. Even stimulation in the right direction is ineffective if the attainable extra wages are insignificant compared to the extra efforts and sacrifices made.

Wage differentials - i.e. the percentage differences in wages - show a decreasing tendency historically and world-wide. In Hungary, wage differentials (viz. the differences between official wages in the socialist sector) have been diminishing at an especially fast and accelerating rate (cf. Table 20).

The so-called "index of differentiation" expresses how many times more are the average wages of those earning more than the average, than the average wages of those earning less than the average. This index is extremely sensitive, even its small decrease is an indication of the levelling of wages. And the table below shows a decrease in all the national economic sectors between 1970 and 1978. The extent of decrease during those 8 years was about the same as during the previous 15

Table 20. The differentiation of the average wages of full-time employees (on the basis of distribution according to the amount of wages in the socialist sector)

Sector of the national economy	Index of differentiation				
	1970	1972	1974	1976	1978
Industry	1.87	1.89	1.88	1.83	1.81
Construction industry	1.87	1.82	1.81	1.76	1.74
Agriculture and forestry	1.77	1.74	1.76	1.72	1.63
Transport and communication	1.71	1.75	1.76	1.75	1.70
Trade	1.95	1.92	1.88	1.85	1.87

Source: *Foglalkoztatottság és kereseti arányok* (Employment and wage ratios), 1976, p. 17.

Table 21. Percentage share of employees from the total wage fund, according to the amount of wages they earn

Year	lower 20 per cent	upper 20 per cent
1970	10.7	33.4
1972	10.8	32.8
1974	10.8	32.8
1976	10.8	32.5
1978	11.2	32.2
1980	11.4	32.0

Source: *Ibid.*

years. A similarly definite tendency of levelling is shown by the development of the share of the highest paid strata (cf. Table 21).

The examination of some of the aspects of the wage ratios one by one is more telling than the development of the global

ratios. From among them, we shall examine below the wage differentials according to performance and those due to employment position.

WAGE DIFFERENTIALS ACCORDING TO PERFORMANCE

At present, in the state-owned companies and institutions, considerably better and more work cannot earn considerably more wages than little work of weak or medium quality can. Usually, there are little differences in the wages of workers in the same jobs due to the differences in their performance. According to a survey conducted by the Ministry of Labour, the dispersion of wages in identical jobs amounted to only 30 to 35 per cent of the average wages, and a significant part of it was due not to actual performance, but mainly to seniority and to other factors that are only loosely connected with work performance. There is a need for a stronger stimulation of performance increase, and a more courageous wage differentiation adjusted to performance: it should be made possible that individuals and collectives producing outstanding performance could receive wages which correspond to their performance. This is also required by the demand for increasing productivity and improving efficiency. And this may also help ease the very disturbing wage tension existing between the state sector and the private sector.¹

Wage differentiation adjusted to performance depends to a considerable extent on the form of wages applied. If the scale of mass production is appropriate, the quality requirements are not too high, and both the qualitative and the quantitative requirements of performance can well be checked, the increase of productivity is best served by wages which grow proportionately to quantitative performance. They can be either piece-wages or such performance wages which express some characteristics of the worker that are not properly expressed in his quantitative performance but are nevertheless important for the company (professional experience, manysidedness, adaptability, etc.); this latter one can be solved in the form of determining an appro-

appropriate basic wage which is then either increased or reduced depending on the worker's quantitative performance. The scope of application of piece-wages - as it has already been discussed - shows a decreasing tendency the world over, due to the considerable increase in the significance of the characteristics just mentioned.

In the Hungarian industry, the application of quantity-oriented wage systems is justified in a relatively broad field. However, the ratio of those remunerated in such forms is low (it was 56.6 per cent in the state-owned industry in 1978), and many of them work in forms of a degressive type which have only a limited stimulative effect. This relatively low ratio is also connected with the existing system of company income regulation. Due to progressive taxation, that part of the company incomes which can be used for expenditures of a wage character increases degressively, that is, at a slower rate than the total incomes. This makes it difficult to apply such wage forms that are strongly stimulative. The complete elimination of the degressive character of company interestedness taken in this sense is hardly possible, because it plays an important role in keeping the outflow of purchasing power within reasonable limits, and this has great significance in a planned economy, especially these days. Its abolishment might lead to increased imbalances. However, the reduction of the scope or extent of degressiveness may be expedient.

No form of waging results in effective stimulation by itself. To achieve that, the fulfilment of many other conditions is also required. These include the good organization of work and production and on this basis the raising of appropriate performance requirements. No well-founded differentiation and, consequently, no effective stimulation is possible without well-founded performance requirements, without appropriate norms.

Where the conditions allow it, that is, where workers are not closely interdependent in the work process and their performances are clearly separated from each other, it is advisable to apply individual wages (individual performance wages). If under such conditions work is nevertheless remunerated by groups - and in the Hungarian industry, there are many examples

of this -, then workers with outstanding (above the average) qualities are made uninterested in displaying their abilities. However, in modern industrial production, there is an increasing number of work processes in which the performance of individual workers directly depends on the performance of their mates, and their results cannot be separated from those of the rest of the workers. (For example, this characterizes the chemical industry, the highly automated production units of the machine industry, etc.) In this case, instead of forcing the application of individual performance wages, wage differentials according to the real differences in their performances should be applied among groups and smaller collectives, because here it is not individual competition and the great possibilities of realizing outstanding individual performances, but rather good collective work and increased assistance to each other, which improve total performance. And this is better served by group waging and the related common interests. Group waging prompts the members of the group not to tolerate shirkers among themselves. If the company differentiates among the work groups (brigades) according to their real performance, the distribution of wages within the groups (brigades) can usually be left to them.

The introduction of group waging is the most effective if it is accompanied by appropriate changes in production and work organization. The most fortunate case is if there is a possibility to remunerate the groups (brigades) on the basis of the products they manufacture. There is little possibility for this in industry, within this the most possibility is in the construction industry, while there is more in agriculture. However, it is anyway advantageous if the activity of the work groups - according to the given technological circumstances - becomes independent in the production process to a certain degree, if they are granted certain independence in the organization of their activity, and the results of their activity appear separately. Hungarian as well as foreign experiences show that greater independence entails an increase both in the sense of responsibility and in the initiative of the group

members, and this improves both the quantitative and qualitative production results.

The establishment of groups and workshops working on a contract basis (and being responsible for their own finances) is, in all probability, one of the key issues of the already necessary renewal of the system of stimulation within the companies; this renewal has to be realized in the interest of an increase in efficiency. The direct shares of smaller communities from the results of their work have already proved to be effective in several areas of the national economy. It seems that we should proceed in the direction of extending this method, which of course is inseparable from the development of the contract system. Unfortunately, mainly as a result of reorganization and amalgamation of companies, the situation has deteriorated in this respect. The preconditions of the realization of the independent settling of accounts within the company include the reduction of production co-operation within the company, the increase of the independence of the individual economic units through a clear separation of the spheres of authority and responsibility, as well as the elaboration of indicators which make it possible to measure their activity, etc. However, that obstacle in attitude, which asserts itself in efforts aimed at levelling the individual incomes at the different economic units of the same company, irrespective of the differences in performance, should also be overcome.²

Understandably, substantial wage differentiation - with regard to either individuals or groups - encounters the greatest difficulties in those cases where the work performance or its results cannot be measured in an exact way. In these cases, the value judgement of the immediate superior should be given greater weight and prestige, since he is the person who knows the work of the individual workers best, and who, due to his position and qualifications, must have such an overview which enables him to form founded judgements. However, the value judgement of the immediate superiors should be granted a greater role not only when the evaluation of performances involves difficulties. The sphere of authority of these superiors should be increased in every area of waging. This again leads

to the question of the modernization of the system of internal company management, that is, to the need for an increased division of decision-making authority.

Wage differentiation according to performance is known to be an unpopular task. This is closely related to the social pressure in the direction of the levelling of wages. This pressure derives from the fact that the socialist ideal of social and human equality has gained ground and there has been fast approach in the level of demands of the various social strata, due to an increase in the level of education and the considerable social mobility. However, the extent of this pressure significantly curbs Hungarian progress and it is actually one of the greatest economic, political and social weaknesses.

Public spirit at the work places very often moves and exerts an influence in the direction of equalizing, it tries to curb the development of both considerably higher and considerably lower than average wages, and is inclined to tone down the acknowledgement of outstanding individual and group achievements. As it was already discussed above, the objective basis of this phenomenon is the fact that those with average performance constitute the majority and, therefore, they exercise a considerable influence on the local public opinion. It is not so rare that local social organizations also become the advocates of these levelling endeavours. And this may discourage even those enterprising leaders who would otherwise carry out substantial differentiation. Any form of equalization is very harmful especially in those areas which would require initiative and creative work of a high standard.

Unfortunately, the economically expedient stimulation is not necessarily just, too. For example, the distribution of such wages (or a considerable part of them) which have been gained through saving with the work force, among the workers who have achieved that saving could be a very effective stimulant of saving with the work force, but clearly the conditions for it are the most favourable at those places where the level of utilization of the labour force was previously low. Therefore, such a stimulation would place those who had worked well also earlier in a disadvantageous position. (Here, we are ac-

tually faced with the problem of the "base interest" - for explanation see footnote 16 in Chapter 4.) Naturally, the workers feel this unjust. The solution must be some sort of compromise, that is, the development of such a form of stimulation in which the disproportions in wages are only temporary. At the same time it should also be prevented that the temporary disproportions in wages, which serve to bring the reserves to the surface, could have a transfer effect and lead to wage increases in such fields as well where the financial coverage is not produced for that.

It is a widely shared view that a faster rate of increase of the average (real) wage level favours the differentiation of wages according to performance, whereas its slower rate of increase or decrease limits it. However, there are also several researchers who say that no such relationship exists. The contradiction between these two statements is only apparent. In fact both of them are true. A faster increase in the wage level really creates a more favourable, whereas a slower rate of increase a less favourable condition for the differentiation of wages. However, the more favourable situation created by a faster increase in the wage level is only a possibility which often fails to materialize. Its realization may, for example, be prevented by such factors working against it as an increase in the tension of the labour force situation, the curbing effect of the regulation system, etc. At the same time, however, wage differentials may also grow under the less favourable conditions of a slower increase in the wage level, if other objective and subjective factors exert a strong influence in this direction.

The development of the consumer price level also has an effect on the possibilities of wage differentiation. An increase in the consumer prices, i.e. a faster increase in the nominal than in the real wages, may, temporarily, extend the possibilities of wage differentiation according to performance and consequently of stimulation, because differentiation in this case is directly limited not by the increase in real wages but by that in nominal wages.

It is also clear that an increase in the price level strengthens the tendencies of levelling. Since the compensation for the price increases cannot accurately be regulated by individuals or families and from a political and social point of view it is especially important to try to safeguard, as far as possible, the strata with the lowest income from the losses caused by the price increases, all this generally results in compensating those with lower incomes to a greater extent while those with higher incomes to a smaller extent. This is a fact which is proven by both Hungarian and foreign experiences. In our present situation when the world market significantly devalued our national work, not all the individual workers can receive the former reward for their work; at the same time the price increases are general and there is no possibility for complete compensation. Obviously, wage increases fully compensating for the price increases, or even greater wage increases, have to be given to those workers who have a greater than average performance, and we also have to use that stimulative force which might be elicited by the defence against a decrease in the formerly achieved real wages (living standards).

QUALIFIED WORK - HARD MANUAL WORK

The decrease in wage differentials due to qualification (the level of qualification) and, simultaneously with it, the increase in wage differentials due to the physical hardness of work represent a world-wide historical tendency. This is connected, on the one hand, with a general increase in the level of education and with the social assumption of an increasing part of the costs of training, and on the other, with the fact that the mechanization of hard manual work and the improvement of unfavourable working conditions proceed at a slower rate than the demands of workers on work and working conditions grow. This tendency also asserts itself in Hungary, but in a special way. Both international comparisons and everyday experience show that in Hungary while wage differentials due to the physical hardness of work and working conditions have been growing

at a fast rate, wage differentials due to qualification have excessively shrunk. The general acceleration of the tendency of wage levelling discussed above can be attributed to this latter process to a great extent.

The rapid decrease in wage differentials due to qualification can also be seen clearly among manual workers. This can be established with regard to the regular categories (skilled workers, semi-skilled workers, unskilled workers) too; however, if we examine the question by applying a more refined breakdown, the differences become even greater. Unfortunately, the necessary data are available only for a very short period, nevertheless, they unanimously prove the decrease of wage differentials due to qualification at almost every level (cf. Table 22).

Proceeding on the scale of job complexity from the simplest job to the most complicated one in the national economy as a whole, and in the three major sectors, the increase in the hourly wages shows a decreasing tendency. The hourly wages of those doing a complicated skilled job - with the exception of trade - grew at a slower rate than the wages of the unskilled and semi-skilled workers, and this growth was also slower than that of the wages of those doing some simple skilled job. It is worth mentioning that - contrary to public belief - the rate of increase of wages in industry was the fastest not in the case of unskilled workers, but in that of semi-skilled workers. This is characteristic of not only the short period under consideration; surveys covering longer periods also reflect the same tendency. This can be attributed to the fact that out of the unskilled workers, only the wages of those performing hard manual work grew at an exceptionally fast rate.

However, it is not only the comprehensive data which show the excessive decrease of wage differentials due to qualification among the manual workers. There is hardly any company or factory where one could hear no complaint about the fact that skilled workers with great experience earn less than semi-skilled workers, and sometimes even unskilled workers, performing simple work. The consequence in many cases is the migration of workers from their professions, for the training of which a considerable amount was spent and at the same time these work-

Table 22. Increase in the hourly wages of workers by categories of job complexity, between 1973 and 1976 (1973 = 100)

Category of job complexity	National economic average	Industry	Transport and communications	Trade
Unskilled workers	121	120	134	117
Semi-skilled workers	121	123	119	106
Semi-skilled workers doing complicated jobs	122	122	127	106
Skilled workers doing simple jobs	122	119	134	105
Skilled workers doing average jobs	115	114	121	111
Skilled workers doing complicated jobs	118	120	121	113
Skilled workers doing very complicated jobs	115	116	114	115

Source: A survey covering 600,000 workers, conducted by the Computer Technique Institute of the Ministry of Labour, commissioned by the Labour Research Institute.

ers are dissatisfied with their job and do their work in a dispirited way.

Recently there has been a sociological survey conducted at a vehicle manufacturing company to find out how dissatisfied workers of different categories were with their wages. A much higher ratio of those occupying key positions in production, including highly qualified maintainers, group leaders and adjusters, said that they were dissatisfied with their wages than of the semi-skilled machine operators working at the same place.

A reason behind this development of wages, often referred to in the professional literature, is that the ratio of lower qualified workers working in a piece-rate system or in some other form of performance wage system is higher and these systems

provide more opportunities for increasing their wages; whereas among workers performing some complicated work, time-wages are dominant. (The wage increases of workers receiving time-wages is usually below those of the workers who are working in a piece-rate system, since the wages of the latter grow automatically, without any special measure, if there is an increase in their performance.) Clearly, however, this is not the ultimate reason. We get closer to the facts if we accept the explanation that the companies have had to use most of their possibilities of wage increases to gain and to keep unskilled workers who have been available only to a limited extent, and therefore they have been left without financial means to acknowledge qualification in an adequate way.

The main reason behind the excessive shrinkage of wage differentials due to qualification and the rapid increase in wage differentials due to the physical hardness of work is the large-scale non-correspondence of the demand and supply of labour in this field, and - especially - the permanent extensive shortage of those who are willing to undertake physically burdensome work. (Naturally, in some of the skilled jobs work is also very strenuous physically, for example, the work of miners, foundrymen, metal casters, bakers, and there is a similarly great shortage of labour in these jobs as well, but due to a lack of space we cannot deal with their problems here.) The number of those who are willing to undertake hard manual work and to suffer unfavourable working conditions has been decreasing at a much faster rate than the number of such jobs, and therefore their occupation requires ever stronger financial stimulation. At the same time, the great shortage of those willing to undertake hard manual work is basically the consequence of the great general shortage of (over-demand for) labour. If people can select from among many job opportunities, they - understandably - do not crowd for hard and strenuous work, and are willing to undertake such work only in return for special financial advantages. If there is a general shortage of labour, it necessarily causes the most burning problems in the area of hard manual work.

Since the problem does not stem primarily from wage policy, its solution should not be sought in wage policy either. The great shortage of those willing to undertake hard manual work cannot be solved by the means of wage policy: this is only a symptomatic treatment with temporary influence and harmful by-effects; it should be solved through changes in the conditions of the labour force situation; namely, the mechanization of hard, especially strenuous manual work as much as possible, the appropriate development of the school system (structure of training), and the elimination of the large-scale general over-demand for labour.

The decrease of the scope of hard manual work through mechanization does not require any special explanation; however, the need for the development of the Hungarian school system (more precisely, the system of worker's training) does. The system of worker's training in Hungary is still exclusively based on traditional professional training, namely, it qualifies the workers for only relatively narrow individual professions. The educational administration would prefer to train every young worker to become a skilled worker; the future of young workers is generally regarded as promising if they have a profession and a school certificate as a skilled worker. However, the technologies applied in Hungary require semi-skilled and unskilled workers in about 60 per cent, and skilled workers of a traditional type only in the remaining 40 per cent. And in all probability, this situation will not basically change in the next one or two decades. At the same time, a continuously increasing ratio of the semi-skilled workers have to perform complicated work for which they also need basic general technical knowledge and certain abilities. In the majority of cases, modern production relations do not require life-time attachment to one's profession (today too many professions seem to be linked to special qualifications and too many people to some special profession), what they need is rather general as well as technical and economic culture and intelligence which may enable a much greater mobility of the labour force. The Hungarian system of training should be adjusted to these circumstances.

Without a global correspondence between the demand and the supply of labour, there is no structural correspondence either, that is, neither can the demand and supply of hard manual work be brought into balance. However, the general shortage of labour cannot be remedied by labour management regulations alone. It is the ultimate causes of the shortage that have to be remedied, and this requires the development of the economic and institutional system as a whole, and the elimination of the remnants of the general "economy of shortage".

THE WAGES OF TECHNICAL PROFESSIONALS

The conditions of work within a company are established by the technical and economic professionals through their development, organizational and control activities. It largely depends on them how production at the company is functioning and how the performance of the company - and within that, the work of the manual workers - is realized. Innovation and the development of the products and technologies are in their hands. The historical experiences of the socialist countries, also those of the Soviet Union, show that there is a close relationship between the acknowledgement of the professionals - including their financial acknowledgement - and the company results. Generally, wherever we see outstanding results, we can also find that the professionals are financially acknowledged.

Wage differentials due to qualification have shrunk not only among manual workers. There is an even stronger levelling between the highly qualified professionals - in the first place, technical professionals - and the lower qualified workers (Table 23).

These figures also include the data of higher paid technical professionals in leading positions. Without them, the percentage figures would be considerably smaller. The wages of highly qualified technical staff (i.e. professionals holding no leading position) was only 8.6 per cent higher already in 1975 than the wages of skilled industrial workers performing especially complicated work under so-called normal working condi-

Table 23. Wages of technical professionals in industry as a percentage of workers' wages

Year	Per cent	Year	Per cent
1955	172	1975	147
1958	158	1976	144
1960	157	1977	141
1964	154	1978	139
1970	151	1980	142
		1981	142

Source: *A lakosság jövedelmeinek alakulása 1950-1980* (The development of the incomes of the population 1950-1980), Central Statistical Office, p. 48; and *Foglalkoztatottság és kereseti arányok* (Employment and wage ratios), Central Statistical Office, corresponding volumes.

tions.³ Nowadays, the wages of staff engineers are only somewhat more than the average wages of skilled workers. Due to people's needs to take part in further education on a mass scale as well as to the strong attraction of intellectual work, this situation does not lead to a shortage of engineers in numbers, but it causes serious quality problems and leads to counter-selection. With a few exceptions, it is not the most suitable ones who go to the university to become engineers, and even they are dispirited and dissatisfied, and are compelled to supplement their wages with various extra incomes, and thus they use a considerable part of their energy, which would be indispensable for the company, "privately". These circumstances limit the requirements that could be raised against them.

A change in that situation - just like in the case of manual workers - does not require wage policy measures only. It is very important to understand that it is not a greater number of professionals that is needed, but rather, more talented ones with greater knowledge and a wider intellectual horizon; and for that, priority should be given to qualitative rather than quantitative goals in the training of professionals. Furthermore, there is a need to break with the view which, by simplifying the really important task of establishing and maintaining a balance in the financial situation of the different social

strata, intends to keep the wages of the manual staff and the non-manual employees within the company at an identical or almost identical level. The limitation of the earning possibilities of highly qualified professionals on this basis is harmful economically, and it is not advantageous politically either.

INCOMES OF LEADERS

The development of the earnings of highly qualified professionals holding no leading positions is not independent of the development of the earnings of leaders. The earnings of those in leading positions set a limit to the earnings of the professionals who are not in a leading position. The earnings of leaders - especially of those on the top - have grown at a considerably slower rate than the wages of the workers. During the past few years, the superior authorities have not raised the leaders' basic salaries, or only to a very small extent, and have also set the upper limits of their individual premiums and bonuses. The average wages of workers and other employees grew by 39 per cent between 1968 and 1974, and by 30 per cent between 1973 and 1977; at the same time, the basic salaries of top level leaders grew by only 21 per cent in the first and 15 per cent in the second period. Since 1977, the increase in their salaries compared to the wages of workers has slowed down to an even greater extent (Table 24).

Since during the past few years the increase in the consumer price level has accelerated and this - due to the structure of their consumption - reduced the real wages of the higher paid intellectuals to a greater than average extent, the decrease in wage differentials calculated in real wages is even greater.⁴

The holding back of the increase in the wages of top level leaders at companies had then an effect downwards and curbed the increase in the wages of medium and lower level leaders and of highly qualified professionals holding no leading positions.

Table 24. Average salaries of different groups of leaders and the average wages of manual workers at companies in the state industry (Forints per month)

	1975	1976	1977	1978	1980*	1982*
General managers, managers and their deputies	8,308	8,550	8,921	9,314	8,957	10,590
Heads of major departments and their deputies	6,862	6,999	7,483	7,949	-	-
Heads of departments and their deputies	5,511	5,717	6,068	6,421	-	-
Manual workers	2,790	2,959	3,531	3,741	3,952	4,636
The income of general managers, managers and their deputies as a percentage of the wages of manual workers	298	298	253	249	227	228

* Due to changes in statistical data processing, the figures given here for 1980 and 1982 cannot be directly compared to those of the earlier years.

Source: *Foglalkoztatottság és kereseti arányok* (Employment and wage ratios), 1976, 1978 and 1982.

Simultaneously, the difference in the earnings of leaders at different levels has also shrunk.

The holding back of the increase in leaders' salaries is usually explained by political considerations, in the first place by claiming that at a time of a moderate increase in the living standards, low wages must primarily be increased, and the increasing of the relatively higher earnings of leaders is offensive under such conditions. However, the question is more complicated than that. Undoubtedly, the feeling of satisfaction of individuals depends to a considerable extent on their relative situation, on the amount of their earnings compared to those of others - also including their leaders. But it depends to an even greater extent on the development of their own financial situation over time taken in an absolute sense. And the lack of an adequate financial acknowledgement of professional and managerial activities slows down the improvement of efficiency and economic growth, which constitutes the basis of a general increase in the living standards. And it hardly compensates the workers for a stagnation or an eventual decrease in their living standards if they know that the living standards of their leaders decreased to an even greater extent. In any case, the sense of justice of the workers is not so much offended by the salaries of their leaders, which are well-earned by hard work and which - as it is also shown in Table 24 - are not strikingly high, as by the much higher "invisible" incomes which are sometimes earned with work not proportionate to the income.

True, even if the relative, i.e. percentage, difference between the earnings of the leaders and of the staff decreases, the absolute, i.e. expressed in Forints, distance between them, and - with increasing living standards - the difference in the volume of the purchasing power tend to increase. Naturally, not even the salaries of the most successful leaders should be allowed to rocket. This would be incompatible with both our socialist order and the level of economic development. Neither their income should surpass the volume which under the given circumstances can be spent on personal consumption and on family investments serving this purpose. However, we are still far

away from this limit, and the boundaries and the content of the limits are always changing with progress.

The consequences of higher incomes should be made accepted nation-wide; namely, those who are "granted" higher incomes on the basis of wage differentials according to performance should also be granted a possibility of consuming in line with their needs; in other words, the natural consequences of higher incomes in the structure of consumption and the way of living should also be accepted. It is an impossible situation when higher wage differentials are accepted on the one hand, while the corresponding differences in the way of life, which are not violating our socialist concept of life, are rejected on the other. And in practice, one can often meet with this phenomenon.

The views supporting the holding back of the increase of leaders' incomes are rooted in the concept that financial considerations do not play a considerable role in the motivation and system of interestedness of leaders, as they are individuals who are socially committed at a high level. This formulation is a very simplified approach to the question. Undoubtedly, especially in the case of those holding high level leading posts, incentives outside the financial ones, namely, ambition, creative instinct, etc., do play a very great role, and the majority of company managers and chief engineers actually do their utmost even now and would therefore be unable to perform considerably more even if their salaries were doubled. However, the present income level does not favour optimum selection, it may result in counter-selection, and this is a problem which cannot be neglected at all. Economic managers as well as lower-level leaders should be selected not from among individuals with ascetic inclinations, or pretending to have such inclinations, but from among individuals who are the most suitable for such tasks due to their excellent abilities and their enterprising mind. It is very disadvantageous if leaders receive low salaries compared to their positions and tasks because it would seem to create some sort of a moral basis for making use of other advantages which might be available through the higher position. And if this practice gains ground, it can cause immeasurable political and social damage.

While leaders' earnings grew slower than the average, their number grew at a faster rate than the total number of workers and employees. In the productive branches, if we consider the total of working people, the increase was somewhat less than 1 per cent between 1973 and 1977, whereas it was 5 per cent for leaders. If the number of leaders increases excessively, it entails a growth in the number of the levels of management, which leads to an overcomplication of the whole company structure, which in turn reduces the efficiency of management. It seems that fewer but better paid leaders (with greater authority) could work more successfully.⁵

Let me summarize what I have intended to say in this chapter: the present stage of progress in Hungary requires an increase in the differentiation of wages. Wage differentials according to performance have to be increased, people have to be let to earn more money with more and better work, in a way that in the meantime the financial acknowledgement of higher qualification, greater knowledge and responsibility should also increase. We can hardly wait with this until the period of stagnating living standards comes to an end and we can once again start to increase them, because the increasing of wage differentials is a precondition of the increase of the living standards. Increasing wage differentials would not lead to an increase in the distance between the extreme values. Namely, on the one hand, the extremely high incomes are not born in the socialist sector, neither among the official wages. On the other hand, the primary factor of the dispersion of family incomes is not the volume of wages of the family members, but the ratio of earners and dependants in the family. And these disproportions should be reduced not through wages but through social policy measures.

Similarly to several other domains of society and the economy, we have lost illusions and become richer in experiences also in the area of stimulation and wage differentiation during the past decades. And these new experiences should be utilized!

- 1 Industrial workers can earn many times more if they are working for a private entrepreneur or on their own account than what they earn at their work place where they are full-time employees. The easing of this anomaly naturally belongs to the sphere of national economic policy; however, an increase in the income possibilities within the state-owned companies would help ease this tension.
- 2 On the question of an independent settling of accounts within companies, see Nyikos, L.: Az iparvállalati belső mechanizmus két időszerű problémájáról (On two timely questions of the internal mechanism of industrial companies), *Közgazdasági Szemle*, May 1978.
- 3 See Tóth, G.: Az értelmiség kereseti viszonyairól. Kísérlet egy analógiákon alapuló munkagazdasági elemzésre (On the income conditions of the intellectuals. Attempt at a work economic analysis based on analogies), *Munkaügyi Szemle*, 1979, Appendices I-II.
- 4 For example, between 1976 and 1978 the nominal wages of manual workers grew by 13.6 per cent and those of the intellectual employees by 11.9 per cent, i.e. the difference was not big. At the same time, the difference in the increase of their respective real wages was significant. According to certain calculations, the real wages of manual workers grew by 4.6 per cent, whereas those of intellectual workers by 2.6 per cent (see Tóth, G.: *op. cit.*). The price increase affected the intellectual employees with relatively high incomes - including the leaders working at companies - to an even greater extent than the entirety of the intellectuals.
- 5 This fast increase in the number of leaders is partly due to the fact that there is hardly any possibility to substantially increase the wages within the same job. In this way, we get back again to the problem of wage differentiation according to performance.

CHAPTER 6

THE SITUATION AND THE STIMULATION OF TECHNICAL PROFESSIONALS¹

The present slow-down of economic growth will, in all probability, not slow down but, on the contrary, accelerate the worldwide progress of technology. The same circumstances - namely, the scarcity of raw materials and energy, increasing environmental damage, etc. - which slow down the growth of production strongly stimulate technological development. More than ever, technological development will become the central factor in world market competition.

It is well known that during the past decades, Hungary's technological lag - i.e. the technical gap as compared to the industrially advanced countries - has increased in industry, and within that, in the so-called progressive branches, i.e. the ones with fast technological development, it has accelerated at an even faster than average rate. The further widening of this gap may involve very serious consequences, so its narrowing, or at least the stopping of its widening, is a question of vital importance.

Limited possibilities of imports and investments make technological development more difficult. This can only be compensated by a strong increase in the efficiency of creative work aimed at technological renewal. The competitiveness of Hungarian goods is primarily determined by the standard of the ongoing technical creative work.

It is often said that we spend the same or an even higher share of our national income on research and development than the industrially advanced countries. Recently, it has been pointed out at several forums that this statement is superfi-

cial, as part of the costs registered under this heading does not really serve research and development (they are simple production costs, etc.), that is, the officially documented 3.3 per cent would be less if it were calculated realistically. Presumably, such a correction would also modify somewhat the data on the number of professionals engaged in research and development. However, it would not change the fact that the level of supply of engineers is high compared to the level of our economic development, and it surpasses the level of supply in several industrially advanced capitalist countries; on the other hand, however, the level of efficiency of technical - and within that, of engineering - creative work is low in Hungary.²

In Hungary, there have been several attempts at assessing the efficiency of engineering work and at comparing it in an international context. The simplest method³ is to compare the Gross Domestic Product (GDP) per employee and the number of engineers per 10,000 employees. This index is then the amount of GDP per engineer (divided by 10,000), which, naturally, can only be accepted as the index expressing the national economic efficiency of engineering work with great reservations (among others, because the results of engineering work are rather reflected in the amount of value produced in industry than in the national economy as a whole). However, a certain relationship between the GDP and the success of engineering work can justifiably be assumed. As Table 25 shows it, the number of engineers compared to the GDP is extremely high in Hungary, or to put it the other way round: GDP is extremely small compared to the number of engineers.

According to an international comparison carried out in the 1960s and involving 18 countries, this value was the smallest for Hungary, which is undoubtedly a clear indication of the very bad efficiency of engineering work in Hungary.

Table 25. The efficiency index of engineering work in a few countries

	Corrected GDP (1,000 \$) per 10,000 active earners		Number of technical staff with higher education per 10,000 active earners		GDP (1,000 \$) per 1 technical staff member	
	1960	1970	1960	1970	1960	1970
Bulgaria	4,990 ^d	10,550 ^b	49	111	101.8	95
Czechoslovakia	24,260 ^a	32,250	-	135	-	238.9
GDR	26,450 ^c	38,000 ^b	29 ^c	68 ^b	912.1	558.8
Hungary	13,020	21,730	62	132	210.0	164.6
Poland	11,860 ^d	18,110	-	114	-	158.9
Romania	3,500 ^d	9,110 ^e	49 ^a	75 ^g	71.4	121.5
Soviet Union	-	-	101 ^f	236 ^b	-	-
Yugoslavia	9,450	17,180 ^b	30 ^a	86 ^b	315.0	199.8
Austria	30,190 ^a	51,960 ^b	-	36 ^b	-	1,433.3
Belgium	42,330 ^a	63,140	92 ^a	183	460.1	345.0
FRG	37,770	57,440	-	173	-	332.0
Finland	29,430	46,240 ^b	58	107	507.4	432.1
Great Britain	52,160 ^e	59,180 ^b	142 ^e	173 ^b	367.3	342.1
Italy	24,890 ^a	40,810 ^b	29 ^a	-	858.3	-
Norway	-	68,890	-	310	-	222.2
Sweden	54,570	82,120	48	129	1,136.9	636.6

a In 1961, b in 1971, c in 1964, d in 1956, e in 1966, f in 1959, g in 1968

Source: Révész, A. and Ladányi, A.: A felsőfokú képzettségű szakemberállomány nemzetközi összehasonlító statisztikai vizsgálata 1950-1970 (An international statistical comparison of the professional staff with higher education, 1950-1970), Research report, Felsőoktatási Pedagógiai Központ, 1979.

THE SIZE AND COMPOSITION OF THE STAFF OF ENGINEERS

If the national economic product manufactured in a country is small compared to the number of highly qualified professionals, there may be basically three reasons for the situation:

- too many such professionals are trained;
- the utilization of their knowledge is inadequate;
- their training is not adequate and not efficient enough.

It seems that all three points are valid for the engineers in Hungary. Below, we are going to deal with the first two in detail.

In Hungary, as well as in other socialist countries, it had long been a dominant view that "no number of engineers can be too much", that the more high qualified technical professionals there are (possibly with a university degree), the faster technological progress is. Life has refuted this concept. It is true - a fact which can be proved - that in the countries which have acquired a leading position in technology (e.g. Japan) in a relatively short period, the rapid development of education - including also rapid quantitative development - was one of the most important factors of dynamic technological progress. But, it can equally be regarded as proven - even if not statistically - that there is some sort of an optimum in this field, too, and in the case of a bigger than required number, efficiency deteriorates. Namely, if there are too many engineers, then the newly employed ones can only perform a certain ratio of the work of the former generation, which means that the activity of the whole staff of engineers becomes diluted, that is, the amount of work per engineer - truly requiring high level technical knowledge - becomes reduced and replaced by formal or routine activity, or maybe even by inactivity. This has a harmful effect on the professional ambitions of engineers and leads to dispiritedness, which further decreases the efficiency of their work. Furthermore, it is also obvious that - especially in research and development - successful engineering work requires appropriate technical facilities, equipment and devices. If due to the big number of the staff, these

Table 26. The number of engineers, researchers and technicians in some countries

Country	Number of engineers and researchers per 10,000 inhabitants
Bulgaria (1977)	269.0
Czechoslovakia (1977)	225.0
GDR (1977)	265.2
Hungary (1973)	322.3
Poland (1977)	238.3
Soviet Union (1977)	407.3
Yugoslavia (1977)	132.5
FRG (1975)	178.6
Finland (1977)	349.8
Italy (1977)	163.8
Japan (1975)	372.0
USA (1977)	114.0

Source: *Annuaire statistique 1978-1979*, UNESCO.

are frittered and dissipated, then the total results of engineering work will be considerably less than if they were utilized by a smaller staff in a more concentrated way. These negative phenomena are not rare in Hungary, which indicates that the above-mentioned optimum has been considerably surpassed in certain fields.

Those who oppose the view that there are too many engineers in Hungary argue - among other things - that while on the one hand there are engineers compelled to perform the work of technicians or work of an even lower level, on the other hand, many engineering jobs are held by people who only have lower qualifications. And it is true that according to the census data, in Hungary on January 1, 1970, 44,000 engineering jobs - 42.5 per cent of all such jobs - were held by people with medium or lower level qualifications, whereas at the same time exactly 40 per cent of those with a degree in engineering - about 38,000 people - were employed in jobs which were not

qualified as engineering ones. However, this neither means nor proves that there is no surplus of engineers. First, the qualification of the different jobs as engineering or non-engineering is highly uncertain in statistical practice, and actually there are places where the work performed in jobs which are qualified as engineering does not require such qualification, or only to a limited extent. Secondly, since 1970 the number of those holding engineering jobs without a degree in engineering has decreased. Furthermore, several of those without a degree in engineering but holding an engineering job are - due to their professional experience and abilities - able to adequately perform their work. (This also corresponds to international experience.) However, it is also true that this does not apply to a considerable part of them; but the necessary replacement of cadres can only be realized gradually and does not alter the fact that engineers were trained in an excessive number. One also has to fully agree with the opinion that the basic problem is not the excessive number of engineers, but the weakness in utilizing their knowledge; although there is a very close relationship between the two phenomena. Namely, their number exceeding the demands is one of the essential causes of the underutilization of their knowledge.⁴

The training of an excessive number of engineers in Hungary has had attitudinal reasons in the first place. But this imbalance largely remains hidden and it does not lead to difficulties among the newly graduated engineers to find employment. In addition to its general reason, namely, the almost unlimited hunger of the companies for labour force, this is also due to the fact that with the given wage ratios, the employment of engineers is advantageous for the companies even if only a fraction of their engineering knowledge is utilized. Therefore, they demand a relatively high number of engineers from the universities and colleges, and this great demand induces the training of a great number of engineers even in those areas where it is not justified either now or in the future. In other words, the distorted wage ratios make the labour market send false signals towards education, which appears in the form of distorted demands. (In countries where engineers are "expensive", the

employers endeavour to employ them only in areas where their knowledge is really required.)

In the industrially advanced capitalist countries, the shortage and the surplus of engineers usually go side by side. However, in the 1970s, the increase in the demand for technical professionals came to a halt, and their supply became prevalent. This was the situation, for example, in Canada, France, Great Britain and the United States. Other capitalist countries also reckoned with an overproduction of engineers and professionals in the natural sciences in the 1980s. According to forecasts, 710,000 engineers, mathematicians and professionals in the natural sciences will have been required in the Federal Republic of Germany by 1990, while according to analyses of the present trends, the number of qualified engineers will reach 960,000, i.e. the supply will be much bigger than the demand (see Hillmer's article "Forecasts of the demand for engineers up to 1990" in *VDI Nachrichten*, 1975, No. 50). A considerable part of the supply surplus will presumably be absorbed by work places outside the technical areas.

In Hungary between 1950 and 1970, the number of students graduated at technical universities and colleges more than quadrupled: this growth ratio was higher than that of all the other university graduates. In the 1970s, the overall growth rate in higher education became more moderate, and within that, the ratio of newly graduated technical professionals decreased. Nevertheless, the number of students enrolled at technical universities and colleges grew from 29,464 in 1970 to 31,713 in 1978.

The increase by leaps and bounds in the number of university students in the early 1950s and in that of college students in the first half of the 1960s necessarily took place at the expense of the level of training, if for no other reason than due to the "dilution" of students. However, the deterioration in the quality of students at several faculties of technical universities and colleges also continued later on. With the exception of a few faculties, including construction engineering and telecommunications, the surplus of applicants has continuously decreased. This process was even faster at the technical

Table 27. Number of Hungarian university and college graduates as well as secondary technical school leavers (all, i.e. day, evening and correspondence courses included)

Year	Tech- nical*	Out of that col- second- lege ary school	Agri- cul- tural	Out of that col- second- lege ary school	Econ- omic	Out of that col- second- lege ary school	Admin- istra- tive and legal sciences	Arts and humani- ties	Natu- ral sci- ences
1937	260	-	140	-	99	-	854	435	...
1948	322	-	369	-	47	-	497	213	26
1950	1,511	-	312	-	404	-	457	569	68
1955	865	-	460	-	771	-	291	730	719
1960	1,644	-	891	-	329	-	603	190	81
1965	3,116	806	2,152	1,283	961	297	726	811	680
1970	6,536	1,028	2,095	1,092	1,731	414	776	1,272	882
1975	8,874	5,734	2,978	2,256	2,203	1,369	673	1,026	897
1976	8,628	5,090	3,031	2,239	2,470	1,575	681	1,061	956
1977	8,366	4,903	2,364	1,744	2,216	1,359	729	1,201	1,041
1978	8,349	4,878	2,379	1,523	2,497	1,537	785	1,162	1,069
1979	7,803	4,427	2,074	1,185	2,357	1,491	905	1,293	1,039

*Including the students of agricultural engineering at the University of Agricultural Sciences and the University of Forestry and Timber Industry, the students at the College of Ordnance Survey and Estate Systematization as well as the students of the Faculty of Food Industry.

(Table 27 continued)

Year	Teachers' training college	Out of that teachers of handicapped children	Teachers' training schools	Kindergarten teachers'	Medical sciences	Pharmacology	Veterinary sciences	Artists' training colleges	Others	Total
1937	86	-	-	-	338	95	...	-	61	2,368
1948	79	-	-	-	286	107	...	103	33	2,082
1950	77	-	-	-	662	92	...	91	102	4,345
1955	1,518	-	-	-	544	134	...	146	264	6,442
1960	453	29	-	-	830	223	142	184	58	5,628
1965	2,070	62	1,208	440	1,015	224	133	145	257	13,938
1970	1,722	148	773	519	1,140	189	112	320	153	18,220
1975	2,815	288	1,598	1,280	1,085	219	99	336	192	24,275
1976	3,555	381	1,763	1,810	1,150	208	88	372	223	25,996
1977	3,659	522	1,985	2,143	1,191	195	109	405	330	25,934
1978	4,238	437	1,986	2,436	1,208	212	74	388	790	27,537
1979	3,908	466	2,642	2,185	1,252	199	93	460	1,031	27,241

Source: *Statistikai Tájékoztató* (Statistical information); *Felsőoktatás* (Higher education), 1979/80, Ministry of Education.

colleges: the ratio of those who applied and those who were admitted was 2.30 in 1974, 1.93 in 1977 and only 1.63 in 1979. There were years when at the faculty of machine engineering there were less applicants than places. Under such conditions, the possibilities of selection are naturally limited, and admission can even be gained with a low number of points acquired at the entrance examination. From the point of view of technological progress, it would be extremely important that a large number of young people with excellent abilities and outstanding talent choose engineering as their profession, so that a great part of the intellectual potential of society - also regarding its quality - would be concentrated in this field. However, this is not the case. Whereas it is often difficult to get admission to the medical universities and the universities of arts and humanities with as many as 18 to 19 points (out of a total of 20), admission to the faculty of machine engineering of the Budapest Technical University requires no more than 13 to 14 points, and even a smaller number of points is enough for admission to the technical universities in the provinces.⁵ As a consequence, a large number of persons who are unsuitable or have only weak or mediocre abilities become engineers, and they are hardly able to meet the requirements dictated by the international competition.

In Hungary, both at present and in the future, there is need not for a greater number of, but for more talented and knowledgeable engineers. In the training of engineers, *qualitative* goals should be given priority over the quantitative ones.

High level creative technical work requires not only technical knowledge taken in the strict sense, but also an adequate level of knowledge of general culture. It seems that among the various groups of intellectuals, engineers take one of the last places regarding the level of general culture and are, in this respect, far behind doctors and lawyers, for example. This is also due to the fact that - compared to the latter groups - a much higher ratio of engineers come from families with a relatively lower educational and cultural level, and that - compared to other intellectual professions - there is a higher number of those who graduate at evening or correspondence courses

Table 28. Number and ratio of applicants and admissions at higher educational institutions in 1974

	Regular courses		The ratio of overap- plication
	number of applicants	number of admissions	
Universities of arts and sciences	7,336	2,243	3.27
Universities of medical sciences	4,086	1,191	3.43
Universities of technical sciences	3,771	2,025	1.86
Universities of agricultural sciences	2,512	950	2.64
Economic colleges	2,144	702	3.05
Agricultural colleges	2,068	792	2.61
Technical colleges	5,359	2,332	2.30
Teachers' training colleges	4,819	1,443	3.34
Teachers' training schools	2,375	1,132	2.10
Kindergarten teachers' training schools	1,085	497	2.18
Total (average):	35,555	13,307	(2.67)

Source: *Felvételi vizsgák a felsőoktatási intézményekben* (Entrance examinations at the institutes of higher education), Ministry of Education.

which can only provide significantly less general and professional knowledge (cf. Tables 31 and 32).⁶ The different surveys support everyday experience, namely, that engineers having attended regular courses - due to their better theoretical grounding - are usually more successful at innovation and have a

Table 29. Number and ratio of applicants and admissions at higher educational institutions in 1977

	Regular courses			Evening courses			Correspondence courses	
	Number of applicants	Number of admissions	Ratio of overap- plication	Number of applicants	Number of admissions	Ratio of overap- plication	Number of applicants	Number of admissions
Universities of arts and sciences	5,603	2,004	2.80	1,824	285		1,555	240
Universities of medical sciences	3,809	1,321	2.88					
Universities of technical sciences	3,561	1,762	2.02	327	56		1,240	202
Universities of agricultural sciences	1,724	755	2.28					
Economic colleges	1,953	785	2.49	1,395	301		2,034	402
Agricultural colleges	1,480	589	2.51				313	53
Technical colleges	4,233	2,190	1.93	1,308	308		3,597	889
Teachers' training colleges	4,702	1,832	2.57				1,351	340
Teachers' training schools	3,090	1,776	1.74				951	414
Kindergarten teachers' training schools	911	579	1.57				285	135
Total (average):	31,066	13,593	(2.29)	4,904	1,022		11,414	2,689

Source: *Felvételi vizsgák a felsőoktatási intézményekben* (Entrance examinations at the institutes of higher education), Ministry of Education.

Table 30. Number and ratio of applicants and admissions at higher educational institutions in 1979

	Regular courses		Ratio of overap- plication	Evening courses		Correspondence courses	
	Number of appli- cants	Number of admissions		Number of appli- cants	Number of admissions	Number of appli- cants	Number of admissions
Universities of arts and sciences	5,897	2,069	2.85	1,372	288	2,008	279
Universities of medical sciences	3,504	1,392	2.52				
Universities of technical sciences	3,028	1,700	1.78	168	57	774	222
Universities of agricultural sciences	1,648	802	2.05				
Economic colleges	1,624	814	2.00	1,182	283	1,854	25
Agricultural colleges	1,320	583	2.26				475
Technical colleges	3,616	2,215	1.63	1,064	418	3,150	51
Teachers' training colleges	5,112	2,096	2.44				962
Teachers' training schools	3,060	1,774	1.72	202	126	1,868	485
Kindergarten teachers' training schools	876	588	1.49	92	61	996	478
Total (average):	29,685	14,033	(2.12)	4,080	1,233	12,388	479
							3,456

Source: *Felvételi vizsgák a felsőoktatási intézményekben* (Entrance examinations at the institutes of higher education), Ministry of Education.

Table 31. The number of students receiving diploma by type of education

Year	Regular courses	Evening courses	Correspondence courses
1937	2,368	-	-
1948	-	-	-
1950	-	-	-
1955	5,669	-	-
1960	4,268	173	1,187
1965	8,368	970	4,132
1970	11,888	2,157	4,175
1975	13,562	1,739	8,974
1976	14,545	1,957	9,494
1977	14,580	2,014	9,340
1978	15,128	2,044	10,401
1979	15,262	2,204	9,775

Table 32. The distribution of technical university graduates in 1979

	Technical universities	Technical colleges
Regular courses	2,002	2,172
Evening courses	140	518
Correspondence courses	953	1,296
Total:	3,095	3,986

Source: *Statisztikai Tájékoztató* (Statistical information); *Felsőoktatás* (Higher education), 1979/80, Ministry of Education.

higher degree of innovative initiativeness than their colleagues having attended evening or correspondence courses.⁷

Recent sociological research differentiates between intellectuals in the traditional sense - i.e. those having a wide scope of general culture and knowledge - and the so-called pro-

professional intellectuals who largely miss such culture and knowledge. Engineers - in the first place the so-called production engineers who have only college qualification, but also most of the engineers with a university diploma - belong to the second category, constituting a stratum which - regarding the level of general culture and knowledge as well as the related characteristics - represents a transition between intellectuals taken in the traditional sense and the workers.

From among the elements of general knowledge, the lack of two especially obstructs the success of technical creative work. One is the *lack of economic knowledge*. Without thorough economic knowledge, successful engineering work is hardly conceivable. Engineers must have a complex technical and economic view, as they have to be able to reckon with the economic and market relations and the sales possibilities as well. These are not only the traders' business. The majority of Hungarian engineers do not meet this requirement, they have a one-sided technical approach and they do not - or are unable to - devote enough attention to economic and economical aspects. This has the most serious consequences in the case of those engaged in technological development.

The other obstructing factor is the *lack of knowledge of foreign languages*. The knowledge of a foreign language is a precondition of effective engineering work. This especially holds true of research and development activities, but of almost any other technical creative activity as well. Engineers must be able to follow with attention the foreign professional literature and have the ability to conduct negotiations with foreign partners. In this respect, the situation is even worse than in the case of economic knowledge. In a survey conducted at a big machine factory, 58 per cent of the technical professionals with a higher level of education said they spoke no foreign language at all. Only about 10 per cent of all those surveyed passed a state language examination. The distribution of the foreign languages spoken is not very fortunate either; only 5 per cent of the engineers speak English.⁸

THE UTILIZATION OF ENGINEERING KNOWLEDGE

PERFORMING WORK WHICH DOES NOT REQUIRE ENGINEERING KNOWLEDGE

It is a fact beyond doubt that there is a counter-selection among engineers and that there are considerable deficiencies in their professional and general knowledge. In spite of this the biggest obstacle to an increase in the efficiency of technical creative work is not this, but the *inadequate utilization of the available abilities and knowledge*. Even with its present composition and its present level of knowledge, the engineering staff would be able to perform much more than it actually does. The problem starts with the fact that engineers are engaged in many such activities which might also be carried out by people without such qualification. As it was pointed out above, according to the data of the 1970 census, 40 per cent of the employees with a degree in engineering had jobs which did not require such qualification according to the official nomenclature. However, this is not the primary factor supporting the statement that the knowledge of engineers is inadequately utilized, since a qualification in engineering is required not only in engineering jobs (or jobs which are qualified as such) but also in foreign trade and marketing. In the industrially advanced countries, a significant and dynamically increasing part of the engineers are employed in these areas; this is a natural concomitant of development. A considerable part of the 40 per cent of engineers mentioned above with regard to Hungary also belong to this category. There are some related representative surveys, carried out at various companies, which are rather telling from the point of view of the question under consideration. They indicate that not much more than half of our engineers have jobs which require the utilization of their professional knowledge to a considerable extent. For example, according to a survey conducted at the Metallurgical Works at Ózd, only 64 per cent of the engineers with a university diploma had such a job that could be qualified as an engineering one. At the Diósgyőr Machine Factory, the surveyed professionals with a higher level of education said that according to

their own judgement only about 53 per cent of their working time was utilized for work which corresponded to their qualification.⁹ It is worth quoting the related conclusions of another survey which was conducted at a big company: "In about 10 years, the number of highly skilled workers as well as of those working in technological preparation decreased by one sixth. In the meantime there was a considerable increase in the number of employees with a higher level of education, and within that, of engineers, whose effective employment was not solved. According to company data, 40 to 50 per cent of the intellectual capacities of those employed in important trades were not utilized."¹⁰

The low level of utilization of engineering knowledge already results from the fact that at most companies - compared to the tasks really requiring engineering knowledge - there are too many engineers, and due to their low wages, the companies are not compelled to make economical considerations in this respect. (Actually, the companies are not really interested in economizing on any other type of the labour force either, but the low wages of engineers even add to their uninterestedness. Their employment in areas which do not require their engineering knowledge means no loss of any sort for the companies.)

The majority of the working time and the energy of the engineers is used for the solution of daily tasks, viz. for the elimination of the difficulties resulting from the lack or the inadequate quality of materials and components, as well as from the not always sufficient co-operation between the companies. Under the present conditions, when from day to day the companies have to overcome several obstacles which endanger the continuity of production, innovative activity, which is genuine engineering work but brings results only in the longer run, comes necessarily only to the second place.¹¹

CONTROL AND MANAGEMENT

The utilization of the knowledge of engineers depends to a very large extent on the control and management at the company. The latter is naturally also a function of the "economic en-

vironment" of the company, i.e. the system of management of the national economy. Nevertheless, some of its aspects, namely the ones which exercise a direct influence on the conditions of technical creative work, are worth considering separately.

The work of removing obstacles, which characterizes the activity of the technical staff, originates from the company management which is forced in that direction by external conditions, in the first place, by the difficulties resulting from the "economy of shortage". Various surveys show that the managers of Hungarian companies devote much more time and energy to operative daily affairs, to "small businesses", than managers at capitalist companies. Naturally, they have consequently less time and energy left for dealing with longer-term tasks, including technological development.¹²

The better utilization of technical creative work and the whole process of innovation are also obstructed in Hungary by the too high number of management levels which are a result of the excessive increase in the number of leaders (cf. Table 33).

As it can be seen from Table 33, the number of employees in leading posts increased at a much faster rate than the total number of workers. In the branches of material production the total number of workers increased by less than 1 per cent while the number of leaders by 5 per cent between 1973 and 1977. The data in Table 33 show that in 1979, more than one third of the non-manual employees held some sort of a leading post. A similar situation is reflected by data collected from a narrower field. Namely, according to the data of a survey conducted by the Metal Workers' Trade Union in 1977, 33 per cent of the employees with medium or high level technical or economic qualification held some sort of a leading post. (The reasons for this great increase in the number of leaders will be discussed below.)

The overgrowth of the leading staff results in an overcomplication of the whole company organization, which decreases the efficiency of management and hinders the flexible and rapid administration of technological development. It is obviously one of the reasons why several new products and technologies become outdated before they are actually realized. Among many

Table 33. Non-manual employees by hierarchical levels

a) Distribution of the work force* (per cent)

Category**	1975	1976	1977	1978	1979
Manager A	1.8	1.7	2.0	1.9	1.9
Manager B	2.8	2.8	2.9	2.7	2.8
Manager C	5.2	5.2	5.5	5.8	5.7
Total of managers	9.8	9.7	10.4	10.4	10.4
Total of leaders	21.5	22.2	23.6	23.7	23.9
Total of staff	68.7	68.1	66.0	65.9	65.7
Total of non-manual employees	100.0	100.0	100.0	100.0	100.0

b) The number of non-manual employees per 1,000 manual workers*

Category**	1975	1976	1977	1978	1979
Manager A	5	5	6	6	6
Manager B	8	9	9	9	9
Manager C	15	16	18	18	19
Total of managers	28	30	33	33	34
Total of leaders	65	68	75	76	79
Total of staff	206	210	210	211	217
Total of non-manual employees	299	308	318	320	330

* Average number of permanent staff in 1975 and 1976, and the number of staff on the payroll in September each year from 1977 on (full-time employees).

** On the basis of *A foglalkozások egységes osztályozási rendszere* (The unified system of the classification of jobs), Central Statistical Office.

others, the overcomplication of the company organization also has the negative by-effect that it necessarily prefers leaders of that type who are familiar with the world of bureaucracy to those who have a genuine innovative spirit and always endeavour to achieve something new.

Naturally, the level of management also depends on the qualification of the manager to a great extent (see Table 34).

The adequate utilization of technical creative abilities is hindered by the fact that a significant part of the managers, including technical managers, have neither the appropriate qualifications, nor the necessary level of general and professional knowledge.

According to the representative data of the 1980 census, 28 per cent of the technical managers, the company chief engineers and other technical leaders did not have higher level qualifications, including 6 per cent who did not even finish secondary school. Out of the technical section and department heads, 33 per cent had no higher education. Highly qualified professionals often work under the control of managers with a lower level of education and knowledge. According to a survey conducted in 1974 among 962 former graduates of the Győr Technical College for Transport and Telecommunications, almost half of the production engineers worked under the control of managers who had lower level school qualifications than they had.¹³ This situation may create problems even if a considerable part of these managers have the necessary routine.

Furthermore, many of the managers and other leaders who formally do possess the adequate qualifications have insufficient knowledge. Among the leaders (and within that, especially the technical ones), a high ratio is represented by those who received their diploma at evening or correspondence courses.

Naturally, not all managers whose qualifications are lower than those of their staff members are bad managers and not all of them obstruct their staff members in developing their abilities; nevertheless, this relationship - as a tendency - does exist. It already starts with the fact that in most cases the under-qualified leaders are unable to set appropriate requirements against their staff members. And low requirements are a

frequent cause of the non-utilization of abilities. At places, where the managers set high requirements, one can hear much less complaints about "over-qualification". In addition, the lack of adequate professional knowledge and the related feeling of insecurity often lead to distortions in character, e.g. jealousy of staff members with greater knowledge and more talent. Such managers surround themselves with weak staff members who do not "overshadow" them, whereas they suppress the genuine talents and do not grant them free scope of activity. Engineers working at companies often complain about this phenomenon.

At places where the - official - control of innovative activities is in the hands of leaders (e.g. chief engineers or department heads) with poor professional knowledge, this situation necessarily leads to the development of informal control performed by better qualified professionals who, however, are employed in lower-rank jobs in the hierarchy. According to several case studies, this is disadvantageous under any conditions, because the limited scope of authority of the informal controller endangers the success of the innovation process.

In order to better utilize technical knowledge, it would be necessary to modernize the present system of company management, which is practically of a one-man management type. The internal set-up of the companies is strongly hierarchical, and the scopes of authority are too much centralized. In a significant number of cases, the one-man responsibility is only formal and, in practice, it leads to the obliteration of responsibility. Employees at higher levels of the hierarchy have sometimes greater responsibility only ideally, whereas in practice, they often bear less concrete consequences of their decisions than employees at lower levels, whose responsibility is more concrete. At the same time, the scope of authority and the independence of the latter ones are very limited. Company managements usually decide about the development of a product or technology after consulting the head of the department of technological development only, and they usually fail to consult the designer who actually worked out the given development project. This may entail serious disadvantages.¹⁴ There is a tendency to shift decision making one or two levels higher than where the appro-

Table 34. Distribution and level of education of non-manual and intellectual employees in 1980

Main job groups	Total	Elementary school			Completed		
		less than 6 classes	6 to 7 classes	8 classes	medium-level profession	secondary school	higher level of education
1. Technical	362,200	500	5,100	37,350	10,450	183,200	119,600
2. Administrative, judiciary, economic, transport, trade	370,500	750	5,000	60,150	14,300	203,300	87,000
3. Health care and cultural	359,450	900	4,250	45,100	11,150	114,000	184,500
4. Public accountancy, financial and other administrative	395,750	850	4,500	125,850	17,550	229,900	171,000
Total:	1,487,900	3,000	18,850	268,450	53,450	736,400	407,750
Out of that (breakdown of the "technical")							
Technical director, company chief							
engineer, technical manager	8,100	-	50	300	100	1,800	5,850
Technical section and department head	5,650	-	-	100	-	1,750	3,800

(Table 34 continued)

Main job groups	Total	Elementary school			Completed		
		less than 6 classes	6 to 7 classes	8 classes	medium-level profession	secondary school	higher level of education
Head of factory section and production branch, manager of agricultural production branch	7,650	50	100	550	150	3,000	3,800
Works manager	19,300	-	450	2,600	750	11,050	4,450
Production engineer	9,700	-	-	-	-	250	9,450
Chief building engineer, building engineer	8,000	-	50	200	200	5,400	2,150
Foreman, chief foreman, shop manager	68,950	200	2,850	15,050	4,150	41,150	5,550
Technological development and design expert	43,200	-	100	1,450	400	21,350	19,900
Production technologist	18,700	-	50	2,850	750	10,700	4,350
Labour and work safety inspector	3,350	-	-	450	150	2,350	400
Computer technologist	750	-	-	-	-	250	500
Quality inspector (non-manual)	18,250	100	500	3,850	1,250	10,200	2,350

(continued on next page)

(Table 34 continued)

Main job groups	Total	Elementary school			Completed		
		less than 6 classes	6 to 7 classes	8 classes	medium-level profession	secondary school	higher level of education
Independent laboratory technician	11,100	-	50	1,200	50	8,000	1,800
Technologist of norms	2,100	-	-	250	-	1,600	250
Draughtsman	10,500	-	-	2,200	250	7,800	250
Engineer	33,700	-	-	200	-	2,800	30,700
Company technician	28,850	-	50	650	400	26,350	1,400
Factory technician	1,800	-	50	-	-	1,650	150

Source: 1980 census (detailed data on the basis of a 2 per cent representative sample).

ropriate professional knowledge and expertise are the most available.

In areas where independent thinking, decision and activity are a requirement - and technological development is undoubtedly such an area -, the combination of hierarchical order and democratic leadership seems to be the appropriate solution. In a company organization where nobody is supposed to know everything, innovation is better served by horizontal consultations than by a rigid hierarchical order. At the companies which show good results in technological development, we usually find a top as well as lower level management of strong hand, but at the same time the professionals without managerial posts are also involved in decision making. It would be desirable to combine top level company management of strong hand with a certain degree of decentralization of the scopes of authority and responsibility, so that the scope of authority and responsibility of lower level managers as well as professionals without managerial posts would also increase considerably. With respect to professional tasks, also the professionals without managerial posts should have a certain degree of freedom of activity.

THE CONTROL OF RESEARCH AND DEVELOPMENT ACTIVITIES

Research and development cannot and should not be organized on the model of industrial production. As many of the experts of this issue formulate it, that has a worse effect than if there is no organization at all. William Whyte, one of the most well-known experts of the field, has concluded that the research laboratories of, for example, the Bell Company and the General Electric can attribute their outstanding results to being not "organized" at all in the traditional sense of the word, i.e. as it is known and used in industrial production. Naturally, this does not mean that inorganization is the expedient solution in research and development, but it does mean that special methods of management and control are needed in this field. This already results from the fact that no complicated process of innovation (its research and development phase) can

take place precisely in a planned way. Almost always, significant modifications, rearrangements and corrections have to be implemented. The control of research and development requires a high degree of flexibility. Rigidity and bureaucracy are especially harmful in this field.

Up to the 1950s, many capitalist concerns shared the view that the most successful way of controlling research and development was to employ good professionals who then were granted the greatest possible scope of freedom for the realization of their ideas. Nowadays, such absolute freedom exist only in basic research, while it is no longer characteristic of applied research and development. It is a widely accepted view that complete freedom given to researchers and designers with average abilities without any control produces poor results. At the same time, the outstanding creative personalities need a high degree of autonomy and freedom. This is one of the most important preconditions of success. In Hungary, both extremes - almost unlimited freedom and petty overregulation - can be found. At manufacturing companies the latter is more characteristic, while excessive freedom rather occurs at the research institutes. However, there are exceptions in both types of institutions. The essence of the matter is that the differences in conditions exist *between* the individual institutions and not *within* them. The situation within the individual institutions is characterized by a lack of differentiation.

The "peak" of freedom in research and development is the freedom of choice of the subject. The right of research and design engineers to have a say in the choice of their task has usually an advantageous, whereas the imposition of a subject on them has a disadvantageous effect on the results.¹⁵ The experiences are similar in Hungary, too.

At the same time, however, applied research and development must be adjusted to the market conditions. Engineers - sometimes even the most outstanding ones - usually intend to achieve technical and scientific results more or less independently of the economic results. It is the management of the company or the institute that has to channel their endeavours in the right direction. Quite often this does not happen, espec-

ially not in the case of the already ongoing research. It very rarely happens in Hungary, for example, that a research programme is stopped due to the changes in market conditions - which is an everyday practice at capitalist companies. (Understandably, under such conditions the engineers involved endeavour to achieve at least their technical goal, but this may cause considerable losses.)

In Hungary, "development for the market" is gaining ground only now, as a result of the changed position of the companies. This process is made difficult by the rigid division of labour among the engineer, the trader and the economist. The view that development belongs to the engineer, whereas marketing to the trader still holds strong. Engineers are not particularly interested in developing products which can be marketed under favourable terms. Experiences in the industrially advanced countries show that the design engineers should know the market very well and adjust their work accordingly. It is also expedient if they too participate at some of the business negotiations. This very rarely happens in the case of Hungarian engineers. The role of the researcher and that of the designer are often blurred in Hungary, whereas they are much more separated in the western countries: namely, the designer - contrary to the researcher against whom no such requirement is set - is explicitly a "marketing man" whose task is to select and elaborate the ideas of the researcher from the point of view of the marketing possibilities.

According to a somewhat harsh wording which, however, contains much truth "in Hungary, the researchers [viz. those employed in applied research] often engage in activities which satisfy only their own needs, but not those of the market". Some of the several reasons behind this situation are to be discussed in detail below. Undoubtedly, one of the reasons is that the researchers in Hungary aspire to write publications and acquire scientific titles, rather than to achieve economic results. According to a survey of the Hungarian Ministry of Finance, 100 researchers in Hungary publish an average of 80 to 82 scientific works a year, which is high in international comparison, while Hungary takes one of the bottom places concern-

ing the number of innovations. In other words, while the number of applications for patent is stagnating at a low level, the number of technical-scientific publications is increasing at a constant and rapid rate (see Tables 35-37). The number of technical-scientific books published in Hungary between 1970 and 1976 more than doubled, and in 1976 it was higher than the number of applications for domestic patent submitted to the National Office of Patents. "Hence, the statistical data clearly indicate that creative technical activities have shifted in the direction of professional literature at the expense of innovations."¹⁶ This is greatly due to the fact that according to the values developed in Hungary, any scientific degree involves greater appreciation than what is granted to an inventor. This primarily holds true of moral appreciation, but in many cases - if one also takes into consideration the advantages in promotion due to scientific degrees - it also involves financial advantages. "... although, a successful scientific career does not bring such a large amount of prompt cash as a fee for a good innovation might bring, it nevertheless does involve financially favourable indirect and secondary results."¹⁷ This especially holds true if we consider the extremely "thorny" and uncertain character of an innovative career. The advantages of a career based on scientific qualifications as compared to the innovative career is all the more disquieting as the majority of the scientific theses are only loosely connected with practice, and the ideas they have rarely bring economic profits.

This situation is well known to the scientific bodies concerned, and they do endeavour to change it. Already Law No. 9 of 1979 on scientific degrees and scientific qualification laid down that in the future not only theses, but also new achievements utilized in practice - which require scientific activities and which are useful for society - could serve as a basis for acquiring a scientific degree. In reality, however, very little has changed since then. It seems that this preposterous situation which is deeply rooted in our society cannot be solved merely by the means of scientific qualification or by those of science policy. It would hardly be correct to award every technical development activity, adaptation or follow-up

Table 35. Development of scientific activity and output and the number of innovations and patents in 1977 and 1978

	1977	1978
Number of themes on which research is being carried out	29,663	30,244
Out of this: themes investigated in the framework of international research co-operation	2,270	2,409
Books published	1,316	1,228
Articles published	18,062	19,451
Reported innovations	4,212	4,111
Application for patent	1,860	1,809
Trips abroad with a scientific purpose	22,625	20,004

Source: *Tudományos Kutatás* (Scientific research), 1978, "KSH Időszaki Közlemények," July 31, 1979.

research which brings significant economic results with a scientific degree. This would be an absurdity. This is not the line to be followed. Economic results have to be stimulated and rewarded at the place where they belong to, namely, in the economy. Activities which bring results should appropriately be rewarded both financially and morally at the place where they are carried out, i.e. at the company.

Technological research and development means team work under modern conditions. The division of labour is gaining ground in this field too, and as a result, the majority of the professionals fulfil partial tasks and have to integrate themselves into the organization. The industrial research laboratories in the United States, for example, seek big numbers of professionals with average abilities, who are suitable for team work. However, even in the age of big research organizations,

Table 36. The number of publications on research themes

Books	Technical			Total		
	at re- search insti- tutes	at uni- versity chairs	at other research units	at re- search insti- tutes	at uni- versity chairs	at other research units
1963	151	61	18	365	448	93
1964	132	60	40	332	427	137
1965	149	67	54	362	512	136
1966	142	79	26	390	496	88
Periodicals						
1963	1,348	472	390	4,557	5,401	1,140
1964	1,279	504	505	4,561	5,552	1,061
1965	1,306	679	624	4,829	6,409	1,127
1966	1,267	643	522	4,963	6,125	1,192

Source: same as for Table 35.

Table 37. Number of Hungarian patents in 1979

	Number of applica- tions for patent		Number of applica- tions for patent	
	in Hungary	Protected patents	abroad	Protected patents
Natural sciences	101	307	46	25
Technical sciences	578	139	1,023	763
Medical sciences	1	9	3	1
Agricultural sciences	78	65	25	8
Social sciences	2	2	2	-
Total:	760	522	1,099	797

Source: *Statisztikai Évkönyv 1979* (Statistical yearbook, 1979), Central Statistical Office, 1980.

the outstanding creative personalities continue to be indispensable. Jewkes, Sawers, and Stillermann have stated that a considerable part of the significant inventions in the 20th century (more than half on the ones they examined) were the products of individual inventors or small companies, or were produced by chance.¹⁸ The majority of the really surprising and revolutionary ideas seem to occur as private inventions, because the big research institutes rather direct their research activities towards exploiting the already clear possibilities. Every research collective needs inventive personalities who have original creative imagination and ideas.

Creative personalities do not seem to be rare in Hungary - as they have never been. However, the support of their activities and the utilization of their abilities are inadequate. The utilization of the abilities of outstanding talents is especially poor. This is also due to the fact that those persons who always aspire to achieve something new and are able to break with the traditional are usually "difficult people" who have problems with adapting themselves to the organization. With "team work" gaining ground, this has become one of the most delicate points of the control of research and development. The better utilization of the abilities of outstanding talents requires much more tolerance, more respect towards the creative personalities and the acceptance of their peculiarities.

Due to their extraordinary character, outstanding creative personalities often meet with antipathy. Conflicts between them and their leaders are frequent. The leaders of the research and development institutes and their sections usually fight a double struggle: on the one hand, with those who have below-the-average abilities, and on the other, with those who have far-above-the-average abilities. The winner of this situation is generally "the grey average", and its consequence is the domination of mediocracy.¹⁹

Outstanding creative personalities would also need a sort of psychological protection on behalf of the management. It is an important new finding of the psychological examinations of creation that "there are conditions, for example when the new idea is still immature, under which criticism kills creative

achievement instead of promoting it".²⁰ "Under such conditions, the environment should not display critical, but co-operative attitude in the strict sense of the word."²¹ This is needed, because in this phase of the work, the creator is uncertain and anxious. And the colleagues often resist the revision of the traditional approach in an aggressive way. In such a situation the leader has to give reassurance by pointing to the correct elements.

The results of research and development activity are never certain, the risks involved are always great. It is an important principle of control that not all the failures should be resented. Even the failures and the negative results have usually moments that can be utilized. Individual risk-taking by the researcher or designer should also be encouraged. At places where this does not happen, escape into sham results is a frequent phenomenon. (Naturally, for encouraging the creator to take individual risks, such a management or company environment is needed which allows and even calls for taking risks.)

WORKING CONDITIONS AND SCHEDULE

Different activities require different working conditions and schedule. Complicated creative work requires more flexible working conditions than manual work or simple intellectual activity does. In Hungary, the working conditions are mostly differentiated by institutions and not by jobs. Whereas at the research institutes, the loose working conditions lead to decreased results, the situation at the productive companies is, on the contrary, characterized by restrictions, rigidity, and an impractical "levelling" of the working conditions. The rigidly fixed working schedule (i.e. fixed beginning and end of working hours, a given fix period when someone may leave during the working hours, etc.), which was originally established for routine work, is also applied to those who perform independent creative work, and the method of control is primitive and sometimes irritating. This is the primary reason why engineers with greater knowledge escape from the productive companies.²²

The working hours of the engineers engaged in research and development at big industrial companies are fixed in the same way as the working hours of the manual workers and the office staff. There are only very limited possibilities for a different working schedule. For example, the collective agreement at the mentioned Metallurgical Works allows deviation only if it is planned a month in advance. Obviously, the rhythm of creative activity cannot be programmed in this way in advance, so it is fully impractical. At many big companies, e.g. the Diósgyőr Machine Factory, overtime work can only be done with special managerial permission. The collective agreement at the same company gives 16 jobs in which there is a possibility of deviating from the general working pattern, however, none of these involves technical creative activity (thirteen are office jobs and three are related to the delivery of final products). At this same place, technological planning, design and development are carried out in the noise of the power-hammer, and due to the noise and dust, it is not advisable to open the windows even during the summer heat.

Every reason calls for a break with this mechanical and primitive levelling of the external characteristics of the working conditions and working schedule. It should at last be understood that in the case of staff members performing complicated intellectual work, arrival and departure on time cannot be regarded as the most important criterium, and that sitting at the table in a disciplined way has no relation whatsoever with the actual result of the activity. The existing identical working conditions create unfavourable conditions for the activities of those who perform creative intellectual work. Of course, it would neither be correct to regard those performing complicated technical creative work as geniuses outside and above every and any work discipline; however, it should be kept in mind that their discipline is a special one. This type of activity requires much more devotion and sense of vocation than simple routine work, and in return for this increased expectation, there should be more freedom and more flexible working conditions.

Abroad there are several examples of more flexible working conditions for engineers engaged in complicated creative activity. A significant part of the big capitalist companies do not determine a rigid working time for the qualified staff members of the research and development sections. At some places, only the weekly or the monthly working hours are observed, and the staff members are given free hands as to the daily working time. At several big companies, researchers have to spend only a maximum of 80 per cent of their working time with working on tasks determined by the company, whereas in the rest of the working hours, they can work on problems chosen by themselves, without any obligation of producing some economic result.²³ In several countries, scientific workers and engineers are granted longer holidays than the annual average.²⁴ At the Hungarian companies only those having a leading post - heads of sections and above - are entitled to extra holidays of a maximum of 12 days.

Various labour psychological studies have shown that those performing complicated intellectual work at Hungarian companies are extremely overburdened and they overwork themselves. István Magyari Beck conducted a survey at a building industry design company, and he found that by progressing from routine work to the activities of architect-designers, work becomes increasingly intensive. The design architect is much more overburdened than the designer, and the designer is much more overburdened than the draughtsman. However, those performing higher level work are not overburdened because their work is overcomplicated - proceeding towards higher positions, the complexity of work grows at a far slower rate than its intensity -, but because during their creative work, they are also compelled to carry out many such routine activities which do not actually require their qualification and knowledge. This situation can, among others, be attributed to the fact that compared to the number of engineers there is a shortage of technical assistants, including technicians and draughtsmen. During the 20 years between 1960 and 1980, the number of technical managers and chief engineers increased 2.2 times and that of production engineers more than ten times, while the number of technical draughtsmen grew by only 70 per cent and that of technicians by a mere 35

per cent. This is not a special characteristic of Hungary, nor only of the socialist countries. Even if not to the same extent but there is a shortage of technical assistants in the capitalist world too.

There is no way of determining the optimum ratio between the number of engineers and that of technicians with general validity. According to a large-scale international survey, this ratio varies between 1:2 and 1:10, depending on the level of economic development and other characteristics of the given country, the sector of employment, production, procedure, etc.²⁵ There is no basis even for stating whether economic development leads to an increase or a decrease in the number of technicians compared to that of engineers. But in spite of all this, the Hungarian ratio between engineers and technicians - which is 1:1.5 and moreover shows a decreasing tendency - can certainly be described as low. This statement is not only supported by the fact that this value is lower than even the lowest one given in international literature as desirable, but is also verified by everyday practice.

There are several reasons accounting for this situation. One of them is undoubtedly the fact that the companies are completely uninterested in changing this situation, because the wages of engineers - especially of the young ones - are hardly more than those of the technical assistants (including technicians). According to a survey conducted by a research institute in Krakow, 35 to 60 per cent of the engineers in the Polish technical design institutes could be replaced by technicians, draughtsmen and administrative workers without any decrease in the results. In all probability, the situation is not much different in Hungary either. And what is missing is an impulse to change the situation.

The shortage of lower qualified technical professionals is also related to our system of training. The traditional division of technical professionals into three categories (technicians, those with a higher level of technical education, and engineers with university diploma) was made to cease in the course of the reforms of the Hungarian school system, and then later it was tried to be restored in an ambiguous way. The

training of technicians was replaced by the training of production engineers. However, the latter form of training was unable to make up for the shortage created by the abolishment of the training of technicians. Namely, production engineers with college education are generally "overtrained" as regards theoretical knowledge, while at the same time they are "undertrained" in practical knowledge which would be needed to fulfil a technician's job. The basic and medium level control of production as well as the preparations and the starting off of production, etc. seem to continue to involve such tasks in great numbers which can best be fulfilled by those who have medium level technical qualifications.

THE MOBILITY OF THOSE PERFORMING TECHNICAL CREATIVE WORK

In the industrially most advanced countries, the mobility of engineers performing independent creative work is much greater than in Hungary. This is valid with regard to their movements within the institutions, among them, and even between countries. This relatively great mobility is regarded by the experts as necessary in order to gain appropriate experiences, and also because the changing technological tasks require an engineering staff of changing composition. (In the United States, this mobility is even greater than in the industrially advanced European capitalist countries, and this great mobility is generally considered to be an essential factor of American technological superiority.) According to several studies, a long term of office at the same work place is explicitly disadvantageous from the point of view of innovations.²⁶

The usefulness of the mobility of highly qualified intellectual workers, including engineers, has also been proven by Hungarian experiences. In 1979, the Trade Union of Textile Industrial Workers conducted a survey of some 800 intellectuals employed in the textile industry to reveal whether their jobs corresponded to their qualifications. The following conclusions have been drawn: the correspondence between qualifications and

the jobs grows in direct ratio to the increase in the number of work place changes. In spite of this, the mobility of technical professionals initiated by the interests of technological development is very low. Although the training and the knowledge of engineers employed at companies often do not correspond to the character of their tasks, the number of work place changes initiated by the companies is very low. Of course, this applies not only to engineers; the general reason for this phenomenon is that the mechanism which would promote the removal of individuals of inadequate abilities and their replacement by suitable people hardly functions in Hungarian society. And this is so in spite of the fact that engineers who produce little do not only yield small profit, but - due to the missed opportunities - may also cause huge damage.

The problem of the lack of mobility is especially serious in the case of researchers. Earlier, research work was performed rather incidentally by individuals with appropriate qualifications and abilities. However, during the past decades, big numbers of professional researchers and research engineers - whose main occupation is research - appeared on the scene and research has increasingly become a profession. (The question of whether research can be qualified as a profession was raised at UNESCO in 1955.) This process naturally also took place in Hungary, and the difficulty arose that researchers intend to remain researchers until their retirement - irrespective of whether they have the required abilities or not. And experience shows that the lack of abilities becomes apparent only after a certain time, and even those with appropriate abilities may often become "exhausted"; research enthusiasm and inner dynamism usually decrease with age.

Several studies show that engineers come up with the biggest number of inventions when they are relatively young, when their theoretical knowledge is still fresh and they still have a vivid imagination. From this point of view, the years below 35 are especially valuable. Table 38 shows that in Hungary the majority of scientific researchers engaged in technology are over 35.

Table 38. Distribution of scientific researchers by age (percentage)

	Younger than 25	25-29	30-34	35-39	40-49	50-59	60-64	Older than 65	Total
1972									
Natural sciences	1.8	20.4	18.3	17.6	30.3	8.3	2.2	1.1	100.0
Technical sciences	2.2	23.3	20.1	17.4	26.7	8.4	1.3	0.6	100.0
Medical sciences	0.5	17.6	24.8	17.0	25.6	9.3	2.5	2.7	100.0
Agricultural sciences	1.2	13.3	15.0	14.8	36.2	16.2	2.5	0.8	100.0
Social sciences	2.1	18.4	15.0	11.3	34.1	14.1	3.8	1.2	100.0
Combined:	1.8	20.7	19.2	16.2	29.0	10.0	2.1	1.0	100.0
1977									
Natural sciences	2.2	19.5	20.1	16.8	28.3	10.6	1.6	0.9	100.0
Technical sciences	3.8	19.1	22.5	16.2	25.0	12.2	0.9	0.3	100.0
Medical sciences	0.7	19.3	21.9	19.4	22.5	12.2	2.5	1.5	100.0
Agricultural sciences	1.7	15.9	18.7	15.8	25.9	19.8	1.8	0.4	100.0
Social sciences	3.2	15.7	20.7	16.2	23.8	17.0	2.2	1.2	100.0
Combined:	2.9	18.3	21.5	16.6	25.1	13.5	1.4	0.7	100.0

Source: *A tudományos kutatók iskolai végzettsége* (The educational level of scientific researchers), "KSH Időszaki Közlemények", 1979, p. 12.

It would seem to be practical if research were only a period of 5-10-15 years in the life of those with appropriate abilities and it did not mean a life-time engagement. In technical professions, it is generally correct to start with research and/or development, and then move on to education or production. This is a well-known idea, even resolutions have been adopted to promote this process, but they have never been implemented. Some of the obstacles are as follows: research institutes and universities are much more attractive than companies, therefore only very few people leave the former places on their own initiative and there is no compelling force in this direction.²⁷ Also, it is financially more advantageous not to change research work for educational or productive activities, but rather to complement it in the form of secondary employment. Furthermore, similarly to other spheres of society, neither the research institutes are compelled to get rid of their less able staff members, and in fact, the management usually cannot do so. The system of employment for a determined period is largely formal, because the existing power relations as well as the local public atmosphere usually obstruct its functioning.

The transfer of professionals capable of only poor performance is also hindered by labour statutes. In order to increase mobility, special labour regulations would be needed in respect of jobs in which the quality and standard of work has especial significance (engineering posts requiring outstanding knowledge and abilities are naturally understood to be included here). The "right to a given job" is especially harmful in the case of those performing creative work. The "equalizing" statutes of the Labour Code should be modified in this respect. Namely, those in leading posts and those performing creative work should be granted less than average protection. In the case of these jobs it would be desirable if employment could be discontinued by the company not only when the employee seriously violated the work disciplines or when he/she proves to be completely unsuitable for the job, but also when after a determined period it turns out that the employee did not fulfil his/her job at an adequate level or there is a better application for

the post. Naturally, those belonging to this category of the labour force could only be made to accept greater than average risks with regard to job security if, as a compensation, their wages were significantly higher and other working conditions more favourable than those of other workers.

It is a world-wide phenomenon that an ever increasing number of engineers are employed in non-technical fields. According to an expert estimation²⁸ in 1977 in the Federal Republic of Germany already 37 per cent of the engineers were engaged in non-technical activities and this tendency was expected to strengthen. The majority of engineers engaged in non-technical activities are employed in marketing. In the West it is not rare that researchers become foreign traders, who due to their previously acquired experiences and their intellectual horizon can exercise a valuable orienting influence on research and development. In Hungary there is a very weak relationship between research and foreign trade, and the mobility of experts between these two areas is almost unknown, albeit this could be a promising direction of mobility of researchers who have an appropriate knowledge of foreign languages.

As it was already mentioned above, the changing technical tasks require an engineering staff of changing composition. However, even under the conditions of a much greater mobility of experts, it is inconceivable - and it is also undesirable - that the engineering staff of a company would continuously change with the changing tasks. Also on the basis of foreign experiences, it would seem to be practical to establish such flexible technical and engineering bureaus - functioning as enterprises - which, with only a few permanent employees, rather by way of commissioning the best professionals of the field, could satisfy at a high level and in a short time all those demands of companies concerning planning, product and production development, etc. which their own staff could only satisfy inefficiently.

THE FINANCIAL AND SOCIAL APPRECIATION OF ENGINEERING WORK

The salaries and consequently the financial situation of those engaged in technical creative activities are, on a world scale, much more favourable than the average, they are often outstanding. In the industrially advanced capitalist countries, their salaries are much higher than the wages of those performing simple routine work (cf. Table 39).

Table 39. Gross monthly wages (salaries) of men of the age of 45 in some trades and professions in the FRG in 1975

	Wages in DM
Unskilled workers	1,650
Semi-skilled locksmiths	1,800
Skilled locksmiths	2,100
Master workmen (foremen)	2,700
Mechanical technicians	2,900
Mechanical production engineers	3,700
Mechanical engineers with a diploma	4,800
Mechanical engineers obtaining a Ph.D.	6,000

Source: Grätz, F.: *Wer verdienen was? Einkommen, Löhne und Gehälter von A-Z*, Lexica Verlag, 1976.

According to another source, the average gross wages of industrial workers in the FRG in 1976 were 1,652 DM, whereas those of young production engineers were 2,500 DM, and of engineers with a diploma were 2,910 DM.²⁹ In the mid-1970s, engineers received on average 5.8 times higher wages than the minimum wages in the region of Paris, and 5.5 times higher than those in the countryside. In the processing industry in the United States, engineers earn about twice as much as the average wages of workers. In the capitalist countries, a part of

the engineers are among the highest paid strata either as owners of private firms or as employees in leading positions. In Canada in 1962, about half of the engineers were among the top 5 per cent best paid people.³⁰

The decrease in the differences of wages between higher and lower qualified workers is a historical tendency on a world scale, which naturally also has an influence on the development of the relative situation of engineers. However, this tendency does not have a permanent effect; moreover, at times and in certain places there are also strong counter-effects. For example, in the FRG between 1970 and 1976, the nominal wages of industrial workers grew by an average of 47 per cent whereas those of engineers by 63 per cent.

In Hungary, on the contrary, the relative wage level of technical intellectuals shows a steady and extremely fast rate of decrease (Table 40).

Table 40. The wages of technical employees in industry as a percentage of the wages of workers

Year	Per cent	Year	Per cent
1938	301	1970	151
1949	195	1975	148
1955	172	1976	144
1958	158	1977	141
1960	157	1978	139
1964	154	1980	142
		1981	142

Source: *A lakosság jövedelmeinek alakulása 1950-1980* (The development of the incomes of the population, 1950-1980), Central Statistical Office, p. 58; *Foglalkoztatottság és kereseti arányok* (Employment and wage ratios), Central Statistical Office, corresponding volumes.

Note: The term "technical employees" is not identical with engineers; it also includes technical employees without high level qualification on the one hand, as well as the data of those having a leading position on the other.

The shrinking of wage differentials to such an extent is striking even among the socialist countries. This especially holds true for the period between 1950 and the mid-1960s when the differences between the wages of workers and technical employees decreased to the greatest extent in Hungary among five socialist countries (Bulgaria, Czechoslovakia, Poland, the Soviet Union and Hungary).³¹ This has led to a situation that nowadays the wages of engineers holding no leading posts are hardly higher than those of skilled workers, and not infrequently they are even lower. At the Diósgyőr Machine Factory, for example, only the average wages of those engineers who have more than 20 years of practice reach the average wages of the skilled workers there. At another big company in Borsod County, the difference between the wages of staff members with a higher level of education and those of workers without a higher level of education is 12.8 per cent. According to a survey by the Central Statistical Office carried out in the early 1970s concerning the so-called life-incomes, the engineers reached the volume of the life-incomes of those with a medium level education only at the age of 38.8 years on average.³²

The situation of other groups of intellectuals has also deteriorated significantly in a relative sense; however, it seems to be the greatest in the case of the technical intellectuals. Contrary to public belief, the financial situation of the majority of engineers is not more favourable than that of teachers whose wages are one of the worst among the intellectuals. And it should also be taken into consideration that teachers usually have more possibilities (time) to engage in extra activities in line with their profession, which might bring extra income for them.

The financial situation of young engineers who are starting their career is especially bad. In Hungary, the wages of engineers are more dependent on age, or seniority, than in the industrially most advanced countries. (In the Federal Republic of Germany, for example, the monthly wages of engineers between 40 and 50 are higher than the wages of those above 50. Production engineers have the highest wages between the age of 40 and 45. The relation between the age and wages of engineers is not

very close in the United States either.) Nevertheless, unless they are promoted to leading posts, the wages of older Hungarian engineers are also low, and the differences between the wages of the younger and the older engineers are smaller than what is envisaged in the central national system of wage tariffs. Namely, due to the extremely low initial wages, the companies are compelled to fully utilize the limits of the national system of wage tariffs in the case of the younger generation, and as a result, they are left with little financial means with regard to the older generation. Therefore, this looser relation between wages and age - i.e., looser as compared to the categories of the national system of wage tariffs - is not at all due to performance taken into account, but to the necessity of equalizing, which is caused by the extremely low initial wages.

Engineers holding no leading posts not only have low basic wages, but the sums of premiums and bonuses which their majority receive are also very low. This is proven by a survey of the Metal Workers' Trade Union, quoted above, as well as by our own examinations. For example, at the cable manufacturing plant of the Diósgyőr Machine Factory the engineering staff was classified into such a category which was not entitled to premiums. Hence, their wages - even of those who were in key positions of production, planning and the preparation of manufacturing - actually sank to the level of their basic wages.

In the final analysis, engineers - who do not become leaders - have only very limited possibilities of financial advance. In the case of engineers, even to a greater extent than among other groups of intellectuals, the almost only way of achieving a substantial improvement in their financial situation within the company or institution is to become a leader. This is the only way for engineers to receive essentially higher wages.³³

This is unfavourable from many respects. First, also such people strive for and acquire leading posts who do not fully possess the necessary abilities for it and could produce much better results if they were not in a leading position.³⁴ And with this, the research and development staffs lose many of their valuable members.³⁵ If they are unable to acquire a lead-

ing post at their own company, they leave it and have a try at another. This also contributes to the situation that big companies rarely have a research, development and design apparatus and an innovation staff of an appropriate standard, and that the research and development sections suffer from a "lack of intellectual capacity".

The fact that the remuneration of outstanding performance can essentially only be ensured through promotion to some leading post, or from a lower leading post to a higher one, plays an important role in bringing about an unnecessarily big number of leading posts. According to the survey conducted by the Metal Workers' Trade Union in 1977, 33 per cent of the examined professionals with a medium or higher level of education held some leading post. And this is hardly a healthy situation.

The generally very unfavourable financial appreciation of engineers greatly affects those who play a prime role in technological development. The financial recognition of engineers dealing with the everyday problems of production is more favourable at many companies than that of the engineers engaged in research and development. At the already mentioned Metallurgical Works, for example, the basic wages of those directly managing production are about 30 per cent higher than the wages of the so-called qualified executives. Therefore, great numbers of those with university education undertake direct production control jobs (viz. they work as foremen), and also those people do so who, due to their abilities, would be able to perform higher level technical tasks. (And in many cases it is also good for the companies, because the skilled workers who have adequate knowledge often do not want to become foremen as it would mean a loss of income for them.³⁶)

We have no comprehensive data on the wages of engineers. However, the 1980 survey of the Ministry of Labour, reflecting the conditions in May 1980, covered 500,000 workers and it also contains detailed data on the wages of the individual categories of workers without overtime-pay, shift or any other bonuses. Among the categories, that of the so-called "executives" mostly covers technical employees, whereas the category of "executives with a higher level of education" means mainly engineers (nat-

urally, it also includes other groups of employees, e.g., economists). Anyway, it provides a sort of basis for the assessment of the situation of the engineers (cf. Table 41).

Table 41. Monthly wages (without bonuses) of different working categories in the socialist sector in May 1980

Category	Monthly wages (Forint)	Average wages of all workers = 100
Production controllers	6,078	145.7
Executives	4,418	105.9
Executives with a higher level of education	5,289	126.8
Skilled workers	4,191	100.5
Average wages of all workers	4,170	100.0

Source: *Tájékoztató az 1980-ban érvényesülő kereseti arányokról* (Information about the wage ratios prevailing in 1980), Ministry of Labour, Budapest, December 1980.

As we can see, the wage level of executives is around that of skilled workers (it is 5.4 per cent higher). The wages of executives with a higher level of education are somewhat more than 25 per cent higher than the national economic average and, at the same time, those of skilled workers, whereas they are somewhat more than 20 per cent behind the production controllers. The wages of engineers are similar to those of executives with a higher level of education, or are even probably somewhat lower than those (since the wages of economists and lawyers are higher). If we also take into account the various bonuses, from which manual workers receive a much higher share, the difference between the wages of engineers and manual workers becomes even smaller.

According to professional literature, the requirements set against engineers engaged in creative activity are, among others, the following: higher than average intelligence, prob-

lem-centred attitude, strong purposefulness, dissatisfaction with the given results, flair for communication, etc.³⁷ We can complete the list with the requirement of a high level of technical knowledge, general education and the thorough knowledge of at least one world-wide language. The present level of financial remuneration, i.e. the wages, does not at all correspond to these requirements.

Professionals engaged in technical creative work not only have low wages, but other important elements of their financial situation are also unfavourable. In this respect, the first place is taken by the supply of flats. In the 1950s and 1960s, the companies could only satisfy their needs for professionals by way of providing "the professionals playing an important role from the point of view of the company and the national economy" with a company ("service") flat. The situation has, however, changed; at present - at least as regards the quantitative supply of professionals - the companies are not compelled to apply such methods. On the contrary. Engineers are excluded from the most favourable form of acquiring company flats, viz. from the action of building workers' houses. In the cable manufacturing plant of the Diósgyőr Machine Factory, according to the survey conducted in 1978: "the ratio of technical professionals who do not have a flat of their own, and within that, of highly qualified professionals, is very high - almost 80 per cent - among those who are working in the innovative areas and in posts of key importance".³⁸ At the same factory, almost 50 per cent of the young technologists in the NC unit, 40 per cent of the engineers at the Electric Design Department and 33 per cent of the engineers at the Chief Design Department did not have a flat of their own. According to the quoted survey, it takes the young creative engineers as much as 5 to 10 years to solve the problem of their housing, and it means almost the same amount of loss in their professional life, moreover, exactly in their most fertile period. As somebody put it, they have to "repair television sets instead of reading professional literature" - and this situation plays a significant role in the present state of innovations in Hungary.³⁹ In such a situation, leaders at the work places do not and can hardly set

such requirements against those engaged in technical creative work, that would require these people's full energy and knowledge.

The poor financial appreciation of engineering work is closely related to the training of engineers in excessive numbers, i.e. the "oversupply" of engineers, as has already been discussed above. But, it is also related to ideological and political problems, viz. to a certain pejorative differentiation between intellectual and manual workers. Namely, it is also related to the view which regards it as a fault if the wages of the intellectual workers are higher or grow at a faster rate than those of the manual workers at a company. For example, the plan of wage policy regulations at the Borsod Chemical Plant contained the following in 1980: "The development of the ratio of average wages of manual and non-manual workers is an indicator to be taken into consideration in judging the granting of the title of 'outstanding company'. This circumstance has year by year determined the company's wage policy in the direction of a more moderate increase of wages of non-manual workers."⁴⁰ This hardly requires any comment. The endeavour to ensure that simple office work would not earn more than strenuous manual work is correct. However, to let the income possibilities of highly qualified professionals be limited as a result of this viewpoint causes serious harm. If we accept that the basic driving force behind social and economic progress is technological advance based on intellectual creative activity, then its consequences should also be drawn in wage policy.

Naturally, those performing technical creative work also need moral and social appreciation. Their situation is not advantageous in this respect either. Not only the financial appreciation, but the moral and social recognition is also greatly dependent on the hierarchical order. Those who are not in leading positions have a smaller share of the medals. There are also many complaints that those engaged in creative activities are not consulted enough and their opinions are not properly taken into consideration. Company managements pay some attention to listen to the opinions of manual workers at the forums

of factory democracy, but engineers are often not asked for their opinions - as the political bodies do not specially stimulate this.

Not only the financial appreciation of engineering work seems to have diminished, but so does its social prestige. A clear reflection of this is the official denomination (classification): "technical executive". There are executive I, executive II, executive III and executive IV and this rather refers to some bureaucratic office job than to creative work. The possibility of promotion in titles is also lacking in the case of engineers. Such possibilities are utilized in the state administration, in health care, etc., only industry has been ignored.

A very important precondition of evolving technical creative activity is the revision of its financial and social appreciation.

INTEREST IN INNOVATION

Out of all the company workers, technical employees without a leading post but employed in areas of key importance (viz. those engaged in product and production development, investors, technologists, etc.) seem to constitute these days that layer whose abilities and creative strength are utilized to the smallest extent. It is they who usually perform much less than what they would be able to under more favourable conditions. One, and presumably the most important, of these conditions is the assertion of an appropriate stimulative effect. The low average wage level greatly limits in itself the possibilities of stimulation and differentiation by performance. What is more, companies do not even use the existing limited possibilities of differentiation to promote innovation more effectively.

In the course of the survey conducted by the Győr Technical College of Transport and Telecommunications quoted above, 15 per cent of the production engineers said that creativity played no role at all in promotion and in financial advance at

their work place, and more than half of them said that it had a small or at most a medium role. In their opinion, a flair for creativity and innovation took the second last place among the 14 factors listed as having influence on advance in wages. According to their experiences, it is preceded by factors such as punctuality, political support, time spent at the company, friendly relations with top level managers, belonging to an influential group, etc. Other surveys also show that engineers' wage increases are to a great extent a function of seniority and the existence of characteristics which make someone a good official, and are much less related to the realization of creative tasks. The situation is similar in the case of granting premiums. A case study carried out at the Eger Precision Appliance Factory has revealed that in this factory the tasks for which premiums are paid primarily include such activities which are related to the ongoing production and the fulfilment of the annual returns and profit plans, whereas the remuneration of longer term development projects takes only the second place.

Only a small ratio of the members of the engineering staff receive premiums regularly; the jobs regularly receiving premiums follow a hierarchical order with a decreasing tendency (i.e. proceeding from top management downwards, the number of jobs receiving regular premiums decreases). Non-regular premiums and bonuses concern a wide circle of technical professionals: their majority receive sums under various pretexts that are small both separately and in total. The many different tasks set as conditions of premiums make effective stimulation impossible. "Workers already regard it as natural that they receive smaller sums under various pretexts, and that they are not required to raise their performance to any significant extent in return."⁴¹ At a big company in Budapest, the annual amount of premiums for engineers engaged in development was set at 12,000 Forints, and with a few exceptions, everybody received that sum irrespective of the differences in performance.

The application of bonuses and premiums set in advance is much more widespread than it would be justified. In the case of creative work, for example, non-planned results can also be valuable, sometimes they are even more valuable than the plan-

ned ones. Furthermore, experiences show that the premiums set in advance are also granted to people who barely fulfil their tasks, or give weak solutions, and that outstanding solutions are not remunerated with more than what was decided in advance. This system clearly stimulates for weak solutions. Premium set in advance is an appropriate form in the case of simple work which is easy to evaluate. Its widespread use in the area of technical creative work, however, is nothing else but the mechanic extension of the conditions of routine work to complex creative work, which practically means considerable levelling in this field as well.⁴²

The wide use of premiums set in advance is also due to the fact that by this leaders can hide behind indicators (premium conditions, the formal fulfilment of tasks) and so they are relieved of the uneasy task of judging the level of performance, which definitely requires professional knowledge and the acceptance of responsibility. At the same time, however, it is also to be acknowledged that in the case of complex technical creative activity, norms and requirements of performance expressed in figures can rarely be established, as there is generally no way to evaluate work performances in an exact manner. As already mentioned, instead of non-existent, but often forced "exact" measures, the individual value judgements of the leaders should play a much greater role than at present. No indicator of any sort can replace them.⁴³

Making those performing technical creative work interested in the total profits of the company does not have a special stimulative force, since individually they have little effect on the conditions forming the profits. In their stimulation, the role of basic wages should be increased. In the case of steady good work, primarily the basic wages should be increased substantially, and differentiation should be realized in this way. Another reason justifying this solution is the fact that people are much more sensitive to basic wages - which to some extent qualify the individual - than to premiums and bonuses which have no such characteristic. Stimulation through basic wages can be easily individualized on the basis of actual results. Through basic wages of an appropriate level, the secure

financial preconditions which are indispensable for creative work can be established. Naturally, stimulation through an increase in basic wages is only effective if the extent of the increase is appropriate; if it is not, it cannot achieve any stimulation at all and it might easily become destructive. The majority of the companies in Borsod county determined the minimum increase of monthly wages in 100 to 200 Forints.⁴⁴ In the case of those performing qualified engineering work, this sum is too little.

At big capitalist companies, those performing technical creative work usually have no direct interest in the total company results (profits). Outstanding engineering performance (construction, technology, etc.) is rewarded with substantial wage increases, or high amounts of premiums, paid generally at the end of the year in recognition of good work throughout the year. There are also other forms of rewards. For example, the granting of shares (securities), the payment of a bigger sum to the insurance or pension fund of the individual, the granting of a trip abroad, the free choice of a holiday covered by the company, or the covering of the expenses of a study tour, etc. These special rewards are usually granted by the boss within his own discretion, without any restrictions. (Before the Second World War the situation was the same in Hungary, too. Older workers in old factories still remember it.)

SHARING IN THE RESULTS

The differences in the success of the work of those engaged in technical creative activities can be very great, may even be 10- to 20-fold. This cannot be followed by wages alone. Therefore, in some cases it seems to be practical to go beyond the traditional framework of remuneration and rewards, and where the conditions exist for it, professionals occupying a key position in innovation should be granted direct shares of the economic results based on their activities (for example, a certain percentage of the extra profits gained through the new construction, technology, etc.). Although in a very limited circle, this does exist in Hungarian practice. The shares thus

paid to the innovator may reach a sum which is several times higher than the traditional premiums and bonuses, and so it has a real and strong stimulative effect. And this solution is also advantageous because the sum is thus not paid on the basis of the quite frequent "victory reports" which are made in the course of progress, but on the basis of real profits gained on the market. This gets professionals to adjust themselves to real market relations to a maximum extent, which is a prime interest of the national economy.

The realization of direct sharing in economic results is obstructed by several factors. The problem starts with the fact that neither the accountancy nor the financial management of the companies are adequately prepared for the separation of extra profits gained from development, and they do not very much endeavour to do so (viz. they are not interested in making it clear what the real origin of the profit is).⁴⁵ The over-centralization of the companies as well as the balking and, at many places, the regression of the system of self-accounting within the company are harmful also in this respect.⁴⁶

The other main obstacle to the realization of direct sharing in the results of innovation is beyond the economy; it is of an ideological and political character: antipathy to and scruples about very high earnings, even if the value of the results behind them is proved to be many times more.⁴⁷ The Hungarian legal rules make it possible to pay high sums for the results of creative activity, but due to the factors discussed above, high incomes are only very rarely granted. At one of our big machine factories, the share of the constructors in the returns from the sales of machines built according to their ideas was laid down in the collective agreement. However, when it turned out that the share amounted to 20,000 to 30,000 Forints, the management became so much afraid of the sum that they reduced the rates. This antipathy to even deserved high incomes obstructs technical progress to a great extent. (This problem will be discussed in detail below, in connection with innovations and inventions.⁴⁸)

It is worth considering also from the point of view of innovation that we should be afraid not of some earning too much,

but of having too little to distribute. People should be allowed to earn much if they produce the whole society profits which are many times more than their earnings.

THE INTEREST OF COMPANY MANAGERS IN INNOVATION

Managers stimulate their staff members for tasks in the realization of which they are also interested. The same holds true, of course, also for innovation. Unfortunately, managers in Hungary - at least up to now - have been interested in innovation only to a very little extent, moreover, often they have had counter-interests. Neither the "base interest" (see explanation in footnote 16 to Chapter 4) nor other regulators help develop managerial attitudes which would strive for a change and something new. Successful innovation brings little advantage for managers, whereas realization always involves difficulties, and eventual failure may cause serious inconveniences. In the mid-1970s the staff of the Department of Sociology at the Political Academy of the Central Committee of the Hungarian Socialist Workers' Party talked to some 100 managers about this question to review the situation. It turned out that the incomes of 30 per cent of the managers were not affected at all by the realization of successful innovations, and in the case of another 53 per cent they did not change significantly. This means that more than 80 per cent of the managers did not have an adequate financial interest in innovation.⁴⁹

This is primarily due to the fact that the incomes of managers are only loosely related to the company profits, and even this loose relation is only a short-term one, namely it exists only with regard to annual profits. It would be expedient to make the incomes of managers depend not on the annual profits but on the results of several years. (Despite attempts at it, this has never been realized.) And we want to strongly emphasize that in the case of managers it is the *steady good results* that should be appreciated. And if there are steady good results, one should not shrink even from such managerial incomes that today are still considered to be unusually high because they are several-fold of the average incomes.⁵⁰

It seems that a smaller number of, but better paid and accordingly better selected managers (with a greater sphere of authority) would be more advantageous from the point of view of innovation, too.

Another problem that cannot be disregarded is the fact that the financial interests of the managers are at best related to the results achieved up to their retirement. It should also be considered that managers be made interested in results which manifest themselves only after their retirement. This is primarily justified from the point of view of technological development which yields result only in the long run.

The long-term interest of managers who do not hold shares in company profits still awaits solution also in the industrial-ly advanced capitalist countries. From the point of view of innovation, it is regarded as advantageous if managers are also the owners or shareholders of the company, and in this way their long-term individual economic position also depends on the company's future economic results. According to experience, managers of this type are more willing to invest in innovation, the expenses of which are only recovered in 10, 15 or 20 years than those who are only employees. The professional managers of big capitalist companies usually lack such interests. Wages and pensions are important for them, but these are forms of income which are connected with the short-term results of the company. This problem has aroused the interest of experts. According to a proposal raised in the United States, a part of the pensions of company managers should be made dependent on the current company profits. In this way, their incomes after retirement would partly depend on the long-term profitability of the company, and that would have an advantageous effect on their attitude, as active earners, towards longer term profitability.⁵¹

In Hungary, one of the main problems as regards the selection and the keeping in position of managers, which is also a problem from the point of view of innovation, is that the criteria are not always based on the actually produced economic results, that is, their managerial activities are not judged solely on this basis. Although the past few years undoubtedly saw a positive change in this respect, managers are still often

more interested in the trust of superior state and social bodies - which might as well lack any economic consideration - as well as in the support of those bodies which represent the company collective, than in real economic results. This double dependence (viz. on the superior state and social bodies and on the company collective) also contributes to the practice that managers try to avoid conflicts with their staff and, guided by this consideration, they often make concessions even at the expense of company interests. This situation is also responsible, as one of its determinants, for the reluctance to introduce wage differentials according to performance also among those engaged in technical creative work. To win and keep their position, and possibly to gain a promotion, managers undoubtedly need the support of the working collective, of the social bodies representing it. Under socialist conditions, this is natural, but at the same time, it is the source of contradictions. In the view of the collective in general, and in Hungary today in particular, there are very strong endeavours to achieve and/or maintain levelling, especially at places and in cases where and when performances cannot be measured in an exact manner - and technical creative work belongs to this category. The collectives and the bodies representing them often tend to "soften" the appreciation of outstanding individual results and to limit the success of outstanding creative personalities. Managers should withstand this pressure; however, due to their double dependence mentioned above, they rarely do so, and under the collective's pressure they yield to the levelling endeavours. That is why the individual managerial value judgement, which is so much required in judging performances that cannot be measured in an exact manner, is often missing or is expressing an attitude which, under the influence of the public, promotes levelling. Also the various forums and manifestations of factory democracy often strengthen this tendency of levelling. It is not infrequent that such people are involved in determining wages, premiums or bonuses who have their own interests and decide on each other's incomes. As a medium level manager put it: "Factory democracy is interpreted in the wrong way at us: it means levelling."⁵²

The participation of those involved (workers, engineers, etc.) in the preparatory phase of decision making may lead to an increase in the efficiency of innovation, but for that such a management is needed which is able to represent the company interests even against the short-term interests of the workers and which is able to combat the levelling endeavours initiated by the collectives.

INVENTIONS AND INNOVATIONS

Compared to the number of the population, the number of inventions registered in Hungary is very low. In the mid-1970s, that number was smaller in Hungary than in any other CMEA member state, except Mongolia, and significantly smaller than in the industrially advanced or medially developed capitalist countries.⁵³ In the 1970s, the number of inventions applying for a patent stagnated (Table 42).

Table 42. Number of inventions applying for a patent

Year	Number
1971	1,215
1972	1,343
1973	1,170
1974	1,184
1975	1,093
1976	1,149

Annually, about 600 of them were granted patent protection. Among the few inventions registered, the number of those registered by research and development institutes is especially low.

The number of innovations - due to the significant differences in the interpretation of the concept - cannot be compared among countries.

However, the stagnation which can be observed in the area of inventions also took place in the Hungarian innovation movement. This is a well-known fact with which also some national bodies dealt. The calculated useful results of innovations and inventions have tended to shift in favour of inventions. This is partly due to the fact that the results of the fast growing innovation activity carried out at the research and development sections of big companies are not qualified as innovation, since this activity is the actual job of those working there.

(Data concerning inventions contain the results achieved both during working time, and after it.) While at bigger companies profits gained from inventions greatly surpass the financial gains from innovations, at smaller companies the situation is the other way round.

It is a recurring problem of technical creative work, which part of the innovation activity can be regarded as a duty belonging to the job and which is beyond it, that should therefore be rewarded separately. There is a view that it is "immoral" for engineers and researchers to collect money for their invention or innovation, because "they receive wages for that". And this has increasingly been applied to those in leading posts. This view is extremely harmful. It discourages those who could be expected to do the most in the field of innovation from carrying out activity in this field. The legal rules on innovation in force since 1974 extensively narrow down the sphere of creative activities which figure as job duties and treat significant creative performances - even if they are realized within the framework of the given job - as innovations which should be given extra remuneration. However, all this has led to little change in practice so far. At the big industrial companies the creative activity of constructors continues to feature as their job duty and therefore they are not given innovation bonuses proportionate to the results. According to a survey conducted at the Diósgyőr Machine Factory in 1978, a considerable part of the innovations do not belong to the so-called significant creative performances. Furthermore, many of the innovations are based on ideas alien to the constructors' own scope of activity, that is, they introduce innovations in

areas with which they are less familiar.⁵⁴ It is quite certain that this can be traced back to the constructors' lack of interest in innovation in their own field, that is, that it is their duty to carry out creative activity within the framework of their job.

It is clear that at modern big companies inventions and innovations constitute the basic task of a part of those performing technical creative work (researchers, developers, constructors, etc.), and in this sense, inventions and innovations do belong to their job duties. However, this fact should also be expressed in financial terms. This could be done in two ways: either in their wages (which in this case should be made dependent on the results), or in special bonuses paid after the individual innovations and inventions. The only thing which should not be done is not to acknowledge such performances in either way. Constructors or developers whose wages are often at about the level of those of unskilled workers can hardly be expected to perform innovation activity continuously as their job duty.

There are uncertainties also about the amount of invention and innovation bonuses. Clearly, invention bonuses are not wages, but the reward for intellectual creative activity. Consequently, their amount should not be determined by the volume of work and the efforts of the inventor, but by the economic results. Hungarian patent rights are also based on this idea. Practice, however, is somewhat different. The general company attitude is that the higher the profits from an invention are, the smaller is the ratio of bonuses. And a similar attitude is manifest in judicial practice, too. (A significant part of the patent affairs are finally taken to court, and the patent fees are often determined by the courts eventually.) Until quite recently, achievements bringing high income were regarded by the courts as a factor decreasing the ratio of bonuses, and in their decisions they took to a great extent into consideration the activity leading to the result, that is, the volume of work performed in the course of creating the innovation.⁵⁵

This attitude leads to the practice in which the determining role of the economic results in the volume of the invention

Table 43. Returns from sales of 10 "service inventions"* utilized until the end of 1970 and the distribution of the invention bonuses at company "G"

Invention number	Returns from sales (%)	Saving in costs (%)	Invention bonus (%)	Invention bonus paid after 100 Ft of result (Forints)	Invention bonus in the case of product-type patents (%)
I } **	57.4	-	24.4	0.3	30.6
II }					
III	10.2	-	21.8	1.7	27.7
IV	7.6	-	19.0	2.0	24.0
V	20.7	-	7.7	0.3	9.7
VI	3.7	-	5.8	1.2	7.3
VII	0.4	-	0.5	0.9	0.6
VIII	0.0	-	0.0	-	0.1
IX	-	23.4	6.9	6.1	-
X	-	76.6	13.9	3.8	-
Total:	100.0	100.0	100.0	(average) 0.8	100.0

*"Service invention" means that invention which is brought about within the framework of the employee's job duties.
 ** I and II were dual patents of common utilization.

bonuses is quite often pushed to the background. This is also supported by some case studies (see, for example, the figures given in Table 43).

As it can be seen from Table 43, more than half of the returns from sales are the result of patents I and II, whereas the invention bonuses paid after them amount to only one fourth of the total. Similarly, patent V accounts for 20.7 per cent of all returns from sales, whereas the invention bonus involved is only 7.7 per cent of the total. At the same time, patent III providing for only 10 per cent of the returns from sales involves 21.8 per cent of the total of invention bonuses. About the same applies to patent IV as well. Other studies show a

similar picture, namely, that the amount of profits gained from the utilization of a given invention does not play a decisive role in the sum the companies pay as invention bonuses. The extent of degression applied in the determination of invention bonuses is such that it hardly makes the inventor interested in an ever wider scope of utilization of his or her invention, which, however, would be a national interest.

When determining the sum of the invention bonus, the net result is generally calculated in a very simple way: the production costs are simply deducted from the returns from sales of the product manufactured with the help of the invention. This can neither be approved nor be accepted. In fact, when determining the sum of the invention bonus, such advantages of the new invention as the saving of material, of energy and labour, the lessening of the danger of industrial accidents during work, environmental protection and the possible saving of hard currency, etc. should also be taken into account.

The companies also want to get the innovations "cheap", and that is why they often pay unproportionately small sums of remuneration. It is largely due to this "saving" attitude that there is a great number of innovations which are only "ideally" rewarded, that is, without calculating the economic gains. In 1977, three fourths of the utilized innovations covered by a survey carried out by the Central People's Control Commission were awarded in this way. (Often the innovators themselves support this solution, because they receive the award much sooner in this way. Until quite recently, a factor behind this parsimony concerning innovation bonuses was that the source of these bonuses at the company was the so-called "share fund", that is, the remuneration of innovations was covered from that part of the profit shares which could otherwise be used for increasing wages or granting rewards. (According to estimations, the remuneration of innovations on the basis of real, calculated results would have taken almost half, but at least one third, of the profit-shares of an average company.⁵⁶)

However, in addition to what has been said above, there is also a deeper reason behind "saving" on invention and innovation bonuses - a practice which considerably hinders stimula-

tion. And this is the already mentioned widespread levelling endeavours which try to obstruct any "outstanding" income, irrespective of the economic and social gain behind it. The reason why in the majority of cases the determination of innovation bonuses comes before court is that in the atmosphere prevailing at Hungarian companies at present, the company managers do not dare to undertake the responsibility of determining and paying out big sums.⁵⁷ It is not rare that subjective feelings, accusations and slanders against those who justifiably demand higher invention or innovation bonuses take the upper hand - in the name of social interest.⁵⁸

In Hungary, there are many possibilities of earning secondary incomes. In the case of those performing technical creative work, it is obviously more practical if they earn their supplementary income through practising their profession than if they have to do some activity that is far from their field.

The weakest chain in the invention process in Hungary is not "invention" itself, but its practical realization and, within that, the elaboration of the corresponding industrial technology. The Hungarian research and development apparatus is stronger in "producing ideas" than in realizing and spreading them. The inventors themselves are usually not suitable for this activity; for realization, the participation of such professionals is required who are disciplined, systematic and careful in the solution of minor tasks as well. However, the solution of such tasks represents for them only extra burden without any advantage. The remuneration of those participating in the realization of innovations and inventions is actually not solved. Referring to the possibility of abuse, the earlier form of remuneration was abolished, and now it can only be paid at the expense of wage increases or from the share fund. And this solution is so much disadvantageous for the companies that they rather abandon the introduction of even good results. The people who participate in the realization are generally paid by the innovators or inventors from their own pocket, and thus this sort of remuneration has become part of the "second economy". This solution is more or less acceptable if the inventors grant a share of their bonus to those who contributed to the

realization of their invention in an active way. However, often such people are also given a share, who basically did nothing in the interest of the result, and whose "merit" is only that they did not roll obstacles in the way of realization, although due to their position, they could have done so. Unfortunately spreading is the following practice, which is also on the verge of corruption, namely, that the inventors, before the process of applying for a patent, take the company leaders on whose decisions the realization depends into the business as partners. This is why there are often as many as eight to ten "co-authors" of some patent applications. This situation is harmful not only morally, but also economically. This practice so much embitters the more "sensitive" inventors and innovators that they either give up in the process or do not even start their activity. Naturally, the greatest damage is caused by those company leaders who make the assistance they provide for the realization of an innovation or invention dependent on the extent to which they are granted a share in the bonus by the innovator or the inventor.

It is also a problem that the appropriate bodies for the development and realization of inventions are mostly missing. The utilizing company is not necessarily suitable for this, and in most of the cases, it is not really worth for the company to take the risk. Recently, the National Bank of Hungary established the Innovation Fund of the Central Exchange and Credit Bank Ltd., which participates in the financing of more significant innovations on a business (risk-taking) basis. However, this is only the financial aspect of the issue. In addition, such small companies would be required which are specialized in the development of inventions, the pilot manufacturing of the new products and the elaboration of the technology needed for large-scale industrial production. In this respect, an important role could be played by the already mentioned engineering bureaus.⁵⁹ Naturally, not even a big research institute or a big company is always able to employ those engineers who are the most suitable for the realization of a given promising invention. Consequently, a more flexible solution is needed. The engineering bureaus set up as economic associations, through in-

volutioning the most appropriate professionals in return for appropriate remuneration (possibly for shares), could carry out the development and the technological application of the different inventions in a professional way and in a short time.

What most hinders inventive and innovative activity is that the companies are not appropriately interested in innovation. In the final analysis, this is the root of the problems. And this already leads to the problem of the economic environment of the company, of the system of functioning of the national economy. We shall only touch upon this problem in very rough outlines.

THE ECONOMIC ENVIRONMENT OF THE COMPANY; THE SYSTEM OF FUNCTIONING OF THE NATIONAL ECONOMY

Technological development and, within that, the conditions for the evolvement of technical creative work, cannot be separated from the system of functioning of the national economy as a whole. Not even direct support given to technological development can bring the desirable result if there is no demand in the economy for innovation. That is, the problems of technological development cannot be solved in isolation, only through the special methods of regulation.

Hungarian companies are oriented to profits only to a limited extent and among the methods of increasing their profits technological development is pushed into the background, as they have more comfortable means to realize that goal. This situation is closely related to the deficiencies in the price system. As long as the buyers accept any and every cost in the prices - and this is still the case to a great extent -, the companies will be able to secure their profits also through outdated activities. On the other hand, profits resulting from great demand for a product, or the extra-profits due to its novelty, etc. are realized in the company's income only to a little extent. The increasing price level makes the question even more complicated. In many cases, the company profits are much more dependent on the price form - that is, whether the

products are sold at fixed or at free prices - than on the extent of modernity of its activities.

But even this interest of the companies in profits is only a short-term one. Namely, both the company managements and the collectives as a whole are only interested in technological development which is remunerative in the short run, because their extra incomes depend on the annual profits. The supervisory bodies, namely, judge the companies' activity primarily on the basis of their short-term results, while the implemented technological development plays only a secondary role in this respect.

Readiness to undertake risks - which is indispensable for the realization of any innovation - is very weak.⁶⁰ The majority of the companies do not risk a bird in hand for two in the bush. Competition, which would compel the companies to undertake risks, is mostly absent. And the companies which are not compelled by competition to do so, are willing to undertake the risks which are necessarily involved in technological development only to a very limited extent. This attitude is primarily characteristic of the companies in a monopolistic position, less so of the smaller companies and perhaps the least so of the co-operative companies.⁶¹

The low level of readiness for undertaking risks and the weak innovation activity are closely related to the fact that the Hungarian economy is characterized by demands exceeding supplies, i.e. by shortages. The "market of sellers", on which the buyers are at the mercy of the sellers, does not compel the producers to satisfy the needs of the consumers and to engage in technological development. The export markets in the West are naturally different, but the attitude of the companies is largely developed by the domestic, more comfortable conditions.

It is another obstacle to technological development that the economic independence of the companies is strongly limited, and this also affects the competitive sphere. State "patronage" of companies, the supplementing of low company incomes, the siphoning-off of high company incomes (the distortions in the price system often make it unavoidable), the "expectations" from above, the "regulation" of free prices, the "distribution"

of foreign trade quotas, involuntary co-operations, etc. all curtail company independence and curb the effective functioning of companies.⁶²

To achieve significant increase in the efficiency of technical creative work requires the further development of the system of functioning and the system of control of the national economy in the - already started - direction which leads to the elimination of the features of a "shortage economy", to the involvement of competition between companies, to an increase in company independence and the establishment of long-term interests of companies as well as to an increase in their readiness to undertake risks.

NOTES TO CHAPTER 6

¹ This chapter is based on a study originally prepared for the State Committee for Technical Development, under the title "The involvement of technical creative activity and its factors".

² The statistical accounting of engineers, and especially the related international comparison, always rests upon an extremely uncertain basis. The problem starts with the fact that the word "engineer" may on the one hand mean qualification, training, i.e. a person having such a degree. In this case, however, the work function, the job is unknown, because with a diploma in engineering several work functions and jobs can be done. At the same time, a degree in engineering expresses different educational levels changing from country to country. The word "engineer" may on the other hand mean work function, or a job, but in this case, the qualification remains obscure, because in several countries, people without a degree in engineering may also hold a job of an engineer. On this question, see Révész, A.: "A mérnöki munka helye és szerepe a társadalmi munkamegosztásban." In: *Értelmiségiek, diplomások, szellemi munkások* ("The place and role of engineering in the social division of labour. In: Intellectuals, university graduates, intellectual workers), Kossuth Könyvkiadó, Budapest, 1978, pp. 169-193.

³ See Révész, A.: *Op. cit.*, and *Szakszervezeti Szemle*, No. 2, 1979, p. 39.

⁴ The distribution of qualified engineers among the various economic sectors and industrial branches is much more even in Hungary than in the economically more developed countries. In the branches (e.g. the chemical and electric industries) which employ the most engineers the ratio is two and a half times that of the average, whereas in the branches employing

the fewest engineers the ratio is a half or one third of that of the average. In the economically more developed countries, these differences are much bigger [see Révész, A.: *A mérnöki munka helye és szerepe a társadalmi munkamegosztásban* (The place and role of engineering work in the social division of labour), Miskolc, 1979, p. 23]. This also refers to the fact that the number of engineers in Hungary does not fully correspond to the demands.

- 5 A decrease in the number of applications to technical universities and colleges compared to universities of arts and humanities can also be observed in the industrially advanced capitalis countries. This is usually explained by reluctance to do more controlled work in production.
- 6 There was a decrease in the number of students attending evening and corresponding courses at the technical universities and colleges in the early 1980s.
- 7 See Mrs. Tóth (Sikora) G. and Nagy A.: *A vállalati innováció emberi feltételeiről* (About the human conditions of company innovation), *Az Oktatási Minisztérium Marxizmus-Leninizmus Oktatási Főosztálya Tájékoztatója*, No. 5, 1980, p. 130.
- 8 See Mrs. Tóth and Nagy, A.: *Ibid.*, pp. 131-132.
- 9 See Mrs. Tóth and Nagy, A.: *Ibid.*, p. 124.
- 10 See Dr. Fehér, J.: *Érdekek a vállalati fejlesztési döntés végrehajtásában és a vezetés* (Interests in the realization of decisions on company development and the management), Budapest, 1980 (mimeographed).
- 11 The burdening of engineers with routine tasks which hardly require any creative activity is also a frequent phenomenon in the capitalist countries; that is, this phenomenon is not only characteristic of the Hungarian economy, but is general in modern large-scale industry. However, the ratio of non-engineering work performed by engineers is strikingly high in Hungary.
- 12 The co-ordination of daily tasks and longer-term development tasks does create difficulties for the management of capitalist companies, too. It was these difficulties which led, e.g. in the USA, to the establishment of New Venture Departments which are specialized in innovation research and development within the company.
- 13 See *A közlekedés és távközlés területén dolgozó szaktechnikusok és üzemmérnökök helyzete* (The situation of specialized technicians and production engineers working in transport and telecommunications), 1974, p. 126.
- 14 The rigid interpretation of one-man responsibility corresponds to an earlier level of development. The master craftsman certainly knew more than his journeyman, and the journeyman knew more than the apprentice. The journeyman - at least, in theory - knew nothing what his master craftsman did not know, and the apprentice knew nothing what the journeyman did not know. Nowadays, the relations are much more complicated. Staff members often have special knowledge and expertise. It happens ever more often - and this is more or

less necessary - that staff members engaged in special fields of activity have a knowledge superior to that of their leaders. This also points to the need for a certain decentralization of the scopes of authority.

- 15 According to large-scale surveys by the American sociologists D.C. Pelz and F.M. Andrews, research work is the most successful at places where researchers have the greatest influence on the choice of their subject. At places where the manager has a determining role in the choice of the subject, the result is poor (see Pelz, D.C. and Andrews, F.M.: *Scientists in Organizations. Productive Climates for Research and Development*, New York, 1966, p. 19).
- 16 Farkas, J.: Néhány gondolat a hazai feltalálói tevékenységről (Some thoughts about domestic innovative activities), *Ujítók Lapja*, No. 2, 1978, p. 10.
- 17 Farkas, J.: *Ibid.*, *Ujítók Lapja*, No. 3, 1978.
- 18 Jewkes, J., Sawers, D. and Stillermann, R.: *The Sources of Invention*, New York, 1959, London, 1969. Also see on the subject, Kozma, G.: A műszaki fejlődés közgazdasági környezete a tőkés országokban (The economic environment of technological development in the capitalist countries), 1976, p. 41 (manifolded).
- 19 See Magyar Beck, I.: A szellemi alkotó munka szervezésének néhány problémája az alkotók értékelése, leterhelése és kapcsolatai terén (Some problems of the organization of intellectual creative work concerning the evaluation, the burdening and the relations of the creators), "Szocialista Vállalat", Study No. 347
- 20 See Magyar Beck: *Ibid.*, p. 64.
- 21 Magyar Beck: *Ibid.*
- 22 They escape from the productive companies to research institutes and control bodies. Despite the big number of engineers, there are only a few highly qualified researchers and designers in the factories. According to a survey conducted at a big machine factory in Budapest mentioned above, although there was a significant increase in the number of those with higher level education, including engineers, whose effective employment was not solved, there was a permanent shortage in the field of designing and technology [see Fehér, J.: *Érdekek a vállalati fejlesztési döntés végrehajtásában és a vezetés* (Interests in the implementation of the company development decisions and the management), Budapest, 1980 (manifolded)]. At the examined Metallurgical Works there were only 8 (!) research engineers during the past few years. This means 0.44 engineers per 1,000 workers, which is less than one fourth of the ratio given as desirable in the professional literature.
- 23 See Heuer, G.Ch.: *Forschung und Technischer Fortschritt*, Meinsenheim an Glam, 1970.
- 24 See Bureau International du Travail: Les congés payés. Conférence Internationale du Travail, 53ème section, 1969. The document mentions Bulgaria, Poland and the Soviet Union

among the socialist countries where scientific workers as well as engineers are granted longer annual holidays.

- 25 See Conférence internationale sur les tendances de l'enseignement et de la formation des ingénieurs: Rapport final, Paris, December 9-13, 1968, SG/MD/12 Paris, 1969, p. 29.
- 26 See Réale, Y. and Livian, Y.F.: Les structures favorables à l'innovation, *Revue française de gestion*, January - February 1980.
- 27 As already mentioned, the offices of technological development at companies have become depopulated. The trend is to move to research institutes and to control bodies. As a result, a great portion of the research labour force is tied up at research institutes, although it would much more be needed at companies.
- 28 See Heppner: *VDI Nachrichten*, 1978/4.
- 29 See *VDI Nachrichten*, 1977, No. 38.
- 30 See Bell, E.S. et al.: Supply, Demand and Utilization of Engineers, *Professional Engineer and Engineering Digest*, December 1965, pp. 36-38.
- 31 See *Jövedelmek a háború utáni Európában* (Incomes in post-war Europe), Central Statistical Office, 1968.
- 32 See *Képzettség és kereset* (Qualification and income), Volume III, Central Statistical Office; 1974. The age limit has since risen to over 40.
- 33 Although the existing regulations make it possible to grant professionals with outstanding performance without a leading post outstanding wages, so that their wages might be higher than those of their superiors, the companies very rarely use this possibility and they even fail to upset the hierarchical order when this outstanding ability is very clear. This is also connected with the fact that they are unable to fully utilize outstanding abilities outside leading posts.
- 34 "According to my observation, the most serious consequences of a lack of identification with the job become apparent when in recognition of their good work, i.e. as a reward, engineers are granted a leading post." Nagy, S.: *A szellemi munka hatékonyságának fontosabb tényezői, különös tekintettel a mérnökökre* (Some important factors of the efficiency of intellectual work with special regard to engineers), Publication of the Szilikátipari Tudományos Egyesület, Budapest, 1966, p. 7.
- 35 "At a certain level, design engineers can only continue to climb on the social ladder if they give up much of their aspirations and design endeavours." (István Magyari Beck's study in "Szocialista Vállalat," No. 347, p. 30.)
- 36 "The factory units 'digest' their technically good professionals. The engineers either stay in the office where they have no perspective, or go to work in the production units where in return for more money they have to accept technically inferior tasks." (See Fehér, J.: *Ibid.*, p. 34, where

he is writing about experiences gained at a big company.) Or: "Unlike in other areas, the young engineers and professionals working here [i.e. in development] are confronted with the solution of new tasks that had not been taught at the university. At the same time, they do not enjoy any advantages either in wages or in social provisions; as a matter of fact, their work has only been made more difficult by problems of finding a proper building for them to work in as well as by the problems of their organizational affiliation." (See, *ibid.*, p. 18.)

- 37 Cf.: Whitfield, P.R.: *Creativity in Industry*, 1975.
- 38 See Mrs. Tóth (Sikora) G. and Nagy, A.: A vállalati innováció emberi feltételeiről (About the human conditions of company innovation), *Az Oktatási Minisztérium Marxizmus-Leninizmus Oktatási Főosztálya Tájékoztatója*, No. 5, 1980, p. 123.
- 39 This bad housing situation of engineers is also due to the fact that a significant part of them are so-called first generation intellectuals, or children of parents with modest financial means, and thus they can only count on little parental support when establishing a family of their own.
- 40 See Mrs. Tóth and Nagy, A.: *Op. cit.*
- 41 From the case study carried out at the Eger Precision Appliance Factory.
- 42 The determination of bonuses in advance - especially if they are small sums - may also imply mistrust which offends creative pride. However, this type of work requires a high level of moral commitment which can only develop on the basis of a high level of trust.
- 43 All over the world there have been attempts to evaluate complex creative work with the help of formalized systems of qualification. The best known are the different point systems which evaluate the fulfilment of requirements - that mostly cannot be measured - by points and this result is expressed in the wages. However, neither these methods can eliminate the essentially subjective character of evaluation. They have advantages in so far as they compel the leaders to follow with attention the work of their staff members thoroughly and in detail.
- 44 Cf. Mrs. Tóth and Nagy, A.: *Op. cit.*
- 45 See OMFb No. 12-7810: A vállalaton kívül létrejött fejlesztési eredmények felhasználásának feltételei és hatásai (The conditions and effects of the utilization of development results originating from outside the company), p. 12. Also see Töpler, I.: Szintetizáló tanulmány gépipari innovációs esettanulmányokról (A synthetic study of case studies on innovation in the machine industry), "Szocialista Vállalat", No. 342, 1977: "If the innovation is based on invention, then savings, profits and other factors of improvement are only accounted for the purposes of covering the innovation or invention bonuses, but they cannot be measured in the companies' economic plans. Therefore, the positive effect of innovations generally becomes indistinct."

- 46 It may be practical to establish semi-independent units within the company exactly in order to promote innovation. For example, it may be justified at designing companies to establish truly self-accounting design units in which financial interests are much more direct than at the company level. The recently introduced regulations on economic associations enable such organizations, undertakings, etc. to function more independently. To better utilize individual initiatives, such independent undertakings could possibly also be established at research and development institutes as well as at universities.
- 47 It is interesting to note that very high earnings are better accepted in the so-called "second economy" (i.e. having a sort of second job in the private sector or doing illegal work) than within the state companies. This is probably also connected with the fact that whereas the majority of earnings in the second economy are hidden and can only be presumed, earnings are publicly known at the state companies and at the co-operatives.
- 48 "Since the extra incomes deriving from commissioned work (i.e. commissioned from outside the institute) are at many institutions divided among all the researchers (with the false reasoning that the others provided 'the background'), the one who has made sacrifices to realize the product has no more - not even financial - advantages than the others. (Only when researchers have a patent can they expect some extra remuneration for their activities concerning industrial introduction. However, not every competitive research product can be patented, ... and on the other hand, this remuneration gives birth to such envy that the leaders of research places often delay the signing of an agreement on utilization for years as it is threatening with upsetting the 'delicate' balance situation.)" See Hatvány, J.: Hazai kutatási eredmények bevezetésének tapasztalatai (The experiences of the introduction of domestic research results), *Magyar Tudomány*, No. 5, 1979, p. 350.
- 49 The situation was better in the case of leaders who directly control production; namely, 45 per cent said that successful innovation had led to an increase in their incomes.
- 50 In Hungary, company managers' wages (salaries) - contrary to public belief - are not high and, compared to some other categories, they are relatively decreasing. Whereas in 1975, the wages of top company managers (general managers, directors and their deputies) were on average three times as high as those of manual workers, the difference was reduced to two and a half times by the end of the 1970s. The increase of the wages of the technical professional staff was also slowed down during the past few years by the stagnation and the slower than average increase of the wages of those in managerial posts. However, this situation hindered the differentiation of the wages of staff workers as well, since there is a strong relation between hierarchical wage differentials and wage differentials according to performance. If the hierarchical wage ratios are differentiated only to a

little extent, then there cannot be an extensive differentiation of wages according to performance among the staff members either. Namely, if it were realized, the wages of a significant part of the staff members would become higher than those of managers, and that situation cannot be maintained for long.

51 Cf. Rolf, S.: "In Praise of the Small Company and the Technical Managers as Innovators: They Are Not Afraid to Take the Chance", *JEEE Spectrum*, No. 10, October 1978, pp. 85-86.

52 See Fehér, J.: *Ibid.*, p. 32.

53 See Emil Tasnádi's article in *Ujítók Lapja*, No. 16, 1977.

54 See Mrs. Tóth and Nagy, A.: *Ibid.*, p. 139.

55 Excerpts from judicial decisions with the reasons on which they are based:

"The ratio of [invention] bonuses cannot be determined mechanically. When deciding on an invention bonus, the court has to consider all the factors connected with the elaboration and the utilization of the solution in their totality and together, and has to determine such a bonus ratio on the basis of which the calculated invention bonus is proportionate to the level, the result, the significance and usefulness of the intellectual work of the plaintiffs..."

"However, the inventor can only have a share in this useful result in harmony with his performed work. In such cases when the bonus fund constitutes a higher amount, the percentage calculations may shift. Therefore, when deciding on the bonus rate, judicial practice also takes into consideration whether the bonus calculated in this way is really proportionate to the work of the inventors." Supreme Court Pf. IV. 21.202/1977 November 5. Quoted by Vilmos Bacher: "A találmányi és újítói díjazás egyes kérdései (Certain questions of the remuneration of inventions and innovations), Proceedings of the conference on "Innovation and Efficiency", Budapest, November 27-29, 1978. Magyar Iparjogvédelmi Egyesület (manifolded).

"In its stand, the Budapest Municipal Court pointed out that the volume of the company's net results is taken into consideration as a factor decreasing the bonus ratio in case it is outstandingly high and is not proportionate to the technical and intellectual standard of the invention, e.g. in the case of an invention resulting in the manufacturing of a mass product." (Budapest Municipal Court 2. P. 26.202/1975; January 19, 1977. Quoted by Bacher, V.: *Ibid.*, p. 83.)

56 The situation is similar with regard to those participating in the utilization of licences. This could also be financed only from the share fund.

57 See Bujtás, L.: Vállalati és egyéni érdekelttség (Company and individual interests), Proceedings of the conference on "Innovation and Efficiency", Budapest, November 27-29, 1978, p. 68, Magyar Iparjogvédelmi Egyesület (manifolded).

58 "Efforts are made to reduce the claims for higher bonuses at any rate: the significance of formerly advertised products

starts to be belittled, the creative character becomes disputed, and it gets ever greater emphasis that the product could only be realized through the employer's contribution in the form of assistance, material and energy. All that is presented in the name of safeguarding social property, whereas in reality it is nothing else but the attacking of the most talented creative forces." [Bacher, V.: A találmányi és újítói díjazás egyes kérdései (Certain questions of the remuneration of inventions and innovations), Proceedings of the conference on "Innovation and Efficiency", Budapest, November 27-29, 1978, p. 78, Magyar Iparjogvédelmi Egyesület (manifolded).]

- 59 The establishment of such bureaus is made possible legally by the decree on economic co-operative associations, and recently some bureaus of this kind have already been established.
- 60 Only one example of the extreme importance of undertaking risks in technological development: in the United States about 1,000 new products appear on the market every year. Out of them, 800 disappear from the scene extremely fast, and the production of only 50 of the remaining 200 proves to be profitable in the long run.
- 61 "Instead of adapting themselves to the environment, some of our big companies try to transform the environment itself in a way that they could satisfy the thus subdued expectations of the environment without modifying their activity." [Zsilinszky, A. and Páles, Gy.: Gazdaságunk tünetei és a problémák gyökerének lokalizálása (Symptoms of our economy and the localization of the roots of the problems), *Egyetemi Szemle*, No. 2, 1979.]
- At smaller companies, co-operative enterprises and industrial research institutes, "even if not in general and not at a steady level, but there are conscious efforts to market the inventions. This is due partly to the fact that the returns from sales in these organizations are of a much smaller order, and thus the extra profits resulting from inventions can already have a role in their economic results, and partly that their existence and economic fate are not *de facto* guaranteed to the same extent as is the case with the big companies." (See József Farkas's article in *Újítók Lapja*, No. 2, 1978, p. 11.) By the way, technical novelties are mostly turned out by small and medium-size companies also in the industrially advanced countries. However, these companies are not similar to our small companies: generally they are excellently organized and highly specialized companies of outstanding technological level, and are the best developers and producers of a unit or a semi-finished product.
- 62 "Despite central intentions, there is a danger that the production taxes, the budget subsidies, the development allowances, etc. regulate in such a way which levels the profits and the losses of the company management in certain areas and thus curbs the role of efficiency." (See Jávorka, E.: *Műszaki fejlesztés - hatékonyság - árak* (Technological development - efficiency - prices), Kossuth Könyvkiadó, Budapest, 1978, p. 129).

The average standard of living in Hungary corresponds by and large to the level of the country's economic development. However, there is a stratum whose income is of a size that cannot be spent in a reasonable way - at least not within legal limits - either on personal consumption or on individual and family consumptive investments. The consequences are wasteful consumption and investments, the evasion of the existing legal provisions, and the spreading of forms of utilization which encroach upon the interests of society. This is a relatively new social phenomenon, which is gaining increasing weight. That is why we have to deal with it.

The term "high personal income"¹ as used here does not mean a sum which exceeds a given absolute amount, but rather a phenomenon which also involves relative and subjective elements. We consider an income high when it includes a surplus which substantially exceeds the needs (the running consumption and the investment needs directly serving consumption) of the individual (or family) receiving this income. For example, the same income which causes no "problem" for a family of intellectuals in a big city to spend (which therefore is not a high income) may possibly involve a significant surplus that cannot be used in a sensible way by a peasant family that lives in a more modest way, with smaller needs, and whose utilization of the income is also limited by the backwardness of the network of services in the countryside.

The overwhelming majority of high personal incomes are related to certain professions, and mainly occur in the case of

four groups: (1) some of the artists, scientists, high-standing officials and highly qualified professionals; (2) some private craftsmen and tradesmen (self-employed people); (3) those receiving high amounts of invisible incomes (tips, "honoraria", e.g. substantial amounts are given to medical doctors to express one's gratitude, remuneration for illegal servicing or other activity done for the population, bribes); (4) some peasant or mixed (worker-peasant or employee-peasant) households.

There are incomes independent of professions too which play a role in the creation of high personal incomes: primarily in the form of casual, random incomes, inheritance, gifts, etc. With the general growth of well-being, their weight increases at a fast rate. Such incomes are also created through selling individual property or estate of a high value (a flat or other realty, works of art, jewelry, etc.). Regular incomes independent of a profession (the letting out of flats or sections of it, or holiday homes) rarely result in high incomes, however, they may play a significant supplementary role.

Even a rough estimate of the number of those enjoying high incomes encounters great difficulties. There are some data, however, referring to incomes related to professions. According to some estimates, there are about half a million people who regularly receive tips and substantial amounts as an expression of gratitude.² According to data of the Ministry of Finance, in 1975 from among the small-scale agricultural producers (i.e. those engaged in household plot activities) and those having independent intellectual professions (or those who additionally perform such type of work), as well as from among the private craftsmen and tradesmen, 7 per cent paid taxes after an income of 100,000 to 200,000 Forints per year, and 1 per cent of over 200,000 Forints per year, which means more than 130,000 people. These figures, however, do not tell very much in themselves. Obviously, it is only a part of those enjoying tips or amounts expressing gratitude who earn really high incomes, and in the overwhelming majority of cases an annual income of 100,000 to 200,000 Forints was not "difficult to spend" even in 1975. However, it has to be taken into consideration that these figures are mostly based on tax returns filled out by those concerned,

and the real figures are supposed to be higher - in several cases even to a considerable degree. It should also be noted that these figures do not include the income of those employees who also pursue independent intellectual activities; neither the income of those who earn much as employees (some leaders, professionals). If we take all this into consideration, it turns out that the people involved do not constitute some sort of a negligible little group, but a stratum whose number can be estimated to be as high as a few hundred thousands, and not a few tens of thousands.

The ways of easing the problems caused by high personal incomes should be sought in two directions: on the one hand, in the limitation of economically and socially unjustifiable incomes and, on the other, in the extension of the possibilities of utilizing the justifiable incomes even if they are high.

THE WAYS OF LIMITATION

From the point of view of limiting high incomes, it is the source and the extent of the income which have significance. In the case of incomes resulting from unjustifiable sources, the right solution is their elimination, while in the case of those which are unproportionately high but derive from a justifiable source, the solution is partly regulation at the source itself and partly a subsequent siphoning off. In the case of incomes of a justifiable extent, even if they are considered to be high, no limitation is admissible.

The outstanding incomes of some of the artists, scientists, high-standing officials and highly qualified professionals usually express activities that are especially valuable for society. (It is also true that the rest of them receive only rather modest remuneration for their activities which are no less valuable. However, the study of this disproportion goes beyond the scope of this book.) These incomes, as they derive from state or social bodies in the overwhelming majority of cases, can well be controlled and are adequately taxed in the form of a contribution to the pension fund as well as by a strongly

progressive personal income tax which is levied on free-lance people. Consequently, in this case - with the exception of extreme cases - no further limitation seems to be expedient.³

The incomes of private craftsmen and tradesmen cannot be regulated accurately. The disproportionately high incomes in this sphere can largely be attributed to a shortage of certain products and services, and to the lack of competition. Hence, these problems can primarily be moderated by the elimination of the shortage of products and services and by the evolvment of competition. Competition, on the one hand, between the socialist and the private sector and, on the other, within the private sector, i.e. between the individual craftsmen and tradesmen, should be much stronger than at present. To achieve this, in certain areas the number of the private craftsmen and tradesmen should be increased, and, in general, the tendencies which characterize an "economy of shortage" should be eliminated.

At the same time, the unproportionately high incomes can also be attributed to the extremely loose taxation discipline, and within that, to the concealment of the actual amount of income. There is some relation between this and the professional and moral weakness of the control apparatus, which represents a very serious problem and the effects of which reach far beyond the private sector. A high moral standard and the incorruptibility of the supervisory and control apparatus should be guaranteed at every level. This is a basic problem in the present situation.

Much is said these days about the serious negative consequences of the spreading of tips, of amounts expressing gratitude, and bribes. It is well known that their limitation is badly needed even if only little is done in this respect in practice. This situation is also due to the fact that opinions widely differ as to which solution should be chosen.

Many argue that tips and sums paid as an expression of gratitude have gained ground because the corresponding professions are badly remunerated officially. In fact, only some of the respective professions are low paid, while the official wages of the rest do not lag behind the wages of other cate-

gories of employees who have a similar level of qualification and responsibility, etc. Another often quoted reason is the shortage of goods and/or labour. This is not completely true either. Tips are also frequent in areas where there is no shortage of this kind, or where such shortages are created artificially and consciously by those involved. In order to curb tips and sums expressing gratitude, the disproportionately low wages should be increased and the shortage of goods and/or labour should be eased in all those areas where these exist, but it must be clear that the problem cannot be solved only in this way. To achieve better results, public spirit should also be formed and if actions encroach upon the law, severe revenge is also needed. The interests of the majority of society do have to be asserted even if it hurts the interests of certain groups.

Both the granting and the acceptance of bribes have long been prohibited, only the possibility should be utilized: the violation of law should be punished by applying the full force of the law. It is naivety to think - as it can sometimes be heard - that such abuses can be eliminated through an improvement in financial stimulation. Nobody can be paid so well that (s)he could be in a better financial situation by being honest than if (s)he receives bribes. Corruption cannot be competed with financially.

The question of illegal servicing and other activities done for the population - when it is performed outside working hours - should be judged on a different basis. Contrary to tips, amounts expressing gratitude and bribes, this means money whose source is extra work demanded by the population. Therefore, efforts should in the first place be concentrated on legalizing such activities (by granting licences), which then leads to the broadening of competition and - through adequate taxation - to a moderation of these incomes.

The incomes of peasant households - similarly to those of private craftsmen and tradesmen - cannot be regulated accurately. Their excessive curtailment or limitation - also according to historical experiences - leads to serious consequences by endangering the supply of the urban population with food-stuff as well as of the raw materials of the food industry.

Work done at the household plots (which has an outstanding role in high peasant incomes) is still and will for a long time be indispensable and it represents a very strenuous activity which society has to remunerate adequately.

The limitation of casual incomes independent of professions can primarily be implemented through taxing gifts and inheritance of great value, as well as through skimming the profits resulting from an extraordinary increase in the price of properties. However, the possibilities are limited in both cases. (Taxation is in the first place feasible in the case of realties.)

The limitation of high incomes is an absolute must; however, as it can be seen, the possibility of realizing it is limited or, in the majority of cases, it is practical only to a limited extent. Therefore, the other way should also be exploited, namely, the possibilities of utilization have to be extended.

THE EXTENSION OF THE POSSIBILITIES OF UTILIZATION

High personal incomes are partly consumed and partly accumulated. Hence, the possibilities of their utilization can primarily be extended in these two directions.

The basic function of personal incomes is to make proper consumption possible. In Hungary, there is a view which accepts the differences in wages and incomes, but is opposed to the differences in the way of life expressed in consumption. That is absurd. If the differences in personal incomes are made possible, it also has to be made possible that they could be used according to different consumption patterns. For that, however, it should be ensured that there be an adequate stock of commodities as well as adequate services that can be purchased as commodities. Domestic and foreign experiences alike show that, in addition to the traditional luxury goods, special attention should be devoted to the extension of the assortment of furnishing, household equipment, etc., as well as of services which make a more varied utilization of leisure time possible.⁴ Nat-

urally, in order to ensure that this way of utilization be advantageous for the whole of society, the price of these as well as the other commodities and services which are to satisfy the needs of those with high incomes should contain a relatively high rate of social net income (in the form of taxes, etc.).

The promotion of the utilization of high peasant (agricultural) incomes through adequate consumption represents a special problem. In addition to an increase in the level of cultural needs of the peasantry (rural population), this calls for the development of the network of services in the countryside and/or the extension of the local possibilities of spending the incomes.

However, the utilization of high incomes through consumption has its limits. It is one of the characteristics of socialism that it should moderate - as compared to capitalism - the differences in incomes, and primarily in wealth, between people, that is, the differences in the financial conditions of the way of life. In Hungary, people are highly sensitive to big differences in consumption and in the way of life. This is due, on the one hand, to the gaining ground of the socialist concept of human equality and, on the other, to the fact that the formerly different levels of needs of the various social strata have been approaching each other rather fast as a result of the increased educational level and the significant social mobility that have been realized. Before 1945, when Hungarian society was much more closed and the individual strata were much more separated from each other, consumer needs were much more differentiated as well. A worker or a peasant who would have considered the way of life of the big capitalist or the landlord as a direct example to follow must have been regarded a madman. Nowadays, however, when the general managers and the chairmen of co-operatives are their relatives or neighbours, the so-called "simple" families often want to follow the example of these people; or to use a sociological expression: their aspiration level has come near to that of these people.⁵

The strikingly lavish way of life of certain strata and groups has an unfavourable social and political effect. It generates dissatisfaction and unrealistic demands in wide circles

and, accordingly, gives birth to distorted forms of behaviour. However, the lavishness of certain strata is also disadvantageous from a purely economic point of view as it lessens the accumulation possibilities of society. Therefore, the extension of the utilization of personal incomes should not be limited to the sphere of consumption. It must be made possible that part of these incomes - in my opinion, a bigger part than at present - be channelled back to the process of reproduction.

With an increase in prosperity, an ever bigger part of the personal incomes is saved and accumulated. This is indispensable for both the individual and society. The individual can only in this way acquire movable and immovable property of greater value and ensure appropriate financial security. The savings by the population can be utilized by the economy,⁶ while the entirety of the movable and immovable properties of the individuals increases the wealth of the nation.

Above a certain limit, the extension of the possibility of current consumption in itself does not exercise enough stimulation on those concerned. The stimulating effect of the possibility of saving and accumulation is also needed. Therefore, as against wasteful consumption, a way of life of sober saving and accumulation should be stimulated by society. (By now, the view which spread especially in the United States after the Second World War and according to which wasteful consumption is useful for the economy because it is a precondition of a high level of production and employment, has clearly proved to be incorrect also with regard to the capitalist world.) The stimulation for saving and accumulation does not seem to be generally implemented in Hungary. Families with high incomes that have already acquired realties to the permitted extent are actually compelled to engage in wasteful consumption. Here we are faced with an extremely difficult task and dilemma of the socialist system which have already reached a relatively high level of prosperity; the problem, namely, is how to fight against wasteful consumption in a way that at the same time excessive tendencies of enrichment should also be curbed. The question arises as to how the problem could be eased, under the present conditions, through the extension of the possibilities of income utiliza-

tion in the form of accumulation (which does not endanger our socialist social system), and how the rechannelling of incomes, that cannot be spent in a sensible way on consumption, into the process of reproduction could be promoted.

Below, we are going to study some types of the utilization of personal incomes in the form of accumulation.

FORMS OF ACCUMULATION INDEPENDENT OF PROFESSION

The basic form of saving from incomes used by the population is the deposit in savings banks. It is well known that at a higher income level, the ratio of savings is higher, namely, the strata with higher incomes save up a higher percentage of their incomes. However, as experiences abroad also support it,⁷ this only seems to be true up to a certain limit. There is a point of "satisfaction" of the individuals' and the families' propensity to save. If the amount of savings comes near that point, the ratio of the sum saved up compared to the income (the savings ratio) does not increase any further. According to expert opinions, the average amount of savings in Hungary corresponds to the average income level. However, in all probability, this average correspondence covers savings (i.e. deposits in savings banks) by many beyond their means, on the one hand, while, compared to their means, small amounts of savings by those who have outstandingly high incomes, on the other.

The major problem that curbs an increase in savings bank deposits, and within that in the deposits of those with high incomes, is that interest rates only partly compensate for the price increases. (From this point of view, it is primarily not the development of the average price level that plays a role, but the price level of those goods and services at which the savings are aimed. And the prices in the building industry as well as the prices of realties grow at a much faster rate than the average price level does.) Although this circumstance does not obstruct the formation of short-term deposits, it does obstruct that of the long-term ones in which the national economy has especial interest.

"Private insurance", and within that especially the system of personal insurance, is also suitable for tying up a part of the high incomes.⁸ However broad our social security system is - it represents a level higher than that of several economically more developed countries -, it is able to satisfy the justified needs of the population only to a limited extent. For a fuller satisfaction of the needs, the means of the population should also be involved.⁹ For example, retired people understandably want not only to satisfy their basic, elementary needs, but also to continue the way of life they were accustomed to and to keep pace with the general increase in prosperity, while the deterioration of their health involves serious additional financial burdens. And the Hungarian system of old age pensions will for long be unable to meet these expectations. The problem could partly be solved, or at least eased, by an appropriate supplementary pension insurance which would primarily be possible for strata with higher incomes.¹⁰ Other forms of personal insurance (for the case of disability, illness, death, etc.) could also have wide opportunities among these strata. These forms would really represent a fixed and long-term tying up of the free financial means, also extending the budget sources through the profits involved. The system of private insurance (personal insurance), however, has not yet been granted the place it would deserve in Hungary.¹¹ In my opinion, this is mainly due - in addition to factors of smaller significance - to the lack, or weakness, of safeguarding these forms of insurance against the increase in the price level.¹² That raises the idea whether the sum to be paid out could somehow not be connected with the changes in the consumer price level. The idea would deserve consideration that the sum of the allowance should be increased annually by a percentage which is agreed on by the policy holder and the insurance company in advance (which would naturally mean that the premium to be paid should also be changed accordingly - most probably upwards).

The accumulation of valuables (articles of precious metal, jewelry, works of art, antiquities, etc.) has from time immemorial not only served the purpose of delighting, but has been a traditional form of preserving values and accumulating treas-

ures. This function - due to the acceleration of the increase of the price level - has assumed especial significance throughout the world. In Hungary, there are further factors adding to that significance, such as the limited possibility of acquiring realty. The investment of part of the high incomes in valuables is also advantageous for the national economy if they are traded through the official channels, because in this case the state gains significant net income on them through the different taxes and duties. However, the increase in the value of these articles can evade taxation relatively easily, because their transfer can quite often not be followed. (Sometimes not even their removal from the country.)

From among these valuables, the possibility of the further accumulation of works of art and antiquities is increasingly limited in Hungary as their number can hardly grow - or only to a very limited extent. The overwhelming majority of the truly valuable ones are already in private possession and constitute the owners' treasures. These people are not in short supply of money, neither are they envisaged to get into such a situation in the near future. Therefore, they cannot be expected to appear on the market as sellers. At the same time, due to the great demand on the markets abroad as well, imports also encounter increasing difficulties. Consequently, simultaneously with a fast increase in the prices, the volume of trade in works of art will in all probability decrease in the future. As against the steadily high demand, supply will become smaller and smaller, which will strengthen the speculative tendencies.¹³

Although in the majority of cases, the building of villas or holiday homes at the resort places is not motivated primarily by an intention of accumulation, we can often find such motives and also the motive of gaining income. This especially applies to those resort areas where foreign tourist traffic is big.

The building of places for tourist accommodation from private resources is a national economic interest. Namely, the building of state holiday hotels at Lake Balaton where they can be utilized for only about three months a year can hardly be profitable. At the same time, a family can only have one hol-

iday home, the size of which is also limited (changing according to the size of the family). The contradiction is usually solved in a way that the more affluent people - through various tricks - build considerably bigger villas than permitted, and then they let out a part of them either legally, or often illegally, by evading the tax offices. However, this is hardly a desirable solution.¹⁴ Nowadays, especially the foreign tourists are primarily looking for, and also willing to pay for, hotel-type apartments with every modern convenience. However, the fast decrease of the areas that can be built up as well as economical considerations as regards infrastructural investments require the building of huge blocks of hotel-type holiday homes. But if a family has a one-room apartment in such a block of holiday homes, it already exhausts the legal possibility of possessing a holiday home. It could possibly be allowed for a family having a weekend house or an apartment in a block of holiday homes, which really serves the recreation of the family itself, to have another flat or apartment which would explicitly serve tourist purposes if - in accordance with the existing regulations - this were placed at the disposal of the tourist authorities and taxes were paid after the profits gained by the family in this way. Thus the state would also get its fair share. However, in areas where the conditions do not justify the building of such hotel-type blocks, it is advantageous to permit the building and properly regulated functioning of smaller private hotels which would also serve tourist purposes. (Lately several state regulations have been effected to promote the realization of such establishments.) In addition to tying up the "capital" in a useful manner, this would also promote the utilization of the labour power of such individuals, for example old people, who could hardly be employed effectively elsewhere. (With this we have already stepped into the sphere of problems of accumulation related to professions.)

In house-building, it would under no conditions be correct to grant more opportunities for private capital. The possession of an appropriate flat is the prime need of every family and individual, and its provision is definitely the task of society; private house-building or purchasing for the purposes of letting

out should not be allowed. Due to the natural limits, this would not improve the housing situation, but would provide certain individuals with significant incomes without work, and under the effect of the relationship between demand and supply, it would lead to usurious rents.

ACCUMULATION RELATED TO PROFESSIONS

So far such forms of accumulation of incomes have been discussed which are independent of the work done or the profession pursued. However, the related methods of rechannelling the incomes saved up into the process of reproduction seem to be even more important. In certain cases, they may even increase the efficiency of the work done.

INVESTMENTS IN PRIVATE SMALL-SCALE INDUSTRY AND IN PRIVATE TRADE

It is well known that besides the overall domination of the socialist sector there is also need for the activities of private craftsmen and tradesmen in several areas. For those working in the respective professional branches it is an obvious possibility of investment to establish an own workshop or a shop, or to develop the already existing one. In the capitalist countries the small-scale producers are also compelled by competition to spend a significant part of their net income on the regular modernization and development of their workshops. In Hungary the situation is not only that this compulsion is missing, but quite often it is also contradictory to their interests, or they simply do not have an opportunity to do so: investments in this sector come up against both legal and natural limits (the limited possibilities of supply). Naturally, all the limits cannot be abolished, as no free way may be opened up to capitalist processes. However, in certain areas it may be practical to modify somewhat the system of regulation and to make the legal barriers more flexible (such steps have already been taken recently) as well as to improve the supply of private craftsmen with materials, components and machines.

It seems that private activity, and together with it private capital, could also be drawn into certain branches of non-productive services which have so far been almost completely outside of consideration in this respect. For example, individuals with adequate qualifications should be more involved in establishing private crèches, kindergartens and day-time homes, as well as private hotels providing for the care of elderly people. At present only private kindergartens exist in a limited number, although the demand for these institutions - as is well known - is enormous, and such solutions would also reduce the burdens of the state budget.

The system of leasing may also provide possibilities for rechannelling the financial means accumulated by the population into the process of reproduction. This system has spread in Hungary lately, but it is often realized in a way which requires only little private capital on behalf of the "entrepreneur". In Hungary, the system of leasing exists at present in retail trade and in the catering industry, but it could, for example, be extended to the operation of filling stations, etc. Experiences show that the shops functioning in the system of leasing are able to handle the same turnover with a considerably smaller number of employees than the others, hence they are more profitable.¹⁵

*THE ESTABLISHMENT OF NEW TYPES OF INDUSTRIAL
AND SERVICING CO-OPERATIVES*

It is well known that there are only a few small factories and companies in the Hungarian economy. Neither private artisans nor the co-operative and council companies are able to make up for this lack. The former are too small, the latter are generally too big or cumbersome to fulfil this task. There seems to be a need for independent industrial and servicing companies, employing 10-25 people and equipped with modern machinery, which are able to adjust themselves to the changing demands quickly and to satisfy the needs of the consumers flexibly. (The need for them is the most obvious, for example, in the building industry, in house maintenance, repair and instal-

lation services.) In my opinion, some new types of co-operative companies could satisfy these requirements the best.¹⁶ These small-size co-operatives would have a high degree of independence. The necessary capital could be provided by the members themselves, who would be at the same time also the employees of the co-operative. The income of the members would be made directly dependent on the company results. However, contrary to the presently existing co-operatives, where "the investment contribution" of the members was only one single act "in advance" (i.e., at the time of establishment of the co-operative, when they brought their working tools and sometimes also materials into the business), in this case the investment could repeatedly occur when an undertaking promises to be profitable. The whole society would get its share in the form of the taxes levied. Naturally, the elaboration of the details of such a type of co-operative requires further thorough studies. The recent establishment and activity of the so-called small industrial co-operatives are more or less in line with these activities.

It is well known that a significant national economic interest is involved in the increase of the production of household plots and auxiliary farms. Naturally, it also requires the continuous modernization of these farms. According to experiences, when financial interest is adequate and is guaranteed for the future too, the owners of household plots and auxiliary farms are ready to invest more than at present. In this way, part of the high income, i.e. the accumulated sums of money, could be tied up. For that, however, the continuous availability of machines, equipment and materials has to be solved.

The idea emerges whether agricultural workers could not contribute with their individual financial means to the development of joint co-operative farms. It seems to be obvious that - in line with the nature of co-operative property - this contribution should not be a single act realized at the establishment of the co-operative, but a continuously renewing element of co-partnership. Proposals to this effect have long been raised, primarily in the form that co-operative farmers might give loans to the co-operative in return for reasonable inter-

est rates.¹⁷ At the same time, this could also contribute to overcoming the not so rare contradiction of "poor co-operative - rich members". However, the extension of credits by co-operative members has only been realized in a very narrow circle. The main reason is that its centrally defined conditions (the interest rate, etc.) closely follow those of the saving deposits. However, this equality of form covers inequality of content. Even the strongest and best organized co-operatives are unable to ensure such security and provide such guarantees of repayment as the National Savings Bank can.¹⁸ The existing regulations do not allow the issuance of membership shares that would guarantee regular income. This can be traced back to cautiousness about possible social and political tensions. Such solutions should be sought which would promote the utilization of a part of the personal incomes of the agricultural co-operative members with high earnings, without increasing social and political tensions, but accelerating the development of the co-operative.

STATE SECURITIES AND BONDS

It is a recurring idea that the Hungarian state companies should be allowed to issue shares among their employees in order to increase their financial resources. This seems to be a workable proposition only in the case of small companies.

As regards securities of a bond type, they only embody creditor's rights, and are not issued by companies but by the state. In Hungary there were very unfortunate experiences in the past concerning government bonds: people were pressed in the fifties to buy these bonds, which were irredeemable before expiration, etc. However, these are not inevitable concomitants of bonds. On the contrary. The voluntary character of buying and the possibility of redemption before expiration are necessary criteria of bonds which under such conditions are already very close to long-term saving deposits.

The above-outlined ways of accumulation of high incomes can help in replacing the irrational and the illegal ways of their utilization by legal solutions, which at the same time

also improve the efficiency of the national economy. However, the majority of them are burdened with contradictions and carry the danger of the further enrichment of the rich and the formation of incomes without work. Richness thus created, the basis of which was actually laid down with the intention to curb conspicuous and wasteful consumption, may at almost any moment be transformed into even more conspicuous and wasteful consumption. However, this danger can be reduced significantly by the already discussed and known ways of limitation, namely, the promotion of competition, the introduction of appropriate regulations and taxation. It is especially important to moderate the effect which the differences in wealth might have on the younger generations, on the descendants.

At the same time, other forms of income utilization free from these contradictions should also be employed. An example to this effect is the utilization of incomes for altruistic purposes.

ALTRUISTIC UTILIZATION

The use of high personal incomes or accumulated sums of money for altruistic purposes, i.e. in the interest of the community, is still a rather rare phenomenon in Hungarian society. Under capitalist conditions it is a well-known practice. In the capitalist countries there is a wide circle of donations and foundations for different charity or communal purposes. In the first decade of Hungary's socialist development there was a sudden standstill in this field; on the one hand, because only very few people would have had the financial means, and on the other, because the old type of charity discredited itself, and the positive, new type of attitude had not developed. The situation was characterized by mistrust and incomprehension. In the past decade there was some modest progress in this respect. Today there are already some thousands of private foundations and scholarships for various social and cultural purposes, as well as cultural and material values offered for communal purposes. Nevertheless, they do not play a substantial role in the tying up of high incomes and accumulated sums of money. The

majority of the artists, scientists and enthusiastic local patriots who give donations are individuals who are rather in a modest than in a good financial situation. The foundations usually involve sums of 100,000 to 200,000 Forints, higher sums are exceptionally rare.¹⁹ And this is the case in spite of the fact that this way of utilization could serve a good purpose: it might combine in a fortunate way communal interests with the satisfaction of certain individual ambitions that can fully be understood and appreciated humanly. The majority of people have the desire to support a noble cause in a way that it would also bring respect for them, or guarantee the survival of their memory or that of their beloved relatives. Both the circle of those initiating foundations as well as the types of foundations should be extended, and this institution should be popularized in the true sense of the word. There is no reason why the wrought iron wonder fences and the marble family burial chambers could not be replaced as status symbols by marble tablets immortalizing the name of the endower on the wall of a university, a school, a college, a crèche, a kindergarten or a hospital.

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I only intended to raise a few ideas. As the main conclusion it could be drawn that neither the solution to the problem of high personal incomes can be unidirectional; we have to proceed simultaneously along several different ways which sometimes even seem to cross but can in no way replace each other.

THE LIKELY DEVELOPMENT OF HIGH INCOMES AND OF THE WEALTH OF THE POPULATION

THE LIKELY DEVELOPMENT OF HIGH INCOMES

In the 1950s and 1960s when the level of economic development and the living standard was much lower, outstandingly high personal incomes did not present a special problem in the so-

cialist countries. Families with such incomes ate more, dressed better, lived under better conditions, etc. than the others, and the issue was more or less settled with that. Nowadays the differences have grown bigger and it will continue to do so in the future.

Being aware of Hungary's economic situation at present and in the near future, and knowing the objectives of the Sixth Five-Year Plan, the living standard cannot be expected to increase in the 1980s to such an extent that it would mean a qualitative change. Nevertheless, in case the economic management gives more room for individual interest, the bigger income differentials (based on bigger wage differentials) can increase the weight of high incomes already in the 1980s.

The overwhelming majority of high personal incomes are now related to professions, and the same tendency is supposed to continue in the coming decades as well. High incomes can primarily be expected in the following groups of working people.

Some of the *artists, scientists, high-standing officials and highly qualified professionals*, mostly in those cases when the salaries earned in full-time jobs are supplemented by considerable extra earnings (resulting from invention bonuses, royalties, performance fees, etc.). The number of those belonging to this group as well as the amount of their income are envisaged to grow. This especially holds true of high-standing officials and highly qualified professionals. If at the state companies manager-type direction will be given preference, then considerably higher - we could even say that compared to the incomes of today, unusually high - managerial incomes will have to be reckoned with. In such a situation, there will also be a greater number of highly qualified professionals with high incomes, and the ratio of those among them who will earn these outstanding incomes in their full-time jobs will increase.

Some private craftsmen and tradesmen (self-employed people). The number of private craftsmen and tradesmen will increase, and the legally allowed private activities may also cover such areas (care for children and old age people in groups, private boarding houses, hotels, etc.) in which their role has so far been minimal. However, this does not mean a similar degree of

increase in the number of those with high incomes among them. At present, the strikingly high incomes in this field are due to a shortage of products and services, and to the lack of competition. In case the shortage of products and services are eased and competition develops - and it is expected to happen so -, high incomes resulting from monopolistic positions will become smaller in both number and amount. However, since according to experiences abroad even under the conditions of strong competition high incomes are much more frequent in this sector than among skilled workers and employees, the extension of this sector will increase that section of the population which will receive high incomes. In case the legal barriers relating to the size of the workshop (to the number of workers that can be employed, the machinery that can be applied, etc.) are extended - and this is a tendency -, then the amount of high incomes will also increase in this field.

Some of the people *working in the socialist sector, but directly sharing in the economic result.* This sphere - the best known representatives of which nowadays are shop or restaurant managers working on the basis of a lease contract - will probably be extended in the coming decades. In these areas, incomes are considerably higher than in the case of the traditional forms of waging (but one also has to work much more), and high incomes in our interpretation are not rare. Mostly those people work on a lease contract basis who were formerly employed in "tipped" professions, that is, who had higher than average incomes earlier too. The increase of competition and the easing of shortages will have a moderating effect in this case as well.

Small enterprising, and especially collective entrepreneurship, fitting into the socialist sector will probably spread and appear in new forms as well as in new fields. For example, industrial and servicing co-operatives with a small number of employees and a high degree of independence have already been established. From among the associations uniting intellectual professionals, only the lawyer's co-operatives and certain teacher's co-operatives have spread so far. Engineer's associations engaged in the elaboration and organization of the large-

scale production of important inventions have also been established in a small number. It is also conceivable that at least a part of the already outdated private consulting-rooms could perhaps also be replaced by much more modern doctor's co-operatives. These new forms might also lead to high personal incomes.

Those receiving high amounts of "invisible" incomes (tips, amounts expressing gratitude, bribes, payment for illegal servicing and other activity). The role of traditional tips and amounts of gratitude in the formation of high incomes is not expected to change much. In our view, the introduction of servicing fees which partly replace tips, or the possibility of choosing your doctor freely will not change the situation to a considerable extent. However, a decrease in the shortage of goods and services might significantly curb bribes and tips of this type, especially if the easing of the shortage of labour makes it possible to implement the related prohibitive measures. The majority of illegal servicing and other activity done for the population can be channelled into legal frameworks. However, this will probably fail to bring any substantial change in high incomes in this field. Namely, although those who legally perform extra work pay taxes, they generally have more orders than those without a licence, and thus they earn at least as much if not more.

Some peasant or mixed (worker-peasant or employee-peasant) *households*, where the income earned in the co-operative or state farm or in industry is supplemented by a substantial income gained from the household plot. The role of household plots will not decrease in the coming decades and their modernization will lead to an increase in the related incomes. The number of rural families enjoying high incomes (according to our interpretation) is not expected to grow. This follows partly from the foreseeable decrease in the number of those engaged in agricultural activities and partly from the fact that the "high" incomes in the countryside (i.e. containing a surplus which cannot be used in a sensible way) are due to the low level of needs of the rural population and to the backwardness of the local servicing networks. With a change in this situa-

tion, that is, with the general development of the countryside, the "difficulties" involved in spending a part of these incomes will disappear.

Casual and regular incomes independent of profession also play a role in the formation of high personal incomes. From among them, the weight of inheritance and gifts within families will significantly increase. We shall return to this below, in the section on wealth.

In the final analysis, high incomes are likely to tend to increase both in number and in amount. In other words, more families will have high incomes and these will be higher than today. The extent of this increase will also depend on their regulation. Taxation is envisaged to have a greater role than today. The main problem nowadays does not lie in the degree of taxes, but in the taxation discipline and the related morals. If no significant changes are achieved in this respect, the increase in high incomes may lead to unfavourable social and political consequences. For the moderation of inequalities, a much more intensive social policy and a stronger and more purposeful support of the strata in a disadvantageous position will be needed even under the conditions of a significant increase in the general standard of living.

THE LIKELY DEVELOPMENT OF THE WEALTH OF THE POPULATION

High incomes will have to find proper possibilities of utilization. The supply of goods and services will continue to correspond primarily to the demands of the masses, but it will have to adapt increasingly to the special needs of those with high incomes as well. At the same time, due to the general increase in incomes, and especially in high incomes, the saving and - on this basis - the accumulation ability of the population will grow significantly. It is also in the interest of society to promote a way of life which aims at sober saving and accumulation as against wasteful consumption. And this leads to the intensification of the process of enrichment of the population.

Actually, every object having some sort of value, which can be marketed in the case of need, for example, a durable consumer good, can be regarded as wealth. However, from the point of view of our study, only such wealth has a significance, the volume of which substantially influences the financial position of its owner. Owners always utilize their wealth in some form. According to the possible forms of utilization, the following types of wealth can be differentiated:

- wealth utilized as a use-value;
- wealth related to the pursuing of a profession;
- wealth serving the purpose of accumulation;
- wealth bringing income;
- wealth used for altruistic purposes.

Although in reality the different forms of utilization are not sharply separated, i.e. the same property may simultaneously serve different purposes, this classification seems to be applicable in our study.

Wealth utilized as a use-value, i.e. when the owner lives in his/her house, uses his/her holiday-home as well as his/her different durable consumer goods, etc., will continue to be the main form of the utilization of wealth, and with the increase in welfare and demands its scope will increase in the coming decades. Durable consumer goods regarded today as special luxury items will become the property of the more prosperous strata and an integral part of their everyday life. This primarily applies to objects promoting a varied utilization of leisure time. The cult of the home also becomes very strong among these strata. In the period under consideration the demand for flats of a higher standard can be satisfied almost exclusively with flats in private property. Not only the number of privately owned flats will increase, but the majority of the newly built flats will be much bigger, more comfortable and nicer, and hence more valuable than today. The value of the flats and family houses owned by the most prosperous strata will be many times higher than that of the average flats and houses.

Even if at a somewhat reduced rate, the number of privately owned holiday-homes will continue to increase fast (especially, in the holiday resorts and villages that are not yet built up).

The character of the holiday-homes of the more prosperous strata has already begun to change. Similarly to the situation in the industrially advanced countries, many Hungarian weekend houses and holiday-homes have been transformed into "second flats", "villas" with every modern comfort. They do not only fulfil the traditional functions of a holiday-home, but serve, for example, as a quiet place for intellectuals working in no set schedule to carry out creative activity there, or as a place of residence for retired family members in a considerable part of the year. However, this also means that their value is not at all smaller than that of the "first flat"; they actually represent similar or even greater family wealth.

In the case of *wealth related to the pursuing of a profession*, the individual, the family or a smaller community pursue a profession with the help of the means of production they own, that is, they work in their own workshop or shop. In the capitalist countries - as a result of the private ownership of the means of production - this represents the main form of wealth. Although this possibility is ruled out in Hungary, its significance will nevertheless increase in the decades to come. Not only the number of private craftsmen and tradesmen will increase, but their workshops and shops will also become more modern and better equipped. Only in this way can they provide services of an appropriate level and carry out successful co-operation with the socialist sector. Consequently, the related limitations on acquiring property will have to be eased and there will be an increase in this type of property. The capital of the new-type small-size co-operatives and working collectives will largely be provided by the members themselves, and that will constitute their wealth. The system of lease contracts will be developed so that it will require substantial capital investment on behalf on the leaseholder. The modernization of the household plots and the auxiliary farms also leads to an increase in the capital tied up in them.

Wealth serving the purpose of accumulation. With an increase in welfare, that part of the income which can be saved up increases, and at a higher income level, the ratio of saving, i.e. accumulation, also becomes higher. Deposits in savings

banks will remain the most common form of accumulation in the future, too. However, if the interest rate fails to cover the rate of price increases, in other words, if the interest becomes negative, then the formation of deposits will slow down. Another form of saving, similar to the deposit, is insurance. This is also part of the wealth of the population. A rising price level will make it more difficult for this form to spread.

In the case of negative interest, those forms of accumulation gain ground, which are not directly in money terms. Under such conditions, the accumulation of different valuables (precious metal, jewelry, works of art, etc.) can be expected, with the concomitant speculations.

If the prices of construction materials and building sites increase at a faster than average rate - as it can be expected -, then the population will endeavour to invest an ever bigger portion of its money saved up in realty. Primarily those people will have a chance to do so who will have significant amounts of savings, which means that their wealth will further increase as a result of the growing value of realties. If realties happen to tend to serve the purpose of saving and accumulation to a considerable extent, it will lead to the deterioration of the proper utilization of flats and holiday-homes. If the rents of state-owned flats remain unrealistically low compared to the real costs, then living in such a flat can be considered to be equal to the possession of some significant property, as it can be used for accumulation in the same way as privately owned flats; clearly, this leads to a bad utilization of the stock of state-owned flats. (This tendency can already be discerned today.)

As regards *wealth bringing income*, or rather, income resulting from wealth, the basic principle of our society naturally remains unchanged: it strongly aims at limiting this. In spite of this, incomes resulting from property are envisaged to grow and become more common than today. This already follows from the spreading of property related to the pursuing of a profession. Although in this case the main source of income is the work performed, in many cases, it also depends on the capital invested. Namely, the invested capital may bring income to

its owner long after he or she had given up the activity. (The leasing out of workshops or shops by private persons happens nowadays too.)

Certain capital incomes may also be created independently of profession. For example, there is an idea that the new-type small-size co-operatives could also have members who would contribute to the undertaking mainly or exclusively with their capital - of course, with limited possibilities of gaining income. There are also other possibilities of utilizing the financial means accumulated by the population in a way which is also advantageous for the national economy. For example, so-called "investment" companies might be established, which under the aegis of a state body, but using the financial means of the population, would finance undertakings. The members of the "investment" company (or co-operative) would provide money in the hope of gaining an income bigger than the interest paid after deposits, but at the same time they take considerable risks.

Incomes gained from leasing out realties will also increase. Various circumstances (e.g. the increasing family needs for bigger flats and holiday-homes; the need for promoting the development of the network of private tourist accommodation; and at the same time, the need for channelling high incomes so that their utilization be useful also for the national economy, etc.) tend to exercise an effect in the direction of somewhat widening the legal barriers of acquiring real property (as regards its size, value, etc.). The holiday co-operatives established nowadays point partly in this direction. The regulations will definitely not make it possible to build or buy houses with the explicit purpose of leasing out, but, nevertheless, greater flexibility can be expected in this field as well. The size and arrangement of many of the newly built family-houses (several bathrooms, fully separated sections) make them more suitable for leasing out part of them. The higher rents to be paid may also prompt those living in state-owned flats to do the same.

The utilization of wealth (part of it) for altruistic purposes will increase in all probability. Although it is rather rare in Hungarian society today, there was some progress in

this area during the past decade (foundations for cultural and social purposes, scholarships, etc.), and this will probably continue.

There will be a change in the distribution of wealth. On the one hand, more families will have substantial wealth, that is, this stratum will become broader. On the other hand, the distribution of wealth will become more uneven, insofar as a relatively narrow stratum will become unusually rich and wealthy under socialist conditions. (This richness, however, is not comparable to that experienced in the capitalist countries.) Gift within the family (from parents to children) and inheritance will gain in importance. The weight of this factor will increase because those age groups that are able to bequeath financial values to their children either still in their own life or in the form of inheritance after their death will come to the critical age. Those who are now at the age of about 50 - inheritance is the most frequent at this age - inherited from a generation that had much less to bequeath. (The transfer of property and, within that, inheritance shows a regular increase in most countries. The number of such acts increases, and so does the value transferred during an act.) Naturally, there will be big differences in the inherited values. The inheritance of flats representing a great value will become much more frequent, because the majority of old age people will have modern flats equipped with every convenience. In case rents remain low - compared to the real costs -, the "inheritance" of a state-owned flat will also provide the descendants with a significant value that can be sold. Gifts and inheritance within the family also increase wealth inequalities by the fact that the more prosperous families usually have fewer children than the average and therefore the greater wealth becomes distributed among fewer descendants.

The majority of those belonging to the most prosperous stratum will be from among those who enjoy high incomes from work. This follows not only from the fact that, naturally, it is those receiving high incomes who have the most opportunities to save up money and thus multiply their wealth, but also from the fact that - as foreign experiences also support it - since

they generally come from more prosperous families, they also have greater chances to inherit, and they usually inherit greater values than those with low incomes. Therefore, there is a danger that the same strata that will be in the most advantageous position from the point of view of income from work, will also be in an advantageous position concerning family gifts and inherited wealth.

The fact that wide circles of the population will have substantial wealth cannot be regarded as a negative phenomenon. On the contrary. The ownership of valuable goods which represent wealth constitutes a part of the financial framework of a pleasant life of high quality. Without it, it is difficult to imagine a way of life of high standard under modern conditions. At the same time, wealth also provides its owner with financial security. This has an enormous importance in capitalist society, but it should not be underestimated under socialist conditions either. Neither under socialist conditions are the families exempt from shocks (death, illness, disability, etc.), the financial consequences of which can only partially be covered by society also in the coming decades. Furthermore, family wealth (savings) can also play an important role in helping the already retired old age people to maintain their former way of life and to satisfy their increased special needs. And finally, as long as the state has to rely on the financial means of the population to a considerable extent regarding the solution of the supply of flats - and no essential change can be expected in this area in the next two decades -, the accumulation of family wealth of a moderate degree can be regarded as a social expectation. True, even the accumulation of modest wealth involves problems. For example, people with financial reserves are much more selective regarding the working opportunities than the "destitute proletarian", and they can wait for the most suitable job; also, quite often, they can be stimulated less at their work place. This is a problem which every modern society has to take into account.

Under socialist conditions it is an absolute must to prevent the concentration of wealth as well as the development of excessive differences in wealth. This has to be started already

with the incomes, but most probably it will also be needed to put a brake on the enrichment process in a direct way. In the first place, appropriate taxes on wealth representing a source of income are needed. It is extremely important to moderate the effect of the differences in wealth on the young generation (i.e. on the descendants). This can primarily be realized through taxing the gifts and inheritance of great value. It causes much difficulty that values other than realty mostly evade control. The amount of the inheritance tax may also be made dependent on the financial situation of the inheritor. State support for young people with modest financial background to start their career and an independent life of their own will in all probability become much stronger; at least now it seems to be an absolute necessity.

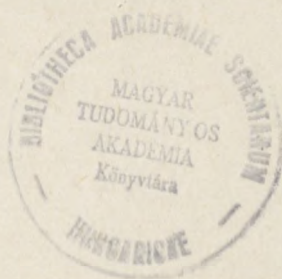
NOTES TO CHAPTER 7

- ¹ It is very difficult to grasp the existence of high personal incomes statistically. However, it is somewhat indicative that on December 31, 1977 there were at the National Savings Bank 122,000 depositor's books with deposits between 100,000 and 500,000 Forints, and 1,000 with deposits over 500,000 Forints. And it is well known that especially those who have higher amounts of money usually deposit their savings not in one but in several bankbooks.
- ² See Mrs. Molnár (Venyige) J.: Adalékok az egy főre eső jövedelmet meghatározó tényezők vizsgálatához (Contributions to the study of factors determining per capita income), *Munkaügyi Kutatási Közlemények*, No. 1, 1978, p. 178.
- ³ This is one of the reasons why we are opposed to the introduction of a so-called family income tax. Namely, that would only cover those strata whose income is well definable, and the major disproportions are actually not with them but with some other strata.
- ⁴ See Hoós, J.: Az életszínvonal és az elosztási viszonyok fejlesztése (The development of the living standard and the distribution relations), *Társadalmi Szemle*, No. 10, 1978.
- ⁵ "In socialism, the relations between the strata are stronger, the different strata are more intermingled and their consumer habits also approach each other. This process of approach is also promoted by technological development, the improvement of the means of communications, the location of industry and by the improvement of the network of services." [See Radnóti, É.: A jövedelmek differenciáltsága és a belke-

- reskedelem feladatai (The differentiation of incomes and the tasks of domestic trade), *Kereskedelmi Szemle*, No. 4, 1978, p. 2.
- 6 The voluntary cash savings by the population mean giving up some of the current consumption, which makes the extension of - productive or non-productive - accumulation as well as of social consumption possible.
- 7 See Fricke, D.: Das Sparen im Spannungsfeld der Bedürfnisse. Eine Kritik der Sparfunktion, *Die Wirtschaftstheorie als Verhaltenstheorie*, Duncker und Humblot, Berlin, 1969, p. 51.
- 8 "Private insurance" means here forms of insurance by a private person within the framework of the state insurance system.
- 9 The question arises whether "at the present level of development of social care and self-care, and under the changing property and income relations, self-financing should not better be involved in the solution of certain social problems of society". [See Szabó, I.: A biztosítás feladata a szocialista társadalom szociálpolitikai céljainak megvalósításában (The task of insurance in the realization of the socio-political goals of the socialist society), A university doctoral dissertation, 1978, p. 39.]
- 10 In her article published in *Közgazdasági Szemle*, No. 7-8, 1978, Zsuzsa Orolin proposes a similar solution, but in the framework of the state pension system. Actually, the difference lies in the form of technical realization only.
- 11 The "Collective Life and Accident Insurance", which is really widespread, does not have a significance from the point of view of tying up high personal incomes.
- 12 At present, similarly to the National Pensions Office, the State Insurance Company increases the sum of the different allowances by 2 per cent every year.
- 13 See Hortobágyi, G.: Az értéktárgyak lakossági felhalmozásáról (On the accumulation of valuables by the population), *Kereskedelmi Szemle*, No. 10, 1978.
- 14 There is also another possibility, namely, when the family lives in a flat rented out by the state. In this case, they can buy a realty which could be qualified as a flat, or can have such one built, and if it is at a holiday resort, it may as well be utilized as a holiday home.
- 15 The position of the private and the "leasing" sector and its theoretical aspects are discussed by István R. Gábor in his study on the so-called "second economy". See Gábor, I.R.: A második gazdaság (The second economy), *Valóság*, No. 1, 1978.
- 16 In their article published in No. 9 of *Közgazdasági Szemle* in 1978, András Hegedüs and Mária Márkus raised the need for mobile and flexibly adjusting small companies functioning in the form of collective entrepreneurship, but they failed to refer in detail to the nature of this form [see Hegedüs, A. and Márkus, M.: A kisvállalkozó és a szocializmus (The small

entrepreneur and socialism), *Közgazdasági Szemle*, No. 9, 1978.]

- 17 "The development needs of the co-operatives, their different financial difficulties and the limited extent of the state's financial resources as well as the rising costs of investment goods have directed attention to the savings of agricultural co-operative members as potential sources of credits (loans)." [See Fekete, F. and Kővári M.: Új vonások a szövetkezeti tagok és a közös gazdaságok pénzkapcsolataiban (New features in the financial relations between co-operative members and co-operatives), *Közgazdasági Szemle*, No. 7-8, 1978, p. 896.]
- 18 See Fekete, F. and Kővári, M.: *Ibid.*
- 19 An example of this is the "Buzágh Aladár" award recently founded by the chemical engineer Lajos Csonka from his income of 944,000 Forints gained from four of his inventions.



KATALIN FALUS-SZIKRA

THE SYSTEM OF INCOMES AND INCENTIVES IN HUNGARY

Why do the wage ratios among the various categories of working people tend to change in a similar direction the world over, despite all political and structural differences? What factors determine the volume of wages eventually? How can incentives influence productivity and the allocation of the labour force? These and many other questions of interest are dealt with by Academician Katalin Falus-Szikra, Professor at the University of Economics in Budapest.

Starting out from a general theoretical discussion of the concept and socio-economic content of wages, she proceeds to the analysis of some highly topical problems, namely: Why is the present Hungarian wage system not satisfactory? What are the reasons behind Hungary's poor international position as regards the number of innovations? Who have high incomes in Hungary and are such incomes compatible with a socialist economic system?

In her analyses she also refers to hitherto unpublished literature and makes international comparisons wherever the corresponding data have been available. She devotes a great deal of attention to a phenomenon which many are inclined to describe (at least in such a widespread form) as a Hungarian peculiarity, namely, the so-called "invisible incomes". After studying the various sources of these incomes, the author suggests some solutions which are likely to meet the interests of both the whole society and the individual.



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