Studies in International Economics and Finance

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Preface

This volume provides an overview of the ongoing research of the Institute of Finance and International Economic Relations. The institute consists of three divisions: the Division of Finance, the Division of Accountancy, and the Division of World Economy and European Economic Integration. The institute coordinates education in several training programmes such as the Finance and Accounting BA degree programme, the International Economy and Business MA degree programme, and the Economy and Public Policy MA degree programme.

The institute belongs to the Faculty of Economics and Business Administration, which was established in 1999. In the last decade, dynamic development has occurred in the institute. Five lecturers received PhD degrees, and six junior lecturers finished their PhD studies and will defend their theses in the next one or two years. Also, ten babies were born during this period which is a further important sign of a good workplace in an ageing Europe.

The research interests of staff members correspond with their teaching activities. They embrace the field of public finance, institutional economics, economic development, business ethics, international finance and accounting, and international development.

The studies on public finance published in this volume deal with the most sensitive issue of the Hungarian social security system, the comprehensive analysis of the past two decades of Hungarian government finance, and the financial assistance for the Hungarian crisis management.

In the framework of comparative institutional analysis, the contribution of the institutional areas of the market economy to the growth and performance of economies is investigated. One study highlights the issues of economic development of micro, small and medium enterprises in two Hungarian counties. In the field of business ethics, multidisciplinary fairness and equity interpretations are shown and their influence on the research on fairness in interorganisational business relations is discussed.

The study on international finance focuses on the market dependency and financial buffers in Russia. Research on the European Union is represented by the analysis of the effect of energy market liberalization on EU competition. In the field of international development the heterogeneity of developing countries regarding the access to medicines and TRIPS

agreement is scrutinized. Another important current international issue is elaborated in the article on the relationship between international accounting standards and environmental accounting.

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The Editor

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The reform of the reform
The principles of an unavoidable further reform of social security

Katalin Botos – József Botos

It is commonly accepted that a reform of the social security system has to be carried on. The changes implemented in 1998 that created the second pillar of the system are not to be considered as a true reform of the social security system. In the economy of the Hungarian aging society the change to the capital reserve system was very expensive; it was financed from government debts. However, without influencing the demographic processes, the pay as you go system inevitably becomes uncontrollable. We propose to introduce the point-based system into the state pension system. The essence of the system is that the points collected in accordance with adequate regulation – in which theoretically, for example, the performance of the mothers bringing up children can be built in – would define the pension compared to the average wage at the time of the payment, which will be the fee of the to-be retired person. The fees in this system would be shared by the employer and the employee.

It would allow us to create a social security system with an influence on demographic processes. This would incite employment and it can be supplemented by – voluntary – supplementary pension fund savings. This proposal, however, does not exempt the government from responsibility to create an economic policy that creates jobs.

Keywords: pension reform, point-based system, human capital, incentives to employ
JEL code: J11, J14, H55

1. Introduction

It is commonly accepted that the reform of the social security system has to be carried on. We believe that the analyses of NYIKA (the Pension and Old Age Round Table, Holtzer 2010b) also confirmed this need. The question is: what is the direction the reforms should take?

There is no need to argue at length: the sustainability of the pension scheme is more than doubtful, even in its "reformed" state. It has also become clear that private pension funds do not fulfil the expectations that brought them to life.

The changes implemented in 1998 that created the second pillar of the system are *not to be considered as a true reform of the social security system* (Botos 2009). As its name indicates, it established a mandatory but private social security system which is a rather unusual construct, since if it is mandatory it should be a part of the social security system. However, the latter has two more criteria: solidarity and state

guarantee. Lacking these components, the system does not qualify as a social security system proper. In such a case we may only speak of a fund that is *like a private insurance scheme*, even if the institution has non-profit status.

Therefore, another reform of the social security system seems unavoidable – but this time, it has to be a true reform. We firmly believe that we need to return to *a reformed version of the state pension scheme*. Even though our proposal appears as a step backwards, it could open up the possibility for *revolutionary advances*.

2. Principles

What are the principles to follow when changing the current system based on several pillars based on several pillars? The essential elements are the following:

- it should positively effect the demographic situation;
- it should motivate employers to employ a larger work force;
- it should not decrease people's willingness to continuously save (pay the fees) during their career, but rather, it should increase it;
- it should contribute to the balance of the national budget, if possible, in the short run.

It appears that out of these principles, the incentives required for the demographic effect can only be provided within the mandatory system, because it allows for the realization of the element of solidarity between those who do and those who do not raise children. Therefore, we believe this to be the direction – a step back, if you wish – that is rather a step forward towards a sustainable system.

3. Why is it not reasonable to maintain the current system of mandatory private insurance?

When the new system was implemented – in close cooperation with the international financial organizations – it was advertised by showing the possible advantages of the system. What was not addressed publicly is the fact that *in the economy of an aging society a change to the capital reserve system is very expensive* (Barr 2004, 2009). The transition also required substantial state resources in Hungary. It is usually interpreted in the Hungarian professional literature as the manifestation of a latent debt. This is because the budget is required to transfer the amount missing from the pensions payable in the mature system. Since there are no financial resources to do so, it can only be financed by borrowing money. However, a manifest debt creates an *immediate* liability to pay – severe – interest rates from our budget that is already in deficit, thus contributing to the increase of indebtedness. Due to the low level of domestic savings, we may only rely upon external, foreign currency sources, and it further increases the vulnerability of the Hungarian currency.

At the same time, NYIKA itself pointed out that *the operation of the private pension fund system is expensive.* It is only reasonable to maintain if the accumulated financial resources can be used for purposes other than buying government bonds of modest proceeds. Moreover, it can only produce significant profit for the contributors if it can be invested *abroad*. Some experts claim that the private pension funds should be maintained or even that their participation should be increased in order to make them entirely independent from the Hungarian Government. They say that the income of the pensioners "cannot be exposed to the deeds of the state" (?), "to what goes on in this country" (?) (Holtzer 2010a). Therefore, we need to allow for investments in foreign countries. This line of criticism does not consider the fact that *this investment would be financed from government debts.* It is simply impossible for someone from the field of macro-economics (like ourselves) to understand such an approach within the particular Hungarian economic situation. The pension scheme cannot ever be separated from what goes on in this country (Botos 2010, Kun 2010, Matits 2010). It was the state itself – whose influence they'd like to remove – that, by increasing its indebtedness, made it possible for those entering the private pension funds to accumulate wealth. Let us not forget: the *transition affected an already mature system.* Current pensioners must receive their pension payment. In a demographically mature society, the payment of pensions is dependent upon the incoming fees. If the social security system is not able to cover its liabilities out of the fees, it has to rely on *taxes*. If there is no sufficient tax income, *the state has to borrow money for this purpose*, and that further increases its indebtedness together with the accompanying interest, as we have previously indicated. *Consequently, we would provide for an increased superannuation fund for today's contributors – possibly from foreign resources – at the expense of state debt and interest.*

This "deal", however, cannot be justified by any concept of social justice. It would raise a number of unanswered questions: how can we justify making a risky investment with the state's money for the benefit of just one segment of society. Why favour them? Why should we exclude the short-term success of the active age groups from the actions financed by debts the state undertakes? Why do we not rather support our private sector by increasing investment possibilities that produce taxes and fees for the national budget? Why should today's pensioners finance the costs of the state debts that make it possible? (Since that is what they are doing by paying VAT.)

The logic behind the proposal, however, is understandable. The investment of savings is obviously a crucial question. That is what the *state* should have *done* at the time when the payment of fees superseded the payment of pensions, that is, *when the system was not yet mature*, and the age structure of the society was much younger. Indeed, that is when the social security system should have accumulated wealth as was the case in more prosperous countries, such as in Canada (in Quebec, for instance, where these resources were used to stimulate real economic

development). However, in Hungary the social security system became mature under the socialist regime, and at the same time the number of pensioners who were not vested increased (by including the agricultural workers), and the centralized state invested or used up the fees together with the profit they produced. Most of this state wealth created back then disappeared after the change of the regime – *because it was worth nothing* – or it became private property in the hands of mostly foreign investors – *precisely because it was worth something*. According to the Hungarian National Bank, the assets of the Hungarian budget were 1.5 times the volume of the GDP at the time of the change of the regime, this ratio fell under 20% by the end of the first decade of the new Millennium (MNB 2008). Unfortunately, the democratic parliaments did not use the state's assets to create the financial basis for the social security system.

Let us suppose, however, that the regulations would exclude investments in foreign markets. The members of the parliament could consider the benefits of using this substantial capital to finance investments that would contribute to the growth of the *Hungarian economy* (in accordance with the objective of supporting the current active age groups). A government investment fund could provide the necessary resources. (That could have been financed by the state's income from privatization, but *that is a lost cause by now*. Similarly, economic development cannot be realized by borrowing from international sources because we need to decrease the high rate of indebtedness compared to the GDP, and we can hardly borrow more. For this reason, one might suggest that a part of the amounts that the society and the international organizations have accepted as debts could be "magically transformed" to provide for these purposes.) It could be realized, for example, by composing the financial investment "products" of a development agency established by the state out of the securitised portfolio of loans supporting small and medium-size companies that we sell to private investors and institutions, and the pension fund could also buy into this investment fund. Or even the Hungarian bank sector could "provide", as a financial innovation, such products for investors. We also have to see that these products would be no less risky than the innovations of the US mortgage market. They would actually be more risky, since there would be no mortgage coverage since they would be provided for financing businesses. While it is not impossible, this idea would be rather risky to realize.

The recent events of the international financial market have clearly illustrated the risks in investment. Such a hazardous way of managing assets belongs to the world of private investments. A pension fund cannot undertake such risks since it is the source of income for future pensioners. The government cannot afford to watch the possible impoverishment of its elderly voters with indifference in case these ventures failed to be successful and the investor pension fund lost on the business (as it happened in the US where – as Stiglitz (2003) claims – 8000 billion dollars disappeared from the investments of the pension funds lacking a state guarantee).

By means of providing social services the state would “contact” those pensioners that were thus forced by law to invest a part or the whole of their fees (or dues). The state should obviously provide some kind of guarantee for the proceeds of the investments in case the pension fund was allowed to participate in risky investments. Once such a guarantee is required, however, it would be more reasonable to *provide guarantee for the pension itself that one can obtain within clearly defined rules*. This would also eliminate the moral hazard that inevitably accompanies guaranteed investments.

4. The point-based system

What should the solution be? NYIKA has drawn up several versions.

Some experts argued that out of the paradigmatic reform plans of NYIKA the version of *individual accounts* would be reasonable and result in a cheaper construct compared to the current system. We may keep the approach of considering the accumulated assets as virtual or real investments. A centralized management makes the system operate at much lower cost than the costs of the current pension funds, and that alone is already a major advantage. *We may also maintain the practise of purchasing government bonds out of the amount actually paid.* This would solve the interest rating of the amounts paid (which would remain unsolved in the individual account system if we only realized virtual investments). That would also enhance the psychological effect on the savers-investors that their savings are profitable because they have their own portfolio with their savings, even if it only meant government bonds. However, in this case the *state indebtedness could not be decreased*. It would conserve the present situation in which the accumulation itself generates state indebtedness since the budget would have to transfer the amounts *already* missing from pensions. But what should be the source to do this? The income from the non-existing proceeds. While this system could work under the circumstances of reduced costs of the management of social security, it is questionable whether this system would be worth the maintaining of the state indebtedness. The maintaining of the mass of indebtedness for a long period would inevitably create a disadvantage within the frames of the Maastricht criteria. While it is true that the proceeds of the state bonds would add to the fees, thus contributing to maintenance of the value that could increase willingness to become vested (while the interests on government bonds are paid by the taxpayers), many of the changes we propose in order to reach our demographic objectives could not be implemented in this system. (For instance, this system considers a homogeneous fee paid by the employee thereby depriving us of the means of inciting and differentiating the labour market.)

There are several attainable alternatives among the proposals of NYIKA to implement such a paradigmatic reform. One of these is the *point-based system*. (It

was also received with the highest level of consensus among the participants of the round table.)

Rudolf Borlói excellently and precisely describes the reform steps grounded in the point-based system in the document provided in the NYIKA Report (Holtzer 2010b). The essence of the system is that the points collected in accordance with adequate regulation – in which theoretically, for example, the performance of the mothers bringing up children can be built in – would define the pension compared to the average wage at the time of the payment, which will be the fee of the to-be retired person. By tracing the points, people can have a clear picture any time about how much pension they can expect compared to the then workers' average wage. This solution creates the tightest relationship between the active and inactive groups, owing to that the to-be active age group will produce the actual conglomerate of products and income from which pension of the retired can be paid. Here is an example that the pension system can never be independent from the existing state of the economy.

By eliminating the currently manifest indebtedness we could decrease the state indebtedness and reduce its expenses. We could also provide momentum for the private sector by a (differentiated) reduction of their expenses based upon the saving from our expenses. That would incite the labour market and the level of fees and taxes paid. At a minimum, it would allow us to save a number of companies, which is a significant result in and of itself.

By undertaking a single and substantial state indebtedness, the objective of the private pension fund system implemented in Hungary in 1998 was to enforce strict budget management. These efforts have remained *unsuccessful.* On the contrary, it created a significant interest liability for the budget expenditure. *By "undoing" the system we would get rid of this expense and the state indebtedness.*

This solution would also require an undertaking, the successful fulfilment of which depends upon a number of factors. Whether it leads to future state indebtedness, that is, whether this latent indebtedness of the state becomes manifest, depends on the figures of demography, commodity wages and employment. It is not obvious that this undertaking leads to a future increase in manifest state indebtedness. The point-based system considers the attainability of latent state indebtedness (state undertaking) in light of a number of factors from outside the pension system. These factors, however, may turn out to be beneficial for revenues.

Our proposal presupposes the possibility of positively influencing the external conditions from within the social security system itself.

Without influencing the demographic processes, the pay as you go system inevitably becomes uncontrollable (Kovács 2010).

Taking all this into consideration, we propose *the full transition* to the point-based system as opposed to the *partial transition proposed by NYIKA*. The point based system introduced in social security has another major advantage: *it can be accompanied by proper means of inciting the labour market*. Our short term

objective is to eliminate the negative effects on child birth of the hostile attitude in the labour market towards people with children. People should not be discouraged from having children by their resulting difficulties in the labour market. The central element of our proposal is that *the fees paid* by the employer should be *differentiated* according to the number of children raised by the employee. The *employer* could be entitled to *pay reduced fees* when employing families with children or pregnant women. *The margin would be paid by the state.* It would also appear as expenditure in the budget but it would help people with several children find jobs in the labour market and also contribute to their job security, and this is a major achievement. Such a differentiated reduction of fees would result in the decrease of labour costs for the employer to the extent they employ families with children.

In addition, we should provide for more direct means to motivate *employees* to have children. One way of achieving this is by introducing certain *correctional factors* into the pension scheme based on the number of children raised and educated by the employee. This would indicate that the costs of producing “human capital” do create profit for the parents. The proposal is justified by the fact that by raising children and providing them with proper education enables them to find their place in the labour market and thus they become fee payers for the benefit of those who do not undertake these costs.

5. Arguments against the reform

There are two major considerations.

First of all, we should make it clear that ending the private pension funds and transforming to a point-based system would *not damage the interests of those vested*. (The first news about the reform created some turmoil and a fear that the state intends to nationalize people’s contributions. The propaganda based on selfishness and the importance possession was very effective and able to weaken the credibility of the government’s platform.)

No one in society seems to understand that *it is not their own contribution that the fund may invest*, but rather, indirectly, the resources of the budget supporting the system, thus making up for the deficit created by redirecting a part of their fees to the private pension funds. The amount one pays “themselves” is *not theirs* but rather their parents’ and grandparents’. All mature systems work this way. We transformed an already mature system; therefore, large amounts of fees are due. If we did not pay from the fees, we would have to sell the state’s assets that were accrued through the payments of earlier generations. As we have seen we can no longer rely on the state’s assets, partially because they never existed or because they were sold by the state and the earnings frittered away.

People also find it hard to understand that payments into the present system, if it was maintained, would fare worse than in the point based system we propose even though the recent years have proved the contrary.

The argument that the ending of the private pension funds would eliminate a major purchaser of government bonds is without substance because it would *also partially eliminate the need* to issue government bonds. (As it seems a surplus budget will be out of reach for a long time, and therefore the government bonds will continue to finance the budget transfers into the pension system, the snake bites its own tail. This vicious circle can be broken by the reform of the reform. There will obviously be other factors contributing to the deficit that must be covered, but by the ending of the private pension funds, the deficit would be considerably less.)

The second consideration when discussing the proposed reform is a continuing need to manage *voluntary* contributions. The institutions of private pension funds managing the payments would obviously be negatively affected by such a restoration. They have created a (rather costly) apparatus and invested in the sector. They could, however, freely take over the management of supplementary and voluntary pension funds that will continue to be an essential, supplementary element of the reform, *but not on a mandatory and state guaranteed basis.*

5. Summary and conclusions

We propose to introduce the point-based system into the state pension system. The fees in this system would be shared by the employer and the employee – as in the present system. Both the employer and the employee should be entitled to differentiated reductions in paying their fees, and the beneficiary should be entitled to preferences in other parameters of the system (retirement age, etc.) This would incite employment and it can be supplemented by – voluntary – supplementary pension fund savings.

It would also allow us to create a social security system with an influence on demographic processes that would *truly contribute to a revolutionary change* compared to all previous reforms.

This proposal, however, does not exempt the government from responsibility to create *an economic policy that creates jobs* (Augusztinovics 2005). The economic policy of a given government has a decisive role in people's ability to find jobs and become vested. The pension system can never be independent from "what goes on in this country".

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Institutional areas of the market economy and their contribution to the growth and performance of economies

Beáta Farkas

The school of Varieties of Capitalism (VoC) has developed a theoretical framework for comparative analysis, which is used for studying developed national economies. The authors consider it sociological evident that different institutional areas and subsystems (product markets, the labour market, the financial sector, social protection and the welfare state, and the education system) should be studied in order to model the social system of production. Besides the creation of the models of capitalism, in these works the question is hidden whether capitalism has more competitive models.

The review of the macroeconomic and econometric studies persuasively prove that the institutional areas examined in the most influential works of the VoC literature are all relevant with respect to the performance of economy and growth, like their characteristics, based on which the different models are typified. At the same time it is instructive that there is no unambiguous correlation in the subsystems – especially in the case of the labour market, social protection and education – between the institutional system and economic growth, and thus there is a scope for economic and socio-political options among the different sets of institutions.

Keywords: varieties of capitalism, competition, growth
JEL code: E02, O11, O43

1. Introduction

Globalisation and the fall of the Soviet empire have made the question timely of whether countries are heading for only one model of capitalism as a result of international competition. Both comparative economics and sociology show an interest in the different institutional solutions of capitalism.

The school of Varieties of Capitalism (VoC) has developed a theoretical framework for comparative analysis, which is used for studying developed national economies. Two complex theories have become most influential lately: the works of Hall and Soskice (2001) and Amable (2003).

The classification by Hall and Soskice (2001) has become one of the most widespread methodologies in the literature. Their views are in line with approaches started in the 1980's examining the social system of production, and focusing on the behaviour of companies. They deal with the determining sub-systems of the economic system: corporate governance and the financial system, industrial

relations, education and the training system, the system of inter-company relations in terms of market competition and technology transfer. They find that there is strong relationship between the type of coordination and the institutions. They describe two ideal types of modern capitalism based on the coordination of economic activity: the liberal market economy and the coordinated market economy. The Mediterranean countries are classified as a separate group within the latter.

Hall and Gingerich (2004) verified these ideal types empirically using a factor analysis while making a supplementary point of naming the Mediterranean countries as “mixed” market economies.

Amable (2003) refers to Hall and Soskice’s dual division as non-satisfactory because fundamental differences remain unexplained. He examines five defining institutional areas: product markets, the labour market, the financial sector, social protection and the welfare state, and the education system. Based on theoretical works, Amable assumes that five models of capitalism exist: market-based, social democratic, continental European, Mediterranean and Asian models. He confirms the existence of these models by principal component analysis and cluster analysis.

Among the institutional areas analysed by Hall and Soskice, and Amable there is significant overlap as well as difference. Difference occurs in that the former approach places great emphasis on the study of business management, while the latter disregards it but extends the analysis to social protection and the welfare state. However, later both Hall (2007) and Soskice (2007) integrated the welfare state into the VoC model. At the same time, both Hall and Soskice (2001) and Amable consider it sociological evident that the mentioned institutional areas and subsystems should be studied in order to model the social system of production. Besides the creation of the models of capitalism, in both works the question is hidden whether capitalism has more competitive models. Thus, from my point of view, it should be examined whether the chosen subsystems have relevance with respect to the performance of the economy. In the following, based on the empirical studies in the current literature, we intend to decide on the question of whether the inclusion of the named subsystems in the creation of models is reasonable, as well as whether the characteristics of the different subsystems defined by different indicators are relevant to the performance of the economy and economic growth.

2. The relationship of competition, productivity and innovation

In the description of the different models of capitalism, one of the most important questions of typology is *how strong the competition is and how much it is restricted by the state*. In theoretical economics – by the mainstream authors – it is a generally accepted correlation that strengthening competition and deregulation increase the performance of the economy, and pressing back the state’s intervention has a beneficial effect on economic growth. Competition increases the growth of the

economy by urging innovation, which increases productivity. On the other hand, it forces the managers to use the resources better, and to make their allocation more efficient. The present article does not wish to analyse the macroeconomical disputes in relation to this or to examine which other conditions, such as economic policy or institutional conditions, are needed in order to realize the desirable effects of free competition. Only a short summary is provided here about the conclusions from the current literature. In most writings the topic of competition and growth goes hand in hand with the study of research and development and innovation.

In 2002 Ahn, in 2008 Sharpe and Currie prepared a comprehensive review of the relevant literature. Some of the studies about the relationship of competition, innovation and growth in productivity are of a theoretical nature; however, usually these do not only create models, but also empirically test them. Other studies aim at the comparison of international experiences. The most significant work is conducted in the framework of the OECD, and materials prepared here include proposals on reform of the economic policy. The third type of approach is the case study. Through both literature reviews it can be seen that empirical evidence asserts the notion that the intensity of competition has a positive effect on innovation and productivity.

Conway et al (2006) has observed that in the 1990s in OECD member states governments conducted wide liberalization, in spite of which differences in productivity still increased among the countries. Their explanation is that still after the liberalization significant differences remained in the market regulation. In the 1990s new, general-purpose technologies (information, communication technologies) appeared and it was partially determined by the market regulation how this "productivity shock" could spread in the economy. At the same time they call attention to the fact that in order to interpret the changes in productivity, apart from the institutions related to market regulation, also the labour market, the financial market and education should be examined. Høj et al (2007) have found evidence in OECD member states, while analysing the correlation of profit margin and market regulation, that liberalization increases the strength of competition. Based on this they make economic policy recommendations to strengthen competition in the field of services. Dutz and Hayri (2000) conducted examinations of the different areas of the world economy which in sum have shown a tight correlation between long-term growth and effective competition policy. However, data on the area of the Far East show a much weaker relationship, owing to which the authors warn against further simplification. Blanchard and Giavazzi (2003) also argue for the deregulation of the market, but they provide conditions with respect to both the product and the labour market which are needed for generating growth by deregulation.

A unique line of argument stems from the theory of Schumpeter, which, in contrast to the above-mentioned, supposes that competition decreases the motivation for innovation, because prospects of the rent originating from innovation decline owing to the strong competition. A series of studies have come to light in the

National Bureau of Economic Research in which the Schumpeterian-effect is combined with the case of competition motivating innovation. Acemoglu et al (2002) distinguish investment-based development strategies from innovation-based. The former had been successfully applied by emerging countries, where intervention from the state, direct assistance and the restriction of competition might have their place. In the case of innovation-based growth, the role of competition, the selection of successful firms and managers increases close to technology frontiers. There is a risk that following the fruitful closing up, the economy does not switch to innovation-based development, which is required for further growth. Interest groups gaining strength in the period of investment-based development might also acquire political influence and thus be able to hinder the switch-over to innovation-based development. Aghion et al (2005) describe the relationship of competition and innovation with a reversed U-shape curve. In their model, innovation takes place step by step. Innovation is not motivated mostly by the innovation rent in itself, but by the difference between the preinnovation and postinnovation rent. If the starting level of competition is low and the technical level is balanced in most of the sectors, then an increase in competition motivates innovation because companies can "escape" competition. If competition is already fierce and the technical level in most of the sectors is unbalanced, then for the less-developed firms there is no motivation for innovation, the obtainable innovation rent is small, and thus the Schumpeterian-effect emerges. In industries where the firms are technologically close to the frontier, strong competition urges innovation (so the "escape-competition" effect dominates). With the assistance of British data, the authors find their model empirically proven. Kilponen and Santavirta (2007), grounded upon Finnish experience and data, highlight the reversed U-shape relationship of innovation and competition. They also examined the effect of R&D subsidies. They have reached the conclusion that R&D subsidies accelerated innovation at all levels of competition, but by competition becoming more intense, the positive effect decreased. Thus when the Schumpeterian-effect occurred, it was intensified by R&D subsidies.

Amable et al (2008) – after a thorough examination of the relevant literature – have defined different correlations with an empirical background. It is precisely the high-tech area where regulation of the product market helps innovation, while competition has a positive effect in the underdeveloped industries, so the Schumpeterian effect prevails. Through an analysis of the role of the public sector, they draw the conclusion that competition policy cannot substitute science and technology policy.

With respect to the analysis of the product markets the relationship of competition, productivity and innovation has been demonstrated so far. Apart from the above-mentioned, privileged role of innovation, it is highlighted by the significance of technological development, which is shown in current growth theories. In the neoclassical growth models of the 1950s and 1960s, technological

development was seen as an exogenous factor and by taking it into account, a long-term positive rate of economic growth could be presumed. Since the source of the long-term growth was an element outside the model, in the end, long-term growth itself remained without explanation. This defect was remedied by the endogenous growth theory, which has resulted in further problems. The results of technological development are manifested in such goods that are partly non-competing and have certain characteristics of public goods. If the non-competing new notions are included in the factors of production, returns to size might be increasing, which does not fit perfect competition. *Theories of research and development and imperfect competition had been involved in growth theories since the end of the 1980s*. In these models, technological development is the result of deliberate research and development, the reward of which is some form of ex post monopoly – following Schumpeter. In the opinion of Barro (2005) the long-term growth rate depends on such governmental actions, like taxation, the maintenance of legality and public order, the provision of infrastructural services, the protection of intellectual property, international trade, and the regulation of financial markets and other areas of the economy. In the mentioned work of Barro, the development of growth theories is described, especially the contribution of Romer, Lucas, Aghion and Howitt and others to endogenous growth theory. The topic's detailed and classic elaboration can be found in Barro and Sala-i-Martin's (2004) book.

All in all, we can see that it is both theoretically and empirically proven that competition increases the performance of the economy. This seems to be sustainable even if researchers sometimes point out contradictions as well as institutional conditions. Thus we can accept the regular aspects of the VoC literature with respect to analysis of the product markets, the strength of competition and presence of the state. Innovation and the privileged importance of technological development also justify that research and development and innovation should be treated as an independent subsystem in the comparative institutional examinations.

3. The effect of the financial system on economic growth

The main question of the VoC literature when analysing the financial system is whether financing takes place primarily through *the banking system or the financial market*. Out of the chosen two foundational works, Hall and Soskice (2001) expressly stress this, while Amable (2003) highlights that owing to the changes in the 1990s, financial systems form the combination of the two.

Nevertheless, in the literature the question arises of *what effect the development of the financial systems has on economic growth*. About the relationship of competition and growth in case of the product markets, widespread agreement can be seen, along with some adjusting and refining. Similar agreement is

not so visible about the effect of the development of the financial system on long-term growth.

Demirgüç-Kunt and Levine (2008) provide a thorough review about the ongoing theoretical disputes. It is demonstrated that some of the works (e.g. well-known books on development economics) do not deal with the financial system, while others consider it evident that the financial system is important in relation to growth. Those authors, who give a positive role to the financial system, argue that its efficient functioning decreases information and transaction costs. It not only helps the efficient allocation of capital, but exercises control during the realization of the investment. Diversification of risks, mobilisation and collection of savings, and ease of transactions all have a beneficial effect on economic growth. According to Demirgüç-Kunt and Levine (2008), empirical research, which they summarize, has a more direct message. In these they aim at measuring the relationship of the development of the financial system and economic growth, comparing not only at the level of countries, but industries and corporations. Numerous studies – several of them prepared by the World Bank and the National Bureau of Economic Research – prove that the depth of the financial system correlates with per capita long-term growth, accumulation of capital and growth in productivity. In the analyses they aimed at proving that not simultaneity bias caused these results, but there is causality between them, and the authors excluded other possibly influential factors (e.g. per capita income, education, political stability, etc.).

Demirgüç-Kunt and Levine (2008) note that their conclusions should be treated with reservations in spite of the evidence found. It seems to be a valid critique, for example, that with the econometrical approaches, development of the financial system can only be measured quantitatively, which does not say anything about how the banks, when lending, fulfil the task of searching for information which helps the effective allocation of capital. The case of China can only be included in their theory with difficulty.

We are warned, for example, by the critique of Zhu et al (2004) about the often-quoted article of Levine and Zervos (1998). The latter proved, by using data from 47 states between 1976 and 1993, that the developed money market measured by stock exchange liquidity, and the developed bank system measured by bank loans to private enterprises divided by GDP significantly and positively affect the growth of GDP. Zhu et al (2004) demonstrate that the authors reached their conclusions about the role of stock the exchange by excluding the outliers, which, when taken into account, would rule out the conclusions of the article.

There's an extensive literature dealing with how decisive the role of legal institutions is in the development of the financial system. It can hardly be disputed that the former has an effect on the latter, but opinions vary about its importance. About the ongoing dispute a comprehensive picture is drawn by Beck and Levine (2003).

Taking into account all methodological barriers and counterarguments, we can accept that the development of a financial system is an *important characteristic of an economic model, and at the same time it forecasts the possibilities of development. Thus in institutional analysis apart from the dichotomy of financing through bank or stock exchange, the development of the financial system itself should also be studied.*

4. Institutions of the labour market and the performance of the labour market

As a criterion enabling differentiation between the liberal and the coordinated market economy, Hall and Soskice (2001) used the method of organizing employment, which is based on unique contracts in the case of the former, while in the latter it is based on the collective contracts negotiated by the organizations of employers and employees. Amable (2003) distinguished three aspects of the institutions of the labour market. *Flexibility of the labour market* was measured by the employment protection legislation, and analysis of the *institutional system of labour relations* as well as the *instruments used by employment policy* took place.

It is well-known that since the middle of the 1970s, the member states of the European integration have been hit by a high level of unemployment. A historical review is given by Cameron (2001) about this and the differences among the member states. The conclusion that was reached is that the employment rate was higher in those member states where economic growth was higher, the organizations of the employers and employees made new, more flexible contracts, and the government carried on an economic policy that aimed at creating jobs. It has become a general belief that *making the labour market more flexible is essential for creating jobs in a growing number. According to a study of the European Central Bank (2008), participation in the labour market can be increased by making the labour market more flexible, fitting the demand and supply in the Eurozone*. In the empirically-founded studies after the millennium it is not the verification of this connection that is in the centre, but the relationship of the deregulation of the labour market and the product market. In this topic – like in the product market – the intellectual influence of the research groups of the OECD is determinative. This is where the indicators are created and measured which are usually used in the literature. Nicoletti and Scarpetta (2005) – partially building on the above-mentioned theoretical model of Blanchard and Giavazzi (2003), and partially developing further the empirical analysis conducted previously with Boeri (Boeri et al 2000) – examine the relationship of the reforms of the product market and employment in the OECD member states. They provide a comprehensive review of the results of the literature, according to which, based on the theoretical models dealing with the regulation of the product market, it can be presumed that regulation restricting competition entails a loss in employment. Empirical analysis has proved

this presumption. Many studies confirm that high a tax wedge and high and long-lasting unemployment benefits have negative effect on employment. The situation is not exactly clear with respect to employment protection legislation. Security of the workplace and stable work relations can increase the employee's intention to cooperate, which can increase productivity. However, very rigid regulation can lead to a lower level of employment. Opinions vary about the relationship between employment legislation and the institutional system of collective bargaining and its level of centralization. Nicoletti and Scarpetta (2005) ground their analysis of the experience of OECD member states on data between 1980 and 2002. They have reached the conclusion that the trend of the employment rate can be partially explained by the differences of the legislation on the labour and product market. The restriction of competition had significantly diminished the employment rate in the OECD countries. With respect to employment, the anti-competition legislation was the most costly where the labour market policies and institutions protected people within the labour market and increased their power to negotiate. The positive effect of deregulation on long-term employment stems from, on the one hand, the higher activity levels and new firm entry, and, on the other hand, the shrinking wage-productivity gaps as insiders lose their leverage on rents. (In the short term, as it was pointed out by Blanchard and Giavazzi (2003), the increase of competition can lead to a decrease in employment at incumbent firms.) It has also been stated that deregulation of rigid markets leads to greater advantages. It is an interesting partial result that only a slight decrease occurred in employment gains when the tax wedge was reduced and the employment protection legislation was loosened up, but the generous employment benefit remained unchanged (this is the Danish system of "flexicurity"). Nicoletti and Scarpetta (2005) have warned that the available data is limited and further research is needed. Results should be treated carefully. For example Berger and Danninger (2006) found that the deregulation of the market leads to a significant increase in employment, but from their point of view, deregulation of the product market is more efficient when labour market policies are less restrictive. Fiori et al (2008) confirm the analysis of Nicoletti and Scarpetta (2005) with respect to the disputed question.

The research group of Amable–Lung (2008) has reached different results by using the same OECD data. Their opinion is also that restriction of competition at the product market and the high-level organization of trade unions undermine employment, but the employment protection legislation does not. In their explanation, that occurs because in the deregulated labour market the unstable situation of the employees can be balanced by higher wages in order to keep their motivation, which reduces employment.

The study of Boeri (2005) highlights why one finds more complex institutional solutions and less clear-cut results in the examination of the labour market than in the product market. Valuation of the European structural reforms of two decades showed that reforms of the labour market had been more frequent than

those of the product market, although the latter had been more coherent. In the case of the labour market, reforms can be introduced more gradually, first being applied only to the newcomers, which is politically more accomplishable. This graduality is unachievable in the product market because the incumbent firms could drive away the newcomers owing to their more advantageous state.

Besides deregulation of the labour market, an active employment policy is the other instrument with which they intend to step up both at EU and national level against the persistent high rate of European unemployment. A study covering five European states examined the effect of an active employment policy. The summary study and the case studies on the states all show that active an employment policy helps to reduce unemployment as well as persistent unemployment, but with relatively small efficiency (De Koning–Mosley 2001); thus, the realization of the programs requires development.

Based on the above it is certain that employment, with respect to the performance of labour markets, the *flexibility of the labour market, labour relations and employment policy* are all significantly influential factors; thus, it is reasonable to base the formation of the clusters upon them. At the same time we were struck that *the authors' choice of values and world view in the analysis is more visible when compared to the previously analyzed subsystems, and the results are more controversial.*

5. The welfare state and social protection

It was not easy to summarize concisely with respect to the above-mentioned subsystems what theoretical background and empirical results are given by macroeconomics and econometrics for the comparative analysis of economies. The welfare state, the subject of social protection, poses a task which is more difficult than this.

It has already been obvious about the labour market that the examination of economic correlations inevitably touches upon sensitive sociopolitical issues. The subject of the welfare state is the terrain of not only the economist, but the sociologist and political scientist too. It cannot even be attempted to take a look at the disputes ongoing in the different fields of research about the welfare state since it would require an independent book.

Some of the literature dealing with the varieties of capitalism mentions social protection, others call it the welfare state, and these terms cannot be precisely separated from each other. For example Amable (2003) writes about social protection, but compares his own model to the models of Esping-Andersen (1990) which in turn constituted welfare-state regimes. We can observe that those approaching the subject from the side of sociology, sociopolitics, political science, and political economics tend to use the more comprehensive term, that is, the

welfare state, while those executing statistical examinations for modelling macroeconomics or comparative economics use the term social protection. For a macroeconomic analysis, social protection can easily be grasped by welfare payments; furthermore the OECD has a well-constructed, defined database.

The most frequent explanation for the birth of the welfare state, which spread in the 1960s and 1970s, originates from functionalist sociology, namely that it is the answer for the social challenges and possibilities arising from industrialization. Conflict theory attributes it to political factors and social movements. Since the economic crisis of the 1970s, criticism has become stronger, and the most urgent question is whether the welfare state is sustainable in the era of globalization, in postindustrial and at the same time aging societies (Jæger–Kvist 2004, Kleinman 2002, Tomka 2008). Nevertheless it is a fact that the welfare system has survived all challenges as the average level of welfare payments has not decreased either in the OECD member states or in the European Union (Arjona et al 2001, Jæger–Kvist 2004, Tomka 2008).

Genschel (2004) considers all opinions about the relationship of globalization and the welfare state. Globalists declare the crisis of the welfare state and its reduction in the frame of a convergence process the direct and necessary consequence of internationalization. According to sceptics, nothing proves that mutual international interdependencies restrict the autonomy of national politics, as the size of the welfare state has not diminished, and differences among nations still exist. A third group, the so-called revisionists even claim that globalization can help solving those problems of the welfare state that originate from the welfare state itself. The disciplining force of international markets makes it easier for governments to keep welfare payments under control, which are susceptible to dynamic increase. By taking into account the theoretical arguments and the empirical research, it is clear that in the era of globalization, there is not a single unambiguous direction for the welfare state, but there are choices for governments.

Numerous macroeconomic models and empirical studies have analyzed the relationship of economic growth with social protection and income inequalities. Aronja et al (2001), besides creating their own model, processed all the available results. The most common argument of economic theories against equality is that the amount of savings in an egalitarian society is less, which slows down growth. The bigger the difference in income is among the groups of workers, the more people there are who aim at receiving those qualifications which secure a high productivity job and higher wage. Others mention against inequality that poorer households are unable to invest, even from credit, in human capital, which is disadvantageous for growth. When great inequalities exist, there might be too many people among the voting population who are not interested in the necessary economic reforms which strengthen competition. The probable social and political tensions are also not beneficial for economic growth. But social protection can harm growth owing to its possible effect of deterring people from both saving and working. If a political way

of enforcement of interests results in better access to material goods than through economic activity, then this can result in the decline of business and innovative capacity. The advantage of strong social protection is greater social cohesion in which it is easier to make difficult political, economical decisions (e.g. about structural adjustment); social groups do not drop out of society, thus neither from participation in the labour market, which increases economical potential; and children of the poorer also have the chance for long-term social, intellectual development.

Aronja et al (2001) collected 24 such studies from the previous one and a half decades which had analyzed the relationship of growth, social inequality and social protection. In accordance with these it is not possible to decide which above-mentioned theory is verified by reality, whether there is a trade-off among growth, social protection and equality, or whether the latter assists the former, because the studies are controversial. According to their own research based on the database of OECD, there's no reliable evidence for the relationship between growth and the final (after taxes and transfers) distribution of income. However, they found it proved that more welfare payment implies lower economic growth, but the active payments, which help employment, assist growth.

After the review of the literature, the conclusion seems to be persuasive that *different institutional solutions can be economically successful*[1]*, for the demonstration of which the database describing social protection and its structure can be used well.*

6. Education and growth

Hall and Soskice (2001) have integrated into the types of the liberal and coordinated market economies the different systems of vocational training from out of the whole system of education because this is necessary for the examination of the system of production. In the formal training of the liberal system, students acquire general knowledge and abilities, and firms are unwilling to invest in their own training because in the flexible labour market those trained by them can easily find another job. In the coordinated market economy – which is illustrated by the example of

[1] Historical experience shows that there is not necessarily a relationship between the level of welfare payments and the institutional structure. On the one hand, market solutions can be relatively costly. In 2007 the USA spent 16% of the GDP on public health, while for example Finland spent only 8.2%. On the other hand, for example, in Sweden universal health care and the pension system exists independent from whether 11.3% (1950) or 40.1% (1990) of the GDP is spent on it. They did not give up the philosophy of their system of social institutions even when the level of state expenditures was lowered from 70% (1994) to 54.4% (2001) compared to the GDP. Thus adjustment of the welfare payments to the actual capacity of the economy does not define the institutional structure relevant to it. (Source of the data: database of OECDStat, Győrffy 2006, Tomka 2008)

Germany – companies provide vocational training, which is supervised by the organizations of employers and which gives specific knowledge.

Amable (2003) mentions that education systems are extremely country-specific and their comprehensive comparative analysis is missing. Usually the education system of Anglo-Saxon countries and of Germany and the Netherlands are compared to each other, the former being characterized by loose, while the latter by strict standardization and differentiation. Amable used in the analysis a wide range of indicators, although he was not able to find reliable and comprehensive data on vocational training[2].

According to the neoclassical growth theory, education is one of the determinants of the economic environment because education develops human capital, which increases the productivity of work, and thus owing to growth equilibrium moves to a higher level of output. The endogenous growth theory stresses the force of education in increasing innovational capacity, but also has an important role in spreading and distributing knowledge. In a series of macroeconomic analyses aimed at proving empirically what is expectable under the theory, Akram and Pada (2009) studied seven such country-studies and 14 studies on multiple countries. The period of time, the group of examined countries, segments of education, and the statistical methods used all differed, and the power of the results, and the level of their significance also, but they unambiguously affirmed that education has a significantly positive effect on the growth of economy.

Hanushek–Wößmann (2007) point out that usually the studies capture education with quantitative criteria (level of enrolment, length of studies, etc.), albeit that quality of the education might also have importance with respect to the growth of the economy. They used the results of international tests for the evaluation of the quality of education, and there were both developed and developing countries among the examined ones. Their analysis does not only prove the significantly positive effect of quality of the education on the growth of the economy, but also that the level of this is relatively low in the closed economies, while much greater in the open ones. The economically positive effect of education is increased when operated in a productive institutional environment (markets, legal system, etc.). They establish that improvement of the education system is not only a monetary issue, but that greater input brings results only when combined with concerted action. A key element of the reforms is to provide quality teaching staff.

Empirical studies underline that education has a positive effect on growth. But it is striking that *when compared to the previous subsystems, the classification of the institutional system of education and its correlations with growth are not thoroughly elaborated yet.*

[2] Gangl (2000) considers the dualistic education systems which provide vocation-specific training, like the ones in Austria, Denmark, the Netherlands and Germany, advantageous for the young people who are entering into the labour market.

7. Conclusions

The review of the macroeconomic and econometric studies persuasively prove that the institutional areas examined in the most influential works of the VoC literature are all relevant with respect to the performance of economy and growth, like their characteristics, based on which the different models are typified. At the same time it is instructive that there is no unambiguous correlation in the subsystems – especially in the case of the labour market, social protection and education – between the institutional system and economic growth, and thus there is a scope for economic and socio-political options among the different sets of institutions.

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Financial assistance for Hungarian crisis management – a case study

Ádám Kerényi

"The whole of the Balkans is not worth the bones of a single Pomeranian grenadier"
(Otto von Bismarck)

Following the Lehman bankruptcy, which marked the end of the 'evolutive' stage of the global economic crisis and escalated it to what can be described, without exaggeration, as a full-blown emergency, Hungary was among the first compelled to seek assistance (in the form of a loan, not aid) from the international financial organisations and the European Union. More than two years have passed since the signing of the agreement. This paper focuses on Hungary, which has been hard-hit by the current global economic recession, and foreign analysts were afraid that Hungary could become the scene of a major financing drama. In this country there were prior mistakes in economic policy that increased its vulnerability to external shocks. Hungary has turned to the IMF for financial assistance and carried out a complex, multi-approach program from 2008. The government's responses to the downturn, along with IMF conditions for assistance, are also seen to have caused harm with pro-cyclical policies. This paper describes the Hungarian crisis management alongside the Standby arrangement's guideline to the Hungarian budget restriction steps. The official response to the crisis seems to have made matters worse. European countries chose fiscal assessments which contain the reduction of the debt and budgetary expenses, and decided on reform programs in order to change the state budget structures since May 2010. The fiscal policies of member states of the European Union (Germany and France) – in light of the Greek public debt crisis – were directed to restrictions rather than easing moves. EU institutions were committed to implement sanctions, including the transformation of the rules concerning liquidation of the European Union.

Keywords: Fiscal policy, budget
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1. Introduction

The International Monetary Fund[1] in the Letter of Intent and Technical Memorandum of Understanding[2] concluded: *"Hungary has emerged from a severe*

[1] In my study I use as primer source articles and studies from IMF's and European Commission's archives (www.imf.org; www.ec.europa.eu).
[2] (IMF 2010) http://www.imf.org/external/np/ms/2010/102510.htm

crisis, but the recovery is fragile. The combination of improved policies and significant adjustment in the context of the IMF/EU-supported program, the availability of large and upfront official financing, and an easing of global financial conditions brought a faster-than-expected stabilization." During the international financial crisis, the first IMF-supported program among the new EU member states started with Hungary in late 2008. It was clear that the sustainability of this program depended heavily on the chances to ensure that Western European banks remained engaged in their host country, in Hungary.

Hungary was in a fragile economic condition when the financial crisis broke out. In November 2008, acknowledging the government's commitment to maintain the fiscal consolidation process and to prevent a more severe financial market crash, a joint financial assistance of up to 20 billion euros was provided to Hungary, bound to policy conditions. In order to counteract the decreasing revenues caused by declining output, the government also implemented a mix of structural and temporary expenditure saving measures. An important goal was to ensure that these programs would not be perceived as a private sector bailout. Hungary is an open, export-driven economy. As a consequence, the global slowdown and faltering demand in its main export markets has had a negative impact on economic growth, especially in the export-orientated automotive and consumer electronics sectors. In 2009, the Hungarian economy shrank by 6.3%. This was attributable to three factors: the slump in agricultural output following the sector's outstanding growth in 2008; the increasingly rapid decline in other sectors that began as early as 2008; and, finally, the continuing downturn in the construction sector that began two years ago (although at that stage, it was limited to only 5%). While the rest of the world has loosened fiscal policy, Hungary's cyclically adjusted primary budget balance has improved to 4.5% of GDP in the past two years. As a result, Hungary is in the unique position of not being required to tighten fiscal policy as growth recovers, suggesting that medium-term growth prospects are particularly favourable.

2. Background

2.1. The economic environment in Hungary before the crisis

Let's begin the story in the summer of 2006 from when the international financial markets and the business community had lost their trust so the Hungarian economy had been brought to the edge of the abyss by years of highly irresponsible and inconsistent economic policy – and not so much by the oft-cited lack of structural reforms, although this was of course also a factor. As the consequence of long years of lax budgetary and incomes policies, and the ostensibly strict monetary policy intended to counterbalance this, the dangerous deterioration in the external and internal financial equilibrium was increasingly plain to see (Surányi 2010, p. 21.).

GDP growth in Hungary was driven by the expansion of exports and investments. Between 2001 and 2008, export growth was exceptionally high at 11.5% per annum, and the structure of exports showed an upward trend. After 1998, the share of technology-intensive and high-value-added sectors such as machinery, transportation equipment and ICT products grew significantly[3]. In the summer of 2006, despite the (overly) benign global money and capital-market environment, the prospect of a fatal deterioration in the external and internal balance made an economic correction inevitable. The program drawn up and launched after the elections was extremely painful, and not only in terms of the specific measures that it entailed. The acceptance of this program, and adapting to it, was even more difficult for everybody than is customary at such times. In the light of the previous years' highly effective propaganda, the deliberate misleading of public opinion, the serial self-deception, and finally the unrealistic election promises made by virtually every side, the correction and austerity measures were, without a doubt, a source of great disillusionment.

The convergence program was implemented in the face of strong opposition[4], against the backdrop of a deep crisis of confidence, in a highly debatable structure, and without the requisite professional groundwork. However, the program intended to achieve a massive fiscal correction after a lengthy period of procrastination, and for this reason it was quite justified. In the space of two and a half years, the budget deficit was forced down from over 11% to 3–4% of GDP. Although the structure of the corrective measures is highly controversial, another important and favourable aspect of the program – besides the quantitative correction achieved – nevertheless deserves highlighting. After many years, the budget deficit not only came into line with the program that had been approved by Parliament, but in every year was visibly lower than this. In other words, the unpredictability of fiscal policy, which had previously made it impossible to coordinate fiscal and monetary policy, was finally eliminated. In the light of the antecedents, this was perhaps the most important change to the substance of government policy. Besides the quantitative fiscal correction, therefore, another commendable change was the strengthening of fiscal discipline, which led to greater predictability and less uncertainty.

Despite exceeding the targets for improving the fiscal balance, the perception of the Hungarian economy did not improve, or least not by any significant degree. Besides the loss of political and personal credibility, a key factor in this was probably the considerable slowing in growth that was a short-term side-effect of the correction. In the light of neighbouring countries' burgeoning economic growth – which, incidentally, was often unsustainable there, too – the annual 1–2% rate of expansion in the Hungarian economy was judged to be conspicuously weak. In addition, due to the unfavourable structure of the correction, even this virtually non-existent growth was accompanied by an unsustainable external financing

[3] ITD Hungary archives http://www.itdh.com/engine.aspx?page=Itdh_Economy
[4] Prime Minister's archives www.miniszterelnok.hu

requirement of 8–9% of GDP, and a rise in the foreign debt that appeared unstoppable as a result.

From 2006, Hungary's economic development had slowed and GDP growth remained below 4% as fiscal consolidation became the focus of economic policy. The government's austerity programme reduced Hungary's large budget deficit, but reforms dampened domestic consumption, slowing GDP growth to less than 2% in 2007 and 0.6% in 2008.

Each country in Europe and elsewhere was hit by two forms of the crisis, one was the financial crisis and the other was a real economic crisis. This latter was partly the result of the financial crisis. In October-November 2008 Hungary was projected worldwide in the press as the next Iceland, speeding towards collapse. But Hungary had another severe problem besides the double crisis: the crisis of indecision, missing the opportunity to carry out relevant structural reforms for the past 10 years. All the analyses started by saying Hungary is severely indebted – but according to professor Surányi[5] this statement[6] simply isn't true. The analysts assumed that foreign debt amounted to approximately 100 percent of GDP, however, 40–42 percent of this consisted of foreign direct investments made by the likes of General Electric, General Motors, Audi, Intesa Sanpaolo, Raiffeisen, KBC, IBM, and Fiat in Hungary for business purposes. There was absolutely nothing negative about that – in fact, it casted the country in a rather positive light. Before the crisis, Hungary was already heavily indebted close to 70% of the GDP and its growth potential had shrunk towards the end of the 1990's to roughly 2%. According to professor Surányi: *"the gross debt of Hungary denominated in foreign currency does not exceed 50 percent of its GDP. In no way can this be regarded as particularly high. The Hungarian authorities are not able to communicate these facts through international forums in a convincing way to analysts, researchers, investments banks and market players."* Despite the fiscal stimulus that raised the general government deficit to 9.3% of the GDP in 2006, GDP grew by only 4% in that year. That was coupled with a huge budget deficit in 2006 which almost reached 10% of GDP, an obviously unsustainable level. The growing deficit prompted the second Gyurcsány government under pressure of the EU to decrease the budget deficit. Consequently, the budget deficit declined from close to 10% in 2006 to 3.8% by the end of 2008. But parallel to that there had been a huge sacrifice in GDP growth. The previous years' huge deficit and low growth, the huge differential in domestic and international currency interest rates, and the high level of indebtedness of the population in foreign currency which made the country largely exposed to foreign exchange moves preserved the country's bad international evaluation. Thus, all of this made Hungary very vulnerable at the beginning of the financial crisis. In

[5] Former Governor of the National Bank of Hungary

[6] How big is Hungary's problem? – Interview with György Surányi www.portfolio.hu November 14, 2008

early October 2008, Hungary was quite severely hit by sudden panic in financial markets and a credit crunch. They had a certain routine for how to deal with such situations. Thus, Hungary was very quick in October 2008 to turn to the IMF for a stand-by loan facility. This was an unusual step by a country who was a member of the European Union. But the government was determined to do that in order to have a big enough buffer to prevent the collapse of the national currency.

In the autumn of 2008, in a context of reduced risk appetite linked to the global financial crisis, financial market conditions in Hungary rapidly deteriorated to the extent that the external financing needs of the government could no longer be met through market channels. In November 2008, acknowledging the government's commitment to maintain the fiscal consolidation process and to prevent a more severe financial market crash, a joint financial assistance (a combination of the IMF and the European Commission and the World Bank) up to 20 billion euros was provided to Hungary, linked to severe policy conditions (fiscal adjustments). The conditions were the following:

- keeping nominal wages in the public sector constant throughout 2009
- eliminating the13th monthly salary in the public sector
- capping the 13th monthly pension payment for pensioners and eliminating the 13th monthly pension payment for all early retirees
- postponing the indexation of selected social benefits[7]

In order to counteract the decreasing revenues caused by declining output, the government also implemented a mix of structural and temporary expenditure saving measures[8]. The loan and accompanying measures have helped to consolidate the situation, but at a very weak level. This hurt 1.7 million families in Hungary out of the 4 million families who had foreign currency debt. The country was in a very shaky position throughout the winter. The Hungarian people endured huge austerity adjustment measures that really cut standards of living without mass grievances.

The Hungarian macroeconomic data can be found in the Table 1.

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[7] www.miniszterelnok.hu

[8] European Commission archives http://ec.europa.eu/economy_finance/eu/forecasts/2010_spring/hu_en.pdf

Table 1. Hungary: Main Economic Indicators

	2003	2004	2005	2006	2007
Real economy (change in percent)					
Real GDP	4.2	4.8	4.1	3.9	1.3
Private consumption	7.8	2.8	3.6	1.9	–1.9
Gross fixed investment	2.2	7.6	5.3	–2.5	0.1
Exports	6.2	15.6	11.5	19	14.2
Imports	9.3	13.4	6.8	14.7	12
CPI (end year)	5.7	5.5	3.3	6.5	7.4
CPI (average)	4.6	6.8	3.6	3.9	7.9
Unemployment rate (average, in percent)	5.9	6.1	7.2	7.5	7.4
Gross domestic investment (percent of GDP) 1/	25.2	25.9	23.6	23.1	23
Gross national saving (percent of GDP, from BOP)	17.3	17.5	16.8	17	18
General government (percent of GDP), ESA–95 basis 2/					
Overall balance	–7.2	–6.4	–7.8	–9.2	–5.5
Primary balance	–3.4	–23	–3.9	–5.5	–1.7
Debt	58	59.4	61.7	65.6	66
Money and credit (end-of-period, percent change)					
M3	12	11.6	14.6	13.7	11.1
Credit to nongovernment	34.4	19.2	18.9	17.1	17.3
Interest rates (percent)					
T-bill (90-day, average)	8.2	11.1	6.8	7	7.6
Government bond yield (5-year, average)	6.4	9.7	8	6.9	7
Balance of payments					
Goods and services trade balance (percent of GDP)	–3.8	–2.7	–0.5	0.4	2.5
Current account (percent of GDP)	–7.9	–8.4	–6.8	–6.1	–5
Reserves (in billions of US dollars)	12.8	16	18.6	21.6	24
Gross external debt (percent of GDP) 3/	61.6	67	75	90.5	96.4
Net international investment position (in percent of GDP)	77.2	83.5	92.4	100.9	100.5

Source: www.imf.org

2.2. The budget deficit and the financial crisis

The deep global recession has focused attention on the need for counter-cyclical fiscal policy. The fiscal stimulus requires a careful evaluation of fiscal space and available financing (Kandil–Hanan 2010, p. 3.). The half of the large increase in budget deficits in major economies around the world is due to collapsing tax revenues and to low (often negative) growth. Less than ten percent is due to increased discretionary public expenditure, as in stimulus packages (Galbraith 2010,

p. 2.). Can governments afford the cost of the fiscal stimulus, hoping for higher revenues once recovery is at full speed to service the new debt and ensure sustainability? While fiscal expansion may be necessary to stimulate economic activity, not every country has the resources to finance fiscal stimulus.

Some countries, like Hungary, do not have enough fiscal space to run countercyclical policy during a recession with limited access to financing from international capital markets, and high concerns about policy credibility and debt sustainability[9].

It is important to realize that, while the direct costs of the financial crisis on governments may appear large, they are in fact relatively small compared to indirect costs arising from losses of tax revenues and increased expenditure to provide demand stimulus. Financial rescue programmes, including capital injection, treasury purchase of assets and lending as well as upfront government financing are amounting and a significant part of this is likely to be recovered (Cecchetti et al 2010, p. 2.).

By contrast, overall fiscal balances have been deteriorating sharply – by 20–30 percentage points of GDP in just three years in the world. And, unless action is taken almost immediately, there is little hope that these deficits will decline significantly by 2011. So, in the absence of immediate corrective action, these deficits will persist even during the cyclical recovery (Cecchetti et al 2010, p. 3.).

2.3. The EU Commission delivers a comprehensive package of legislative measures

Fiscal assessments have to be considered against the background of the sharp economic and financial crisis which has had a major impact on public finances. Reflecting the working of automatic stabilizers and discretionary stimulus measures implemented in line with the European Economic Recovery Plan (EERP) to cope with the exceptional economic circumstances, a large majority of Member States is currently subject to the excessive deficit procedure following corresponding Council decisions in 2009. This implies that the medium-term budgetary strategies of these countries have to be assessed against the background of the recommendations to correct their excessive deficits by the deadlines set by the Council. For most countries this year will mark a fiscal consolidation process consistent with the recommendation set out in the Excessive deficit procedures (EDPs). According to Council Regulation (EC) No 1466/97 on the strengthening of budgetary surveillance and the surveillance and coordination of economic policies, EU Member States must submit updated macroeconomic and budgetary stability programmes. This

[9] In Hungary, the Government Debt Management Agency Private Company Limited by Shares (Államadósság Kezelő Központ Zrt. – ÁKK) is responsible for debt management. ÁKK is 100% state owned and the Minister Responsible for Public Finances being the Minister of National Resources exercises the shareholders' rights. The Minister Responsible for Public Finances manages public debt through ÁKK under the regulations of the Public Finances Act.

regulation is also referred to as the 'preventive arm' of the Stability and Growth Pact[10].

The European Commission adopted on 27/09/2010 a legislative package containing the most comprehensive reinforcement of economic governance in the EU and the euro area since the launch of the Economic and Monetary Union. Broader and enhanced surveillance of fiscal policies, but also macroeconomic policies and structural reforms are sought. The recently agreed "European semester" will integrate all revised and new surveillance processes into a comprehensive and effective economic policy framework. The proposals are the concrete translation of the recent Commission communications on economic governance dated 12 May and 30 into legislative proposals. All these reforms are compatible with the existing Treaty of Lisbon and should ensure that the EU and the euro area benefit from more effective economic policy coordination. That should give the EU and the euro area the necessary capacity and strength to conduct sound economic policies, thereby contributing to more sustainable growth and jobs, in line with the Europe 2020 strategy. The legislative package is made up of six pieces of legislation: four proposals deal with fiscal issues, including a wide-ranging reform of the Stability and Growth Pact (SGP), while two new regulations aim at detecting and addressing effectively emerging macroeconomic imbalances within the EU and the euro area. For Member States of the euro area, changes will give teeth to enforcement mechanism and limit discretion in the application of sanctions. In other words, the SGP will become more "rules based" and sanctions will be the normal consequence to expect for countries in breach of their commitments.

1. A Regulation amending the legislative underpinning of the preventive part of the Stability and Growth Pact (Regulation 1466/97):

The preventive part of the SGP is meant to ensure that EU Member States follow prudent fiscal policies in good times to build up the necessary buffer for bad times. To break off with past complacency in good economic times, the monitoring of public finances will be based on the new concept of prudent fiscal policy making that should ensure convergence towards the Medium-Term Objective. The Commission may issue a warning in case of significant deviation from prudent fiscal policy for the euro area Member States.

2. A Regulation amending the legislative underpinning of the corrective part of the Stability and Growth Pact (Regulation 1467/97):

The corrective part of the SGP, is meant to avoid gross errors in budgetary policies. The regulation is amended so that debt developments are followed more closely and put on an equal footing with deficit developments as regards decisions linked to the excessive deficit procedure. Member States whose debt exceed 60% of GDP should

[10] European Commission (2008b)

take steps to reduce it at a satisfactory pace, defined as a reduction of 1/20th of the difference with the 60% threshold over the last three years[11].

3. A Regulation on the effective enforcement of budgetary surveillance in the euro area:

Changes in both the preventive and corrective part of the SGP are backed up by a new set of gradual financial sanctions for euro-area Member States. As to the preventive part, an interest-bearing deposit should be the consequence of significant deviations from prudent fiscal policy making. In the corrective part, a non-interest bearing deposit amounting to 0.2% of GDP would apply upon a decision to place a country in excessive deficit. This would be converted into a fine in the event of non-compliance with the recommendation to correct the excessive deficit. To ensure enforcement, a "reverse voting mechanism" is envisaged when imposing these sanctions: this means that the Commission's proposal for a sanction will be considered adopted unless the Council turns it down by qualified majority. Interests earned on deposits and fines will be distributed among euro-area Member States neither in excessive deficit nor in excessive imbalance. The changes are devised so that they should facilitate the eventual move to a system of enforcement linked to the EU budget as foreseen in the Commission communication of 30 June[12].

4. A New Directive on requirements for the budgetary framework of the Member States:

Since fiscal policy-making is decentralized, it is essential that the objectives of the SGP are reflected in the national budgetary frameworks, i.e. the set of elements that form the basis of national fiscal governance (accounting systems, statistics, forecasting practices, fiscal rules, budgetary procedures and fiscal relations with other entities such as local or regional authorities). The directive sets out minimum requirements to be followed by Member States.

5. A New Regulation on the prevention and correction of macroeconomic imbalances:

The Excessive Imbalance Procedure (EIP) is a new element of the EU's economic surveillance framework. It comprises a regular assessment of the risks of imbalances based on a scoreboard composed of economic indicators. On this basis, the Commission may launch in-depth reviews for Member States at risk that will identify the underlying problems. For Member States with severe imbalances or imbalances that put at risk the functioning of EMU, the Council may adopt recommendations and open an "excessive imbalance procedure (EIP)". A Member State under EIP would have to present a corrective action plan that will be vetted by the Council, which will set deadline for corrective action. Repeated failure to take

[11] European Commission archives http://ec.europa.eu/ireland/press_office/news_of_the_day/eu-economic-governance-legislative-measures_en.htm

[12] European Commission archives http://ec.europa.eu/ireland/press_office/news_of_the_day/eu-economic-governance-legislative-measures_en.htm

corrective action will expose the euro area Member State concerned to sanctions (see the following point).

6. A Regulation on enforcement measures to correct excessive macroeconomic imbalances in the euro area:

Like in the fiscal field, if a euro-area Member State repeatedly fails to act on Council EIP recommendations to address excessive imbalances, it will have to pay a yearly fine equal to 0.1% of its GDP. The fine can only be stopped by a qualified majority vote ("reverse voting", see above), with only euro-area Member States voting. These proposals will be examined by the Council, the European Parliament and the Economic and Social Committee. The Commission calls all parties to work towards a speedy adoption of these proposals (European Commission 2010)[13].
The Council of the European Union decided to establish a European stabilisation mechanism. The mechanism is based on Art. 122.2 of the Treaty and an intergovernmental agreement of euro area Member States. Its activation is subject to strong conditionality, in the context of joint EU/IMF support, and will be on terms and conditions similar to the IMF[14].

3. The medium-term financial assistance from the EU and the Stand-by Arrangement with the IMF

The loan raised from the international institutions – to put it in somewhat simplistic terms – was used to top up the currency reserves (in other words, from the perspective of the real economy it hardly represented any real direct easing of the situation). It was the failure to top up reserves for many years during the preceding period of unprecedented market liquidity that fundamentally limited the range of available monetary-policy responses to the crisis. To put it another way, one could confidently state that all the weaknesses of the Hungarian economy – such as the relatively high level of external indebtedness, the high public debt, the overly extensive and badly-structured fiscal redistribution of funds, the extremely rapid and unfavourably-structured growth in forint and foreign-currency lending (and not so much its actual stock and currency structure), the significantly overvalued forint, the high positive real interest rates and, last but not least, the severe drop in the economy’s potential growth rate, which is partly attributable to a combination of all the above factors combined – still don’t go the full way to explaining the panic of autumn 2008. The urgent call for outside assistance by the government and the central bank, in contrast to the other countries in the region, was chiefly precipitated by the critically low level of foreign exchange reserves.

Only from this starting point is it possible to understand the responses of Hungary’s economic policy to the crisis, even if one can’t agree with them.

[13] European Commission (2010a)
[14] Council of the European Union presse release 9596/10

Unusually, it is worth starting the analysis from the monetary-policy side. After the Lehman bankruptcy, the markets – far more than the aforementioned analysts – were aware of the Hungarian economy's vulnerability (to external factors). In the absence of abundant currency reserves, the Hungarian money and capital market, and thus the forint, became a soft target for market speculation. Unarmed in the absence of sufficient international reserves, at the mercy of the markets and incapable of intervening effectively in the market using its own resources, the MNB watched from the sidelines as events unfolded: the dangerous weakening of the forint exchange rate, the jump in market interest rates and risk premiums, the second drying-up of the government securities market in the space of a year (March and September-October 2008), and the increasingly oppressive shortage of both forint and foreign-currency liquidity in the banking system.

For a few drama-filled days in autumn 2008, the central bank, which until then had argued in favour of a strong forint for the weak economy (and which believes that the exchange rate has no impact on exports – sic!) watched in paralysis as the forint began to spiral downward. Then, and this time with good reason, it raised the reference rate by 300 basis points, the only central bank in the region to do so. But the question needs to be asked again: why didn't it also intervene in the currency market, why didn't it extend generous liquidity support, either in forint or foreign currency, to the banking sector, and why didn't it step in and create liquidity (through open-market transactions) in the secondary government securities market? There are probably two reasons for this. One is the aforementioned technical factor, the lack of sufficient foreign exchange reserves. The other is a broader matter of principle, which may also have contributed to the shortage of reserves in the first place.

Even in August-September 2008, out of principle, the MNB refused to entertain even the suggestion of any currency market intervention. Naturally, nobody seriously believes that it is possible, through intervention, to permanently reverse the basic processes that are determined by fundamentals. Nevertheless, the purchase and sale of currency in the market is one of the available monetary-policy means of influencing market liquidity. It is certainly no coincidence that it features in the monetary-policy arsenal of all serious central banks (with the exception of the MNB prior to January 2009). If the central bank has sufficient reserves, and these can be easily mobilised, then it has the means of limiting and discouraging market speculation to a certain degree. In the years prior to September 2008, the central bank, in a stable environment – while avoiding any unrealistic strengthening of the forint – could have topped up the currency reserves to the necessary level (if it hadn't been focusing one-dimensionally on suppressing inflation at any cost). This would naturally have cost money, a lot of money in fact (indeed, it would have resulted in a slightly higher, but sustainable and therefore credible, rate of disinflation), but it would still have been less costly than the damage caused by a monetary policy that was paralyzed by the lack of reserves.

The worst aspect of the lack of reserves was not simply the shame arising from the fact that – tarring ourselves with the same brush as the ‘undesirables’ – we immediately had to turn to the IMF in October 2008 for credit with which to top up the reserves. This in itself would perhaps have been bearable. The low international reserves, however, prevented the central bank from performing one of its basic functions. Even over a short, 3–6-month horizon, the central bank was incapable of guaranteeing the liquidity of the Hungarian financial system without any major hitches; in other words it was only partially able to fulfil its role as the ‘lender of last resort’ (Surányi 2010, p. 22.).

The fiscal and monetary policy-leaders, the Minister of Finance of Hungary and the President of the Hungarian Central Bank requested that the International Monetary Fund support their program through a Stand-By Arrangement (SBA) for a period of 17 months in the amount of SDR10.5 billion (€12.5 billion). The Managing Director of the IMF, issued the following statement on the 13th October 2008 on Hungary:

“Against the background of global financial turbulence, Hungary's government securities market and some other key markets have experienced stress over recent days. These pressures emerged despite the country’s improved macroeconomic and financial policies of the past years, which include a strengthening of its fiscal position, a narrowing of the current account deficit, and a cautious implementation of monetary and exchange rate policies. ” (...)

“The authorities have responded to the recent turmoil in global markets through a continuation of their macroeconomic convergence program, coupled with enhanced monitoring of financial sector developments and increased deposit guarantees, which were augmented in line with an EU-wide move.” (...)

“To complement these efforts, we are in close dialogue with the Hungarian authorities and the EU to discuss further responses to the current challenges, including possible technical and financial support by the IMF. I have informed the authorities that the IMF stands ready to assist their efforts. We will provide technical assistance as needed and, in the context of a supportive policy setting, are ready to undertake discussions on possible financial assistance, responding rapidly.”[15]

For a period of 17 months from November 6, 2008, Hungary had the right to make purchases from the Fund in an amount equivalent to SDR 10,537.5 million. Hungary’s right to engage in the transactions covered by this Arrangement can be suspended only with respect to requests received by the Fund after (a) a formal ineligibility, or (b) a decision of the Executive Board to suspend transactions. The formal purpose is to suppress or to limit the eligibility of Hungary.

[15] IMF (2008a)

Their main objectives were:

1. to reduce the government's financing needs and improve long-term fiscal sustainability,
2. to maintain adequate capitalization of the domestic banks and liquidity in domestic financial markets,
3. to underpin confidence and secure adequate external financing.

Fiscal consolidation in 2006–2008 was the cornerstone of the government's efforts to reduce macroeconomic vulnerabilities. As a share of GDP, primary government expenditures in 2008 were reduced to below the level envisaged in the budget.

The revised budget envisaged a general government deficit of 2.5 % of GDP, which implied a structural fiscal adjustment of about 2.5 % of GDP. Revenues, which were difficult to project precisely in the critical environment, were expected to decline somewhat as a percentage of GDP, reflecting the slower growth of the tax base and the effect of the spending measures outlined below. The tax cuts were envisaged for 2009[16].

The necessary adjustment focused on the expenditure side, which seems consistent with the need to reduce Hungary's comparatively large public sector as a share of GDP. Specifically, primary government expenditure (which excludes interest payments) was reduced by 2 percentage points of GDP compared to 2008. This was achieved by 1) keeping nominal wages in the public sector constant throughout 2009; 2) eliminating the13th-month-salary for public servants; 3) capping the 13th-month pensions and eliminating the 13th-month pensions for early retirees; 4) postponing the indexation of selected social benefits; and 5) trimming operating expenditure allocations to all ministries across the board.

Within the government's expenditure envelope, the government gave priority to investment projects co-financed by EU funds and programs designed to support small and medium-sized enterprises. The program was primarily monitored through the primary cash balance of the central government including social security and other extra-budgetary funds (a quarterly performance criterion)[17].

The EU medium-term financial assistance to Hungary was also decided on in November 2008. Hungary received three instalments of the EU €6.5 billion balance of payments loan: two instalments of €2 billion each on 9 December 2008 and 26 March 2009 and a further €1.5 billion on 6 July 2009. In view of the improved access to market financing, Hungary did not (draw) call for on EU and IMF assistance upon the completion of the reviews in November 2009 and February

[16] www.imf.org
[17] IMF (2008b)

2010. The EU assistance was granted for a period of two years until 3 November 2010[18].

The mission welcomed the government's commitment to the 2010 deficit target of 3.8 % of GDP and recognized that following the budgetary slippage in the first half of 2010, a number of steps will be taken to correct the situation, including sizeable revenue-enhancing and expenditure-saving measures. The corrective measures considered so far still fall short of the required adjustment and are largely of a temporary nature.

However, the government was not in a position to respond to a number of open questions at the time of the mission. The government also has to make increased efforts to bring the deficit under 3 % of GDP in 2011 on a sustainable basis. This was required under the European Council's excessive deficit procedure recommendation. In the area of structural reforms, some measures were implemented by both the outgoing and the incoming governments. Nevertheless, rather than realizing durable savings in the area of long-distance public transport in accordance with the balance of payments assistance conditions, budget transfers to this sector are expected to increase compared to 2009.

The Commission services also voiced concerns that the 0.7 % of GDP pre-tax financial sector levy which has since been enacted as a temporary source of revenue could, in its current form, have a significantly negative impact on the country's investment climate and economic growth. The mission urged the authorities to review some features of the levy in this regard. In addition, it was considered that several items in the same complex bill, as it remained before the Parliament through the duration of the mission, may potentially not be in compliance with EC law. The mission further recalled the government's obligation to respect the full independence of the central bank, including its operations. The Commission services, together with the International IMF, are ready to resume the talks whenever the authorities consider that this would be productive. As with the balance of payments assistance that was extended to Hungary in 2008, a possible successor program would have to be anchored in credible commitments to sound fiscal policy. This is a necessary condition for ensuring sustainable growth and for reducing the vulnerabilities that stem from Hungary's high public debt to GDP ratio. It is also indispensable for allowing the government to meet its obligations under the excessive deficit procedure.

During 2008, the international financial crisis severely reduced Hungarian access to foreign capital. This has lead to difficulties in the banking system (including foreign banks operating within the country as well as local banks). The results in the financial account of the balance of payments – a deficit of 5.9 billion euros in 2009 (6.6% of GDP), as compared to a surplus of 10.6 billion euros in 2008

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[18] European Commission archives
http://ec.europa.eu/economy_finance/articles/financial_operations/2010–08–05-hungary-review-postponed_en.htm

(10.1% of GDP) – show how drastically conditions tightened in the international financial environment. Finally, Hungary requested IMF support to help face the crisis in the financial and foreign exchange markets. The stand-by arrangement signed with the Fund included measures to bring the government deficit, as a percentage of GDP, down to 3.4 in 2008, and to 2.5 in 2009 Hungary's projected GDP growth rate fell to only 1.8 percent in 2008, and to –1.0 percent in 2009.

As time went by and the crises (both international and domestic) worsened, the estimates were revised. The government deficit would now reach 3.9% of GDP (up from the previously estimated 2.5%); GDP growth in 2008 would hit about half of one percent in 2008, and –6.7% in 2009. In Hungary, tolerance for public deficits was limited and the government continued to pursue fiscal restraint. Even though the IMF accepted upward revisions of the fiscal deficit target, the prevailing goal continued to be one of containing spending. This trend has continued in spite of the obvious consequences that the international situation is having on the domestic economy.

At the end of 2008, a drastic fiscal responsibility law was approved by the Hungarian parliament, and the legislation included strict guidelines on spending. Among those guidelines are that the budget must define a primary balance target two years in advance, and the target cannot be a deficit. Second, the law sets strong guidelines for the evolution of public debt. Finally, every year, the budget must define the extent to which primary expenditures of the central government may change in real value in the following year. Of course Hungary's political instability has not improved business or investor confidence. At the end of March, Standard and Poor's lowered credit ratings of Hungary to "BBB minus" from "BBB". The ratings agency expected GDP to contract by 6% in 2009, and by 1% in 2010 (Cordero 2009, p. 13.).

4. The Hungarian government and the IMF relation in 2008–2010

4.1. From fiscal consolidation to fiscal responsibility – government's policies to alleviate the impact of the crisis on the labour market

The Hungarian measures include guarantees, recapitalisation measures and loans and are aimed at strengthening confidence in the markets and, above all, financing the real economy in a period of crisis. Guarantees are based on Law CIV of 2008 on the strengthening of the financial intermediary system, which came into effect on 23 December 2008, and Government Decree 89/2009 (IV.14.) on procedural regulations for the provision of State guarantees in the interests of financial system stability, which entered into force on 15 April 2009. The maximum total amount committed to State guarantees is HUF 1 500 billion (approximately EUR 5.3 billion.

Guarantees may be sought by sound credit institutions (any banks and specialised credit institutions specified under the Law on credit institutions) with a registered office in Hungary.

Eligible under this scheme are the debts of a credit institution vis-à-vis its creditors denominated in EUR, CHF or HUF and payable in the same denomination that arose between 23 December 2008 and 31 December 2009 and that are based on a loan agreement or debt security. The scheme was available until 31 December 2009; it covers debt instruments at a maturity between three months and five years. The conditions include rules on the remuneration and duration of the measure, the nominal and issuance value of the shares, controlling rights of the State and restricting management remuneration. Other conditions vary and are specified in the individual guarantee agreements. Under the scheme, the Government either has the right to subscribe capital in the credit institution concerned or the credit institution must issue shares carrying specific veto rights.

Recapitalisation is based on Law CIV of 2008 on the strengthening of the financial intermediary system, which came into effect on 23 December 2008. The maximum amount committed to the scheme until 31 December 2009 is HUF 300 billion (approximately EUR 1 billion) in accordance with Law XVII of 2009.

The same institutions that are eligible under the guarantee scheme are eligible under the recapitalisation scheme. Recapitalisation may be granted by convertible dividend preference shares and preference shares carrying specific veto rights.

State loans based on Law XXXVIII of 1992 on general government financing are introduced by Law IV of 2009 on the State warranty concerning mortgages. These regulations came into effect on 11 March 2009, under which the State may provide eligible institutions (see the definition set out above in the section on guarantees) with loans. The conditions vary and are detailed in each loan agreement.

According to a loan agreement between the State and FHB of 25 March 2009, the bank was granted a total amount of EUR 400 million in two tranches (1 April 2009 and 30 April 2009) until 11 November 2012, with a market interest rate. According to a loan agreement between the State and Magyar Fejlesztési Bank Zrt. of 14 April 2009, the bank was granted an amount of approximately HUF 170 billion (approximately EUR 600 million), with a market-based interest rate (Petrovic–Tutsch 2009, pp. 45–46.).

Fiscal consolidation in 2006–2008 was the cornerstone of the Gyurcsány government's efforts to reduce macroeconomic vulnerabilities. The necessary adjustment was focused on the expenditure side, which seems consistent with the need to reduce Hungary's comparatively large public sector as a share of GDP. Specifically, primary government expenditure (which excludes interest payments) was reduced by 2 percentage points of GDP compared to 2008.

The Gyurcsány government in 2006 became committed to maintaining fiscal discipline in the long-term, recognizing that this is a key element in retaining investor's confidence. It therefore intended to continue budget consolidation in the

2010 budget and beyond; new medium-term fiscal targets were included in the convergence program and in their medium-term fiscal framework. To put fiscal sustainability on a permanent footing, the government submitted a draft on fiscal responsibility law to the parliament, which established fiscal rules on public debt and primary deficit, strengthened the medium-term expenditure framework (rolling three-year expenditure ceilings) and created a fiscal council to provide independent and expert scrutiny. See Table 2.

Table 2. The Structure of the EU-IMF loan package billion EUR

20.0	**TOTAL EU-IMF CREDIT FRAME**			
»	5.8	Has not been drown		
»	**14.2**	**Drawdowns**		
	»	1.4	Total drawdowns by the Central Bank	
	»	**12.8**	**Total drawdowns by the Government**	
		»	4.9	IMF/stabilising the banking system
		»	2.4	IMF/financing the maturing debt
		»	5.5	EC/financing the maturing debt

Source: Government Debt Management Agency Private Company Limited by Shares (ÁKK Zrt.)

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Table 3. Disbursements from the International Loan Package in 2008 and 2009 EUR billion

	Q4 2008	**Q1 2009**	**Q2 2009**	**Q3 2009**	**Q4 2009**	**2010**	**Total**
IMF/ stabilising the banking system	4.9						4.9
IMF/financing the maturing debt		2.3		0.1			2.4
EC/financing the maturing debt	2.0	2.0		1.5			5.5
Total drawdowns by the Government	6.9	4.3	0.0	1.6	0.0	0.0	12.8

Source: Government Debt Management Agency Private Company Limited by Shares (ÁKK Zrt.)

After escaping the danger of a financial meltdown in October 2008, the Hungarian Government concentrated on creating a balance between two challenging tasks.

First, in order to restore the financial credibility of the country it had to carry on with the implementation of austerity measures prescribed by the IMF agreement. Second, it had to fix upon policies which would prevent bankruptcies on a large scale, high unemployment and social unrest resulting from both the effects of the crisis and fiscal tightening. In late October 2008 the Prime Minister convened a National Summit of the leaders of political parties, social partners and representatives of the academic community to agree upon an adequate crisis management strategy. Following this, the cabinet's crisis management package was in place within a few weeks. Efforts to preserve workplaces and to slow down the loss of jobs in hard hit regions were high on the list of the programme. It was put forward that in cases when layoffs could not have been prevented, it was the duty of local and central labour offices together with local governments to assist the re-employment of redundant workers.

In November a special task-force called the "Governmental Centre for Crisis Prevention and Management (GCCM)" was set up, headed by the Prime Minister with the participation of selected ministers and with an agenda of having meetings every second week. The task of this body was to elaborate the details of the crisis management package, to coordinate and supervise implementation and to report to Parliament and social partners on the outcomes of actions. The government assured transparency by establishing a homepage to provide online information on all the major steps of crisis management[19].

In April 2009 the prime minister resigned and a new, so-called crisis-management cabinet was formed the head of which became the former Minister of Economy and Regional Development. A new programme for the short-term crisis management of the national economy was introduced[20]. Chapters related to employment and regional issues remained by and large the same as were envisaged in the programme of the previous government. The main related points were as follows:

Job preservation programs aim at avoiding the escalation of mass layoffs and offer firms five forms of assistance:

– scope for the partial reduction of wage costs and social contribution tax;
– support for introducing part-time work and abridged working time;
– a subsidy for training and retraining costs;
– the provision of labour market services in the event of job losses;
– a subsidy for the commuting and residential costs for job seekers.

[19] Speaker of the Hungarian Government's archives http://www.kormanyszovivo.hu

[20] The Government's Crisis Management Program and a list of the completed actions can be downloaded from: http://www.kormanyszovivo.hu/news/show/news_1734?lang=hu

Firms which apply for participation in this programme are obliged to maintain employment of their redundant workers for at least two years and also to keep their other employees. Only those firms are qualified which show evidence of their longer term viability and can prove that their recently occurred redundancies are the direct consequence of the economic crisis.

Job creation programs implemented to prevent further deterioration of employment and increase participation rates in backward regions. On the eve of the outbreak of the crisis, the Government elaborated a proposal for Parliament to change the eligibility criteria for regular social allowances in the framework of the so-called "Pathways to Work" plan. The initiative aimed at motivating inactive and long-term unemployed people living on social assistance to improve their employability and return to work. The idea was that those non-employed who receive social benefits and are able to work should get involved in public work schemes or should be assisted by training or labour market services. The proposed programme coupled social benefit incentives and active labour market measures with stricter control on the availability for public work of the affected persons.

More funds to finance active labour policies in hard hit regions. An additional resource of HUF 20 billion was earmarked for regional labour centres to assist the re-employment of those who lost their jobs due to the economic crisis.

More funds for job creation programs, especially SMEs working in backward regions. The eligibility criterion for participating in this scheme was a commitment to create at least two new workplaces. Non-repayable financial support could be claimed for buying new machines, equipment or know-how.

Local employment development programs in disadvantageous regions. HUF 97 billion was allocated for local employment development programs in the 33 least developed regions. Another HUF 30 billion was provided for the management of local employment crises in micro regions.

4.2. Fiscal policy and structural fiscal reforms

A core objective of the program was to buttress Hungary's commitment to sustainable public finances by containing the government's short-term financing need and credibly reducing it over the medium term. To this end, in June 2009 the Bajnai government adopted and continued to implement a comprehensive package of entitlement, public service, and tax reforms, aimed at permanently reducing public expenditures and stimulating potential growth. By better anchoring market expectations and creating room for a cautious reduction in policy interest rates, these measures allowed Hungary to take full advantage of the ongoing stabilization of global financial conditions. Over the medium term, the combination of fiscal discipline, higher growth, and lower interest rates were expected to put the public debt-to-GDP ratio firmly on a declining path.

The Bajnai government remained fully committed to its general government deficit target (Maastricht definition) of 3.9% of GDP in 2009. It expected higher

spending by line ministries and on health care and unemployment benefits, as well as lower corporate tax revenue, to be offset by lower interest expenditures and a reduction in identified contingency reserves.

The budget adopted by parliament on November 30, 2009 was consistent with the aim to reduce the general government deficit to 3.8% of GDP in 2010. Compared to the draft that was submitted to the parliament, the adopted budget allocated part of the specific reserves to higher spending on healthcare, school meals, and education (the latter two helped to reduce pressures on local government spending) and to a reduction in the VAT on district heating. Consistent with the Bajnai government's commitment to gradually reduce the public transport system's need for government support, measures were taken aimed at improving the financial situation of the sector. These measures included eliminating the redundancy between railway and long-distance bus lines, and implementing efficiency gains (including in procurement procedures).

The budget contained appropriate buffers to mitigate fiscal risks in 2010. The government strengthened expenditure control by assigning treasurers to line ministries. In addition, the remaining amount of specific reserves was added to the stability reserve, bringing overall budgetary reserves to 0.8% of GDP. Any extra revenues that could result from a better than projected macroeconomic performance were used to boost reserves available to deal with risks and to reduce the adjustment in spending that were needed in 2011 to bring the deficit (Maastricht definition) below 3% of GDP.

The Bajnai government intended to review expenditure rationalization aimed at improving the efficiency of the delivery of public services, possibly with the International Monetary Fund's technical assistance.

4.3. Risks of the budget

The downside risks to the fiscal target in 2010 (see also table 4.) include the uncertainty surrounding tax revenue and interest payments projections, the financial performance of MAV (Hungarian State Railways), BKV (Budapest Transport Company) and Malev (Hungarian Airlines), and spending by local governments in an election year. Furthermore, there was a possibility that Eurostat may decide that revenues related to the shift from the second pillar to the first pillar of the pension system would count towards the 2009 fiscal balance. To mitigate these risks:

- treasurers assigned to line ministries should reduce overspending risks by keeping spending in line with budgetary commitments (in contrast to 2009 when the treasurers were assigned towards the end of the year).
- the government discussed the MAV business plan that was prepared in December 2009 in collaboration with the company. While progress has been slow, it expected final adoption by the Ministry of Transport on behalf of the state by end-March 2010. Should risks materialize nevertheless, the policy response would include both the use of budgetary reserves, which amount to

about 0.5% of GDP, and the implementation of identified additional spending cuts of 0.2% of GDP.

Any extra revenue that could result from a better-than projected macroeconomic performance was supposed to be used to boost reserves, which were being kept available to safeguard against risks and to reduce the necessary adjustments in spending them in 2011. Also, any additional revenue that could result from the sale of emission credits accrued under the Kyoto protocol was planned to be either spent on new environmental projects or saved for such projects in later years.

Table 4. Maturity profile of the central government debt

Instruments	Debt stock
Forint debt	**10,677.4**
Publicly issued HUF bonds	7,899.1
HUF bonds issued by private placement	422.6
Discount Treasury Bills	1,534.9
Retail securities	335.6
HUF loans	485.2
Foreign exchange debt	**9,478.2**
Foreign currency loans raised abroad	4,437.2
Syndicated and other foreign currency loans	28.7
Foreign currency loan taken over from NBH in 1997	0.0
Domestic foreign currency loans	0.0
Foreign currency bonds	5,012.3
Kingdom of Hungary 1924 issue	0.0
Total	**20,155.7**
Other debt	314.8
Total central government debt	**20,470.5**

Source: Government Debt Management Agency Private Company Limited by Shares (ÁKK Zrt.)

To ensure the consistency of budget procedures with the Act on the legal status and financial management of budgetary institutions adopted in December 2008, the Bajnai government adopted and published in December 2009 a government regulation on the implementation of the Act. It adopted a government regulation relative to the rules on the advance payment of EU subsidies, aligning these rules with best practices.

5. The relationship between the new Hungarian government and the IMF in 2010

Since in Hungary the national elections were approaching, the rhetoric connected to the IMF and the loan was very aggressive. But the rhetoric does not describe well the facts of the inner situation of the country's real domestic conditions, and they do not take note of the country's exterior constraints, consisting of rights fixed in contracts and obligations.

For the sake of avoiding a financing crisis, the elected Parliament completed partial harm averting. In early July 2010 the Hungarian government decided to levy a new tax on banks and other financial companies that would raise some 855 million dollars in 2010 and 2011. Foreign banks, who made a fortune during Hungary's bubbly growth years prior to the crash in 2007, protested and lobbied, but – despite having the IMF on their side – they did not succeed.

On 17 July 2010 the negotiations between the IMF, the Commission and the Hungarian Government on extending the standby credit facility previously granted to the country to 2011, were suspended. According to reports in the press, the government did not present a complete economic schedule for 2011 supported by figures, and regarded the requirements imposed under the supervision process as serious intervention in the country's economic policy.

It is well known that, without the loan of EUR 6.5 billion which the EU extended in November 2008 with exemplary speed, Hungary's national currency would not have survived the speculative attacks which followed the world economic crisis[21]. However, the government refused to give in to IMF demands for further budget deficit reduction and negotiations were suspended by the Commission.

The suspension of the negotiations has sent an inauspicious message to the currency markets and government bond markets: following the announcement, the exchange rate of the forint began to plunge in relation both to the Swiss franc and to the Euro, causing damage valued in billions HUF to a mass of Hungarian citizens, who are saddled with a huge outstanding debt.

We can not know why exactly the Commission delegation left the negotiations with the Hungarian Government prematurely. Also it is still a unknown on what conditions will the Commission return to the negotiating table with the Hungarian Government delegation.

There is a critical threshold, beyond which the regularly recurring breakdowns jeopardize the stability of the Hungarian state's financial life. This is when there are no more single and independent cases, but there is a tendency.

[21] IMF (2008c)

6. Looking forward: Western European markets' fears about the propagation of the risk

The Western European governments have made declarations on the stability of the Western European banks. All the Western European banks present in Hungary have publicly reaffirmed their strategic commitments. The quality of assets will deteriorate to an extent, but the banks are too stable and too capital-strong at present not to be able to cope in such an event[22]. Prime Minister Viktor Orbán was forced to backtrack from election pledges to put pro-growth measures ahead of budget discipline after the forint plunged on June 2010 on investor concern about Hungary's fiscal health[23]. The country agreed to reduce its deficit to 3.8 percent of economic output this year to qualify for an International Monetary Fund-led bailout.

The IMF and EU walked away from talks with Hungary on July 2010, saying the government wasn't doing enough to control its budget deficit. Their departure froze emergency funding for Hungary, not necessary to be used at the moment, but could be a problem later if funding costs spike[24]. After this the prime minister came up with a new tactic - to separate the discussions led by the IMF from those with the EU. Hungary is in line to adopt the Euro and at this point is closer to meeting some of the currency union's debt and deficit targets than more heavily indebted member states like Greece and Spain. Its primary goal is to reach less than 3% budget deficit, which is a compulsory precondition to adopt the Euro.

Hungary, after getting the IMF support had not been able to go to the financial markets for a long time to take debt, that's why the IMF loans came in handy. Is there any justification for secret meetings on deficit reduction? Secrecy breeds suspicion. Suspicion leads to incertitude. Incertitude affects financial markets. Kopits György, chair the Budget Council said: „*Markets are jitterish, they don't know where the next land mine is going to explode. They don't know what's happening, and there is very low tolerance for even a new government to take the reins on and to really outline a full fiscal strategy.*"[25]

With a stabilizing economy and a strong political mandate, the new Hungarian government has a historic opportunity to create the conditions for sustainable growth and sound public finances. Their economic program includes several encouraging elements. But, amid large underlying vulnerabilities, it relies to a substantial extent on temporary and distortive measures that may jeopardize medium-term fiscal sustainability, increase uncertainty, and ultimately harm growth.

The global recovery and the recent increase of global risk appetite may well prove temporary. Amid Hungary's high external and public debt, a change in

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[22] How big is Hungary's problem? – Interview with György Surányi www.portfolio.hu November 14, 2008

[23] Bloomberg 2010

[24] Street Journal 2010

[25] Reuters 2010

investor sentiment would compound financing risks as large sovereign redemptions fall due in 2011–14. Also domestic demand will suffer if the Swiss Franc, whose value directly impacts households' debt servicing costs, strengthens further. Finally, there is a risk that the authorities will not take the necessary measures to restore fiscal sustainability. The associated policy uncertainty could lead to a more cautious behaviour by foreign investors (IMF 2010).

7. Conclusion

In my analysis I tried to look a bit deeper and focus at the situation that is actually facing the country. The Hungarian update reports the introduction of the fiscal responsibility law, which sets a new fiscal rule for the central government, establishes a new independent fiscal institution and contains some other regulations improving the domestic fiscal framework. Some of these new regulations were implemented in 2009 while others, such as the new fiscal rule, entered into force in January 2010. This fiscal responsibility law is expected to promote transparency and a medium-term fiscal planning.

Following another provision of the new fiscal responsibility law, the government shall provide to the Parliament detailed information about budgetary measures to fulfil its medium-term fiscal plans for at least three years. In February 2010, the government should release this information for the period 2011–2013 (Ayuso-i-Casals 2010, p.41.).

It is perhaps no coincidence that the Hungarian economy is once again, on its own, decoupling from the general trend in the region. In contrast to the neighbouring countries (this time also including Austria, Germany and Italy), in the third and fourth quarter we were the only country that once again reported a negative quarterly growth figure. It comes as little comfort that the others aren't displaying robust growth either, although at least they are perhaps over the worst. By stepping up to the plate and performing the budgetary correction, the government has undoubtedly pulled the country back from the edge. Hungary's economic policy, however, continues to be founded on an incorrectly-structured fiscal and monetary-policy mix. Sometimes the inevitable strictness of the fiscal policy is manifest where it shouldn't be (an example of this is the scrapping of 'social policy' loan subsidies in the housing market), or at other times it is relaxed precisely where the opposite would be justified (an example of this being the abolition of the fixed-amount healthcare contribution). Monetary policy, as regards its principles – the exchange-rate policy, after a few aberrations, now stands as a refreshing exception to this – displays consistent continuity with past years: the monetary authority is not even examining the possibility of how, in an especially grave situation, to mitigate the crisis in the real economy through the renewal of the monetary-policy devices at its disposal.

The fiscal consolidation, although successful in quantitative terms, did not lead to economic growth, higher employment or the conditions for a better standard of living, and hardly improved the low growth potential of the Hungarian economy. With a degree of bluntness, one could say that the emergency operation was a success, but it remains uncertain whether the patient will live to see tomorrow or the day after. A rethinking of budgetary and monetary policy, and the comprehensive restructuring of the economic-policy mix, are essential in the interests of halting a rift of historic proportions, and the social disintegration of the country (Surányi 2010, p. 23).

In the context of an absence of fiscal space and financing difficulties, the policy response consisted of continued fiscal consolidation. The Hungarian governments could not afford the cost of the fiscal stimulus, hoping for higher revenues once recovery is at full speed to service the new debt and ensure sustainability. The Hungarian governments cut down the government activities, developed a more incentive tax-and subsidy-system, implemented the structural and process changes needed for the growth.

The Hungarian economic policy is again credible, and there is certainly a visible shift in opinion, a strengthening confidence towards Hungary in the financial markets. The trend is positive; the decline of the Hungarian economy was not too dramatic, and the macro-economic data are better than expected.

However, this confidence is not fully served yet. Presently, the Hungarian government has to submit the budget to the parliament. The forecasted budget deficit in 2011 is 2.9%, which will be one of the lowest in Europe. The average European budget deficit next year will be much higher than that. There is a risk that Hungary may be unable to raise sufficient funds on financial markets in 2011 if global conditions deteriorate and the government fails to extend its International Monetary Fund program. If external conditions deteriorate and Hungary's weaker fiscal position triggers further downgrades, external funding may dry out in the absence of a safety net.

The most recent IMF study concludes: "Distortive policies such as Hungary's outsized financial sector levy are harmful to the economy. The levy is large at 0.7 percent of GDP (more than three times the largest such tax elsewhere), serves exclusively fiscal purposes, and for less profitable banks amounts to a de-facto expropriation of capital. Its design places a disproportionate payment burden on foreign banks. At this juncture, the payment obligation across institutions has been fixed for 2010 and 2011 but remains undetermined for 2012 and beyond. The risk is that uncertainty about the future design of the tax leads banks to reduce their balance sheet size over time, with negative repercussions for credit supply and economic growth. To minimize the prospect for adverse reactions from banks, we suggest that the government send a clear and credible signal that the levy will be substantially reduced and/or aligned with emerging EU standards after 2011. The government's strong political mandate presents an historic opportunity to address fundamental

constraints to Hungary's growth and to bring fiscal policy sustainably back on track." In my opinion Hungary is not stigmatized by the latest IMF loan. It would be good if the analysts would probe a bit deeper and look at the state that the Hungarian economy is actually in. The agreement concluded with the IMF and the fact that Hungary is a member of the European Union provides some degree of help and protection against the breakdown.

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Market dependency and financial buffers in Russia

Gábor Dávid Kiss

During Russia's transition, debates raged over the formation of a market economy and the role of the state. Behind these debates lay both the control of oligarchs over strategic branches of the economy that export raw materials and the experience of the 1998 crisis that drew attention to the country's external and internal economic vulnerability. This study deals with the operation of the country's sovereign wealth funds (SWFs), including the effects of raw material prices, the pension system and aspects of the lessons of capital market turbulences under the current crisis. The Russian version of the multipillar pension system puts the emphasis on financial sustainability, by which only a minimum of financial risk has been taken by the State, while its monopoly in the management of pension funds has ensured a market for its own debt.

Keywords: imbalances, sovereign wealth fund, Russia, oil, DCC MGARCH
JEL code: E44, E62, I38, O16

1. Introduction

How is market volatility manageable by sovereign financial buffers? Were sovereign funds and the second, funded pension pillar established to handle raw material export dependency? Sovereign Wealth Funds (SWFs) were defined by Beck and Fidora (2008) as public investment agencies which manage part of the (foreign) assets of national states' sovereign wealth funds more similar to private mutual funds. There is a lack of explicit liabilities, so they can focus on long-term investment strategies. Substantial exposure to foreign investments could occur, or they are even entirely invested in foreign assets to stabilize the domestic currency. The recent rise of SWFs could be caused by poor trust in the "efficiency" of capital flows and supranational crisis management (Beck–Fidora 2008, Redrado 2006) or to avoid deterioration in the non extraction branches with higher added value (Weiner 2004, Mehara 2004 and Mehara–Oskoui 2008).

The main difference between SWFs and funded pension funds are the latter's explicit liabilities and their obligation to provide a continuous stream of fixed payments – which limits the scope of possible investment products under the accumulation period (Beck–Fidora 2008, Vittas et al 2010). If multipillar pension systems have to deliver on expectations, financial sectors must be adequate in three basic dimensions as Holzmann et al (2009) suggest: macroeconomic stability, a sound financial infrastructure, and adequate regulatory and supervisory capacity.

Unfortunately, an established institutional environment is not the only prerequisite for a well-functioning capital market if imbalances and vulnerabilities are arising from the country's energy supplier role in the world economy. Domestic financial markets could be the indicator of this dependence, and could have pro-cyclical impact on the development of the real economy. Therefore it is necessary to study these segments together to analyze the strategy of Russian pension and sovereign fund policies.

This paper is structured as follows in order to study the vulnerability of the Russian economy: after the overview of the possible trade-related sources of imbalances, financial tools and solutions are presented to summarize this special way of crisis management, then developments on Russian financial markets underlying the necessity of these strategies are presented.

2. The structural dependence on energy prices

To describe the oil and gas-dependency of the Russian economy, this study deals with the following aspects: the direction and significance of Russian oil export, the sustainability of this process (the relationship between proven reserves and existing extraction capacities) and the impact on ownership composition.

Mineral product prices are highly volatile, and they have a major role in Russian exports (42.5% in 1995, then 69.6% in 2008). While Russian oil production reached it's peak point in 1988 with 12.5 million barrels a day extraction, crude oil prices remained under 30 USD (in 2007 prices), while it declined on 6 million during the Russian crises in 1998 (with an average price under 20 USD). Before the current economic crisis, the prices stepped over the 100 USD level, with a daily production of 9.9 million barrels.

The BRIC hypothesis – where Russia and Brazil will become commodity suppliers to China and India – as a Goldman Sachs Economic Research report suggested (Cheng et al 2007) – could be rejected according to the main direction of Russian oil and gas export. The European Union is the main buyer of Russian gas and oil with a 32.6% share from crude oil and a 38.7% share of EU gas import (Tenth Progress Report 2009). EU-Russian relations look much more monopsonic, than monopolistic, due to both the Russian and CIS export direction: of 627 million tons of oil extraction, 318.5 million tons were exported into Europe, 23.8 million tons into the USA and only 22.4 million tons into China, while the domestic consumption remained 222.7 million tons (BP 2009). China was only in 5th place concerning Russian exports (4.5%), while Europe gained 65% (Russia in Figures – 2009). This strong interdependence necessitates the institution of an energy dialogue and EU-Russia Energy Partnership since the sixth EU-Russia Summit (30th October 2000, Paris) (Ludvig 2008).

Price and trade dependences are not the only problems: current oil extraction is still based on the fields of Western Siberia and Sakhalin (Asif–Muneer 2007, BP 2009). Nationalization[1] and a punitive tax regime in the oil sector resulted only in the higher efficiency of the existing infrastructure in the upstream segment (Puffer–McCarthy 2007, Davies 2003). Sustainability problems are indicated by the rate of the output volume and global weight of reserves, too. Hence there was a 6.3% share from the proven global oil reserves in 2008 (OPEC: 76%, OECD: 7.1%), and it's extraction was almost the highest in the world at 9.9 million barrels a day with a 12.4% share on the global market (BP 2009).

This "efficiency", or the lack of new capacities, also has structural grounds. The recombination of production factors through privatization was not enough to establish a market economy – as Dabrowsky et al (2000) and Stiglitz–Ellerman (2001) argued – due to the oligopolistic structure of the strategic branches (such as the extractive and heavy industry, or the defence sector), whose holdings include the entire production chain. Classic market competition works only in the case of retail, wholesale, financial services, food processing and the manufacturing industry, whose companies were partially hosted by foreign direct investors or privatized by the former management during the transition (Dabrowsky et al 2000). This duality[2] in the different competition levels in the economy resulted in a rivalry between private and state (or more precisely, siloviki) actors after the end of nineties and has reached its peak during the current crisis. The major goals of managing state property (or stakes) were defined in the "Concept for the Management of State Property and Privatization in the Russian Federation[3]", and are, among others, to increase the non-tax revenues in the federal budget, while dividing economic societies between strategic open-end joint-stock companies (OJSCs) with an absolute majority of the treasury, and other organizational-legal forms (as CJSCs, LPs, LLCs) (Maliginov–Radygin 2008). To improve companies' performance, professional managerial skills are required, which is difficult to achieve in a country where the Communist Party infiltrated into the social networks and created strange shortcuts between the state and the economy[4]. The current crisis had a strong impact on state-oligarch relations due to the loan-coverage shortage and bankruptcies of the oligarchs.

[1] For example the case of Sakhalin 2 where Shell, Mitsui and Mitsubishi were squeezed out in 2006, and rows with ExxonMobil about Sakhalin 1 production sharing agreements in 2008–2009 (BP Medium Term Oil Market Report 2009).

[2] Or triangle of market, *siloviki* and oligarchic capitalism of Russian state-managed network capitalism, as Puffer–McCarthy (2007) suggest.

[3] approved by Decree of the RF Government, No. 1024, of 9 September 1999.

[4] The phenomenon of communist state party's hub role to influence developments in the society, economy and state was analyzed by Csanádi (2007).

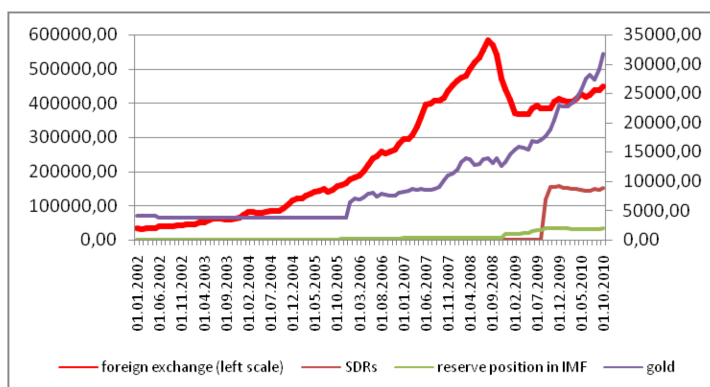
3. Tools of financial stability

Russia mainly depends on the volatility of energy resources, which underlines the necessity of building financial buffers to support the stability of the currency and the domestic liability (including the federal bond market). Traditional currency reserves focus on external balance, while SWFs could have both domestic and external goals. The funded part of the second pension pillar was aimed to stabilize the government bond market.

4. Traditional foreign exchange and gold reserves

The international reserves, according to the definitions of the Central Bank of Russia (CBR), consist of foreign exchange, SDR holdings, reserve position in the IMF, and monetary gold (see figure 1). Foreign exchange includes foreign currency; balances on nostro accounts including unallocated gold accounts; deposits with the initial maturity of 1 year and less, including gold deposits, loans arising from a reverse repo agreements with foreign central banks, the BIS, and other non-resident deposit-taking corporations, having the long-term creditability ratings of at least "A" by "Fitch Ratings" and "Standard & Poor's", or "A2" by "Moody's"; debt securities issued by non-residents, having an issuer rating of at least "AA-" by "Fitch Ratings" and "Standard & Poor's", or "Aa3" by "Moody's", and other financial claims on non-residents with the initial maturity of 1 year and less. The CBR wants to hold 10% of its long-term reserves in gold (WGC 2007). In October 2010 it remained 6.5%, while securities in convertible currencies reached 91%. SDR and reserve positions in the IMF have had an increased role since the December 2008 and September 2009, currently with 1.8% and 0.4%.

Figure 1. The composition and changes of Russian international reserves (in million USD)



Source: own construction on the basis of CBR (http://www.cbr.ru/eng/statistics)

5. Sovereign funds

The former Stabilization Fund as a quasi sovereign[5] fund was formed in 2004 as a part of the federal budget to balance it at such time when the price of oil falls below a cut-off price, currently set up at $27 per barrel[6] and to ensure the redemption of the loans[7] of the Paris Club, IMF, and was based on the revenues of oil export duties and extraction taxes. Russia's external debt fell to 5% of GDP in 2006, therefore Vladimir Putin has proposed maintaining the reserve function fixed as a percentage of GDP, and a "future generations' fund" is being formed from the excess of this level (IET 2006).

Subdividing the Stabilization Fund was accomplished in 2008 with the introduction of the Reserve Fund (with 141 billion USD) and the National Wealth Fund (with 48.7 billion USD). The Reserve Fund, which is limited to 10% of the Russian Federation GDP[8], accumulates federal budget revenues (production taxes and export duties) from the production and export of oil, natural gas and oil products. The Fund follows strict rules to reach capital preservation and a stable level of return in the long-term through the purchasing of foreign currencies (USD, EUR, GBP) and financial assets denominated in foreign currencies[9]. Assets are invested by the Bank of Russia after the allocation to the Federal Treasury's accounts. The peak point of the Fund's assets was in September 2008 with 142.6 billion USD (9.7% of GDP), then a linear decrease started according to the Federal law No.58-FZ dated 9 April 2009[10]. Only 17.2 billion USD remained at the Reserve Fund on 12 July 2010 – as 5.3% of GDP (MFRF 2010, IET 2010).

The National Wealth Fund aims at capital preservation and a stable level of return in the long-term, with a possibility of a negative return in the short-term,

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[5] "Russia does not yet have a sovereign wealth fund (SWF) but is working to create one, Prime Minister Vladimir Putin told U.S. Treasury Secretary Henry Paulson on Jun 30, 2008," (Reuters).

[6] The budget code of the Russian Federation, Chapter 13.1, Article 96.1, 96.2.

[7] Sovereign debt declined by 61% between 2000 and 2006; former Soviet debt, IMF loans (3.3 billion USD) and Paris Club loans were paid back ahead of schedule (IMF Country Report No. 06/431, IET 2006, MFRF 2010).

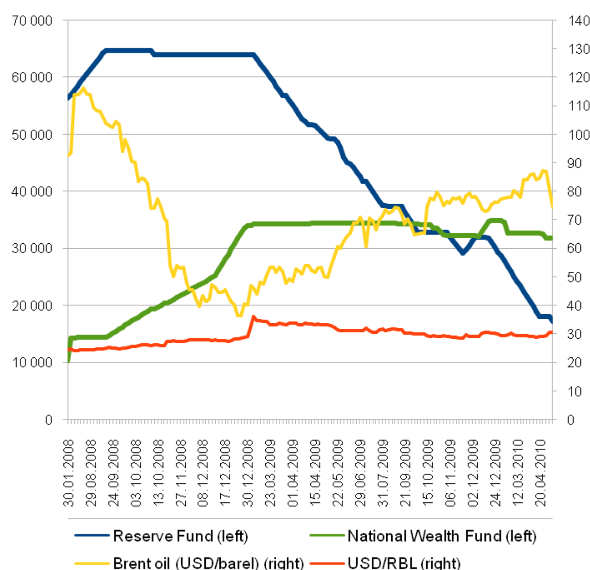
[8] Forecasted for the corresponding fiscal year (MFRF 2010).

[9] The Ministry of Finance constituted the following rules in compliance with the authority vested in it by the Government of the Russian Federation: currency composition: 45% USD, 45% EUR, 10% GBP; period of maturity for debt securities denominated in USD and EUR between 3 months and 3 years, while for GBP between 3 months and 5 years; there is adedicated list of foreign government agencies. http://www1.minfin.ru/en/reservefund/management/

[10] From 2009 and up to 2012, returns and assets are used to deploy payments that reduce debt and borrowing programs and ensure that the federal budget is balanced (including the financing of oil and gas transfer). The deployment of funds can be in excess of overall federal budget expenditures in the case and scope of an increase of federal budget expenditures for ensuring a budget balance of non-budgetary government funds of the Russian Federation (Federal law No.58-FZ dated 9 April 2009).

through the purchase of foreign currencies[11] (USD, EUR, GBP or financial assets denominated in Russian rubles and eligible foreign currencies. The Fund's capital fluctuated around 32–34 billion USD (7.1% of GDP) in 2009 after the 10.4 billion USD initial transfer from the Stabilization Fund in January 2008. Vnesheconombank act as the domestic investor of the fund: 2 billion USD was allocated in "not regulated" deposits after the end of 2009, while 434 billion RBL was allocated in deposits to finance subordinated loans to Russian banks (404 billion RBL until 2019 and 2020), loans to small and medium-sized enterprises (30 billion RBL until 2017), and loans to the Open joint-stock company "The Agency for Housing Mortgage Lending" (in the range of 40 billion rubles until 2015)[12] (MFRF 2010, IET 2010).

Figure 2. Value of Sovereign Wealth Funds in Russia (in million USD) and external impacts (January 2008- April 2010)



Source: own construction on the basis of MFRF (www.minfin.ru)

Consequently, figure 2. summarizes the amount of the two SWFs in comparison with the oil price and ruble rate. Oil prices had no direct impact on other variables: only a 4 month lag delay could be identified between them.

There is a discussion in the literature according to the rate of traditional reserves and SWFs. Theoretically, 3 months of import should be covered by

[11] Additional investment requirements by The Ministry of Finance: the maximum amount of NWF assets in Russian rubles are 40%, while in foreign currency it is 100%; the currency composition of the NWF for assets and the period to maturity of debt securities have the same rules as the Reserve Fund. http://www1.minfin.ru/en/nationalwealthfund/management/

[12] http://www1.minfin.ru/en/nationalwealthfund/statistics/vnesheconombank/

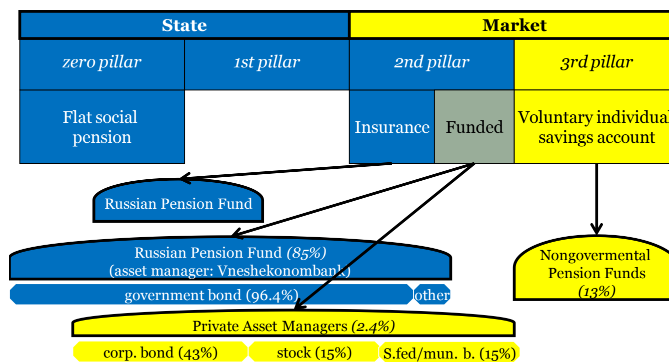
currency reserves, but Beck and Fidora (2008) identified two groups of countries on the basis of preferring SWFs or traditional reserves. The first category is formed by raw material exporter countries, and the second covers the manufacturing exporters. While first group has to prepare for the post-oil era and volatile raw material prices, the second group maintains pegged currency regimes. As figure 1 and figure 2 suggest, at the peak of the accumulation period (4Q 2008) Russia preferred traditional reserves too – the two SWFs reached only 20% on an aggregate level, which is the inverse of the Norwegian level.

6. The funded part of the second pillar in the pension system

A multipillar pension system was introduced in Russia after 2001, but this study deals only with the mandatory funded part of this structure according to its special institutional environment.

The Russian mandatory second pillar is interesting because of its de facto state monopoly in asset management. State-owned asset manager, Vnesheconombank, has a monopolistic role, while Private Asset Managers (PAM) in the second pillar and Non Governmental Pension Funds or Independent Pension Funds in the third pillar together had only a 4% share of the entire pension asset in January 2006, but IPFs increased to 12.8% in Q2 2009, while PAMs remained at 2.4% (Gajdar–Mau 2008, Gurvich 2008, IET 2009).

Figure 3. De facto state monopoly in the funded pillar



Source: own construction on the basis of Kovrova (2007), Konshin (2005), Krivoshchekova et al (2007), Gajdar–Mau (2008), Gurvich (2008) and IET (2009)

State-managed portfolios remained very conservative, comprised of 88.4% government bonds at the end of 2007 (see figure 3). This is inspite of Government Resolution 379 of June 30, 2003, which allows holding shares of open joint-stock companies up to 65 percent (Gajdar–Mau 2008, Gurvich 2008). RF ruble-denomin-

ated government securities made up 96.4% at the end of 2008, but were reduced to 72.6% due to the transfer of the pension contributions for the year 2007 from the PFR, thus a 24.9% share of deposits indicates only that managers had no time to invest these monies in securities. Much more diversified investment strategies were followed by PAMs in the second pillar, preferring mostly bonds of Russian economic societies (43%), while subfederal and municipal bonds have the same weight as shares (15%). The value of the assets in the case of Vnesheconombank fell back in April 2009 to the level of October 2007 (325 billion RBL), but historical returns became 'positive' in July 2009 (446.6 billion RBL) due to the higher level of global liquidity. PAM assets were less volatile, significant decline existing only for three quartile years (3Q 2008–1Q2009) (IET 2009).

The Russian state budget is in a comfortable position: the introduction of the multipillar pension system allowed the reduction of future financial liabilities, and the de facto state monopoly in the mandatory funded pillar maintained a stable demand on the public debt market.

After the definition of the external and internal sources of Russian oil dependence and the institutional background of reserve buffering, it is necessary to study how the Russian currency[13] (RBL/USD), interbank (MIBOR) and stock markets (RTS) are behaving under conjuncture and depression.

7. The financial market as an indicator of vulnerabilities

Contagions could be defined as a significant increase in market comovements after a shock to one country, as Forbes–Rigobon (2002), Caporale et al (2005) and Kuper–Lestano (2007) mentioned. This phenomenon is explained mostly by two theorems: strong cross border relationships between the economies – as stands for the case of EU27 and Russia – or sudden shifts in market actors' expectations and confidence (Kuper–Lestano 2007). Therefore, capital movements are the major factor in generating stock return fluctuations, while a sudden capital outflow could cause a sharp depreciation in real exchange rates (Wong–Li 2010).

From a statistical perspective, extreme events occur in the tails of probability distributions that define the occurrence of events of a given size (Albeverio et al 2005). They are more common on emerging capital markets due to the lower level of liquidity. A declaration of convertibility and allowance of free movement of capital could have adverse results during global depressions, when prices of resources are declining. Therefore, it is necessary to analyze Russian stock[14],

[13] The RBL is free floated, but against a 55% USD 45% EUR bicurrency basket since 8 February 2007, http://www.cbr.ru/eng/hd_base/BiCurBacket.asp.

[14] Logarithmic changes of the RTS Index were used as an indicator of the Russian Stock Exchange between 1 January 2002 and 1 September 2010, source of data: http://www.rts.ru/en/index/stat/dailyhistory.html?code=RTSI

interbank[15] and currency[16] markets in two event windows to compare market developments under “emerging” oil prices and reserves and under declining oil prices and reserves. The end of the first (“emerging”) event window on 5 September 2008 was defined by the peak point of the Reserve Fund with 64,644 million USD according to the Regulation of the Government of the Russian Federation of 29.12.2007 № 955. The cumulated capital began to decline after 14 October 2008 for the purchase of Russian Federation currency. This step aimed to correct the Russian Federation’s reserve position in the International Monetary Fund and to purchase Russian Federation currency for financing the federal budget deficit (Order of the Ministry of Finance of 10.03.2009 № 130).

8. Methodology

To describe market developments under “emerging” and “declining” conditions, the probability distribution of the selected market indicators were analyzed according to the following steps:

1. The normal distribution of logarithmic returns
   $$x_t = [log(S_t) - log(S_{t-1})] * 100$$
   $$f(x) = \frac{1}{\sigma\sqrt{2\pi}}^{[-\frac{1}{2}\frac{(x-\mu)^2}{\sigma^2}]}$$
   (where μ and σ^2 are, respectively, the mean and variance of logarithmic return x – calculated from St daily prices) is the basic prerequisite for the efficient market hypothesis. To evaluate the existence of the efficient market hypothesis, a Shapiro–Wilks W test was used to diagnose that a set of logarithmic returns arise from a normal probability distribution (Molnár 2006, Everitt–Skrondal 2010).

2. In a normal distribution, tails (as extreme events) are exponentials as Albeverio et al (2005) suggest. In many cases, tails could be “heavy”: for instance (algebraic) power laws with some fixed power, $p(x) \propto x^{-\alpha}, \alpha > 0.$ Power laws fall off much more slowly than exponential (Gaussian) distributions, indicating an enhanced probability of occurrence. Power laws (not exponentials) possess scale invariance, a property which can be expressed

[15] The interbank market was represented by logarithmic changes of the 1-day level MIBOR rate between 1 January 2002 and 1 September 2010, source of data: http://www.cbr.ru/eng/mkr_base

[16] The RBL/USD rate was used between 1 January 2002 and 1 September 2010, source of data: http://www.cbr.ru/eng/currency_base/dynamics.aspx.

mathematically as $p(bx) = b^{-\alpha} p(x)$, meaning that the change of a variable from x to bx results in a "scaling factor" independent of x, while the shape of p is conserved. Thus power laws represent "scale-free systems".

3. As the literature suggests (Molnár 2006, Gabaix et al 2003, Clauset et al 2009), probability distributions of logarithmic returns mostly follow power-law distributions. Power-law distributions are indicators of an extraordinarily diverse range of phenomena (Newman 2005). "Perfect storms" of capital markets are characterized by big falls in one equity price, which are accompanied by simultaneous big falls in other equity prices – and multivariate normal distributions are unfeasible tools for describing the heavy tail's "garden of improbable events". Estimated power-law properties were studied deeper by Clauset, Shalizi and Newman's (2009) improved quantile-based maximum likelihood estimation (MLE) method[17] estimating the scale parameter α. The size of the tails is determined by the scale parameter α – as the smaller the α, the fatter the tail is. P-values are given by Monte Carlo procedures: the power-law model is fitted for generated synthetic data sets, and the number of times is counted when the Kolmogorov-Smirnov value is larger than the observed goodness-of-fit (the maximum distance between the tail probability or cumulative distribution function of the empirical data and the fitted power-law model), and in the $p \geq 0.05$ case, the power law distribution hypothesis on the examined side is accepted. (Clauset et al 2009, Quismorio 2009)

4. After the identification of the existence of extreme and low-probable events, logarithmic returns have to be cleaned from biases such as autoregression or heteroscedasticity processes. Fama and French (1988) modelled the natural logarithm of a stock price in t as a sum of a random walk (qt) and a first order autoregression process (z_t), $x_t = q_t + z_t$,

   $$q_t = q_{t-1} + \mu + \eta_t ,$$

   $$z_t = \phi z_{t-1} + \epsilon_t ,$$

   where μ is expected drift, is close to but less than 1 while ε and η denotes a white noise. We have to concentrate on the unpredictable part of stock returns, as obtained through autoregressive regression which removes the predictable part of a return series as Kasch-Haroutounian and Price (2001) suggest. Multivariate Generalized Autoregressive Conditional Heteroskedasticity (MGARCH) models are representing a set of time series whose variances and

[17] Scripted in MATLAB, see http://www.santafe.edu/~aaronc/powerlaws/.

covariances change over time in order to consider the interdependence between conditional second moments of the selected return series from the emerging markets' European and US counterparts[18] starting in January 2002 and ending in September 2010, constituting a total of 1496 daily observations.

The GARCH(p, q) model is given by $$\sigma_t^2 = \alpha_0 + \sum_{i=1}^{q} \alpha_i \epsilon_{t-i}^2 + \sum_{i=1}^{p} \beta_i \sigma_{t-i}^2$$

where p is the lag length, σ^2 and q is the order of the ARCH terms ϵ^2, α_i is the impact of current news on the conditional variance process and β_i signifies the persistence of volatility to a shock impact of 'old' news on volatility.

5. Then Dynamic Conditional Correlations (DCCs) were defined on the basis of the GARCH residuals to study the comovements between Russian-European counterparts. Probability distributions of divided DCCs had to be compared to study what kind of differences occur under the two statuses. The existence of interdependence could underline the hypothesis that the Russian state has to prepare for sudden liquidity scarcity. There are several methods to measure how shocks are transmitted internationally. Co-integration techniques are useful only over long periods to measure the impact of trade integration or higher capital mobility. The usage of traditional cross-market correlations were rejected by Forbes–Rigobon (2002) due to the heteroscedasticity bias. MGARCH procedures are able to handle problems of serial correlations, heteroscedasticity and asymmetric probability distributions – BEKK-GARCH and DCC methods represent the mainstream today[19]. This study used a DCC model[20] to analyze inter-temporal interacttions between Russian, European and US interbank, stock and currency markets. According to the lack of normal distribution, t-tests had to be rejected as a tool of comparing the similarity of market developments in both phases. This problem could be handled by data transformation as Osborne (2002) suggests, but the analyzed situation is too complex for any generalization – we have to face with the singularity and frequency dependency of these developments as Herrmann-Pillath (2000) suggests. Power-law fitting on DCCs for the comparison was applied because the power-law exponent describes exactly what we want: if α increases under "decline" phase, it signals the appearance of new and exotic improbable comovements.

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[18] European indicators were preferred according to the main direction of Russian exports to satisfy the contagion hypothesis. O/N EONIA interbank rate, EUR/USD currency exchange rate, Brent type crude oil barrel price in USD are from (http://www.eia.gov/dnav/pet/pet_pri_spt_s1_d.htm), while DAX and DJI indexes represented the European and US stock exchanges on http://finance.yahoo.com data.

[19] For example: Kuper–Lestano (2007), Caporale et al (2005), Wong–Li (2010), Stavárek (2009), Égert–Koubaa (2004), Babetskaia-Kukharchuk (2008), Kasch-Haroutounian–Price (2001), and Amerić et al (2009).

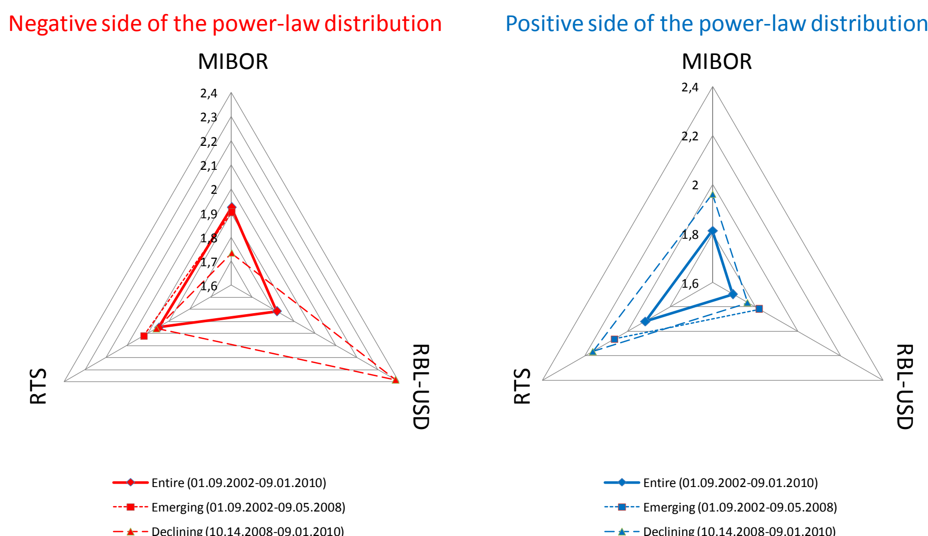
[20] This study used the following script for E-Views: http://forums.eviews.com/viewtopic.php?f=4&t=574.

9. Empirical results

There was a lack of normal distribution as the Shapiro–Wilks W test for normality suggested ($p=0$), so the observed markets do not behave as the efficient market hypothesis suggested.

Thus, there were many more individually improbable declines than increases – which means policy makers have to prepare for sudden and long interventions. As reported in the literature, there are significant differences in the thickness, which means that emerging markets have fatter negative tails than developed markets. During periods of boom, longer and thicker tails were detected with a power-law exponent α close to 3, while periods of stagnation were characterized by shorter and thinner tails with an exponential decay close to 1 (Quismorio 2009).

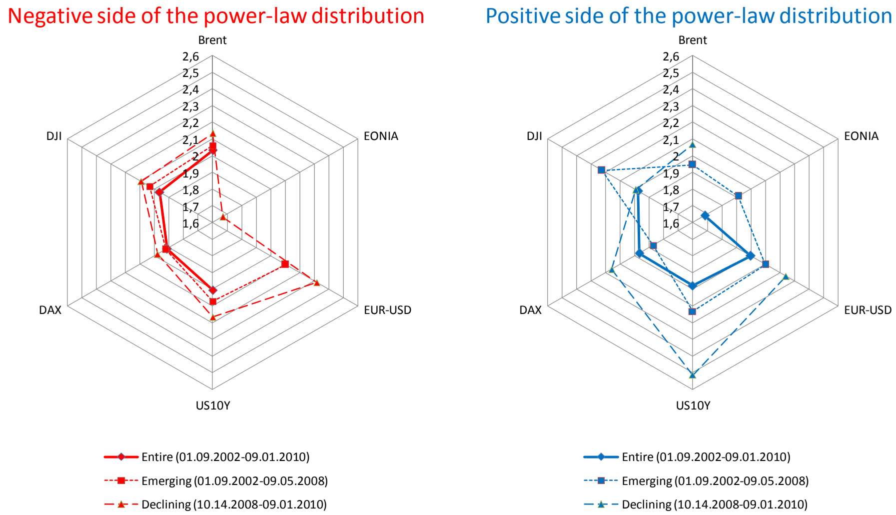
Figure 4. Level of fat-tailness depends on conjuncture in Russia



Source: own calculation on the basis of Clauset et al (2009)

The probability distributions of logarithmic returns were divided on negative and positive sides, and the entire period was compared to "emerging" and "declining" phases. Power-law exponents were far from 1, and the tails were fatter under the "declining" phase – except the case of the interbank market, where there were a weaker variety of interest rate declines. In the other cases, the variety and mass of low probable events with intensive movements increased under this "declining" environment. There were fewer significant differences between the entire period and the "emerging" interval (Figure 4).

Figure 5. Level of fat-tailness depends on conjuncture in Europe and the US

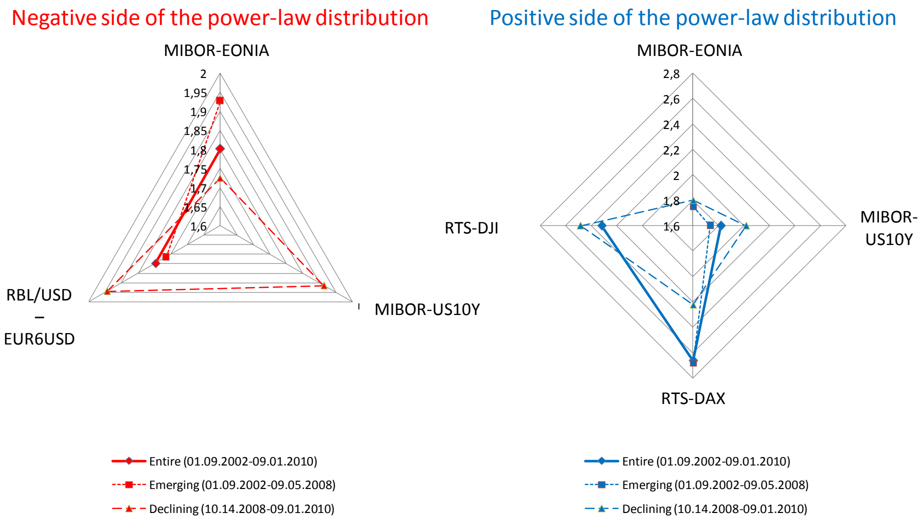


Source: own calculation on the basis of Clauset et al (2009)

The same developments occurred in the control group too: the power-law exponent appeared on the negative side – except EOINA, where the power-law distribution was not significant in the general case (Figure 5).

Then it is necessary to study, how markets influence each other under different circumstances.

Figure 6. Conjuncture affects market comovement probabilities



Source: own calculation on the basis of Clauset et al (2009)

According to the constant negative value of DCC rho in RBL/USD and RBL/EUR relations, and same constant positive range of RTS-DAX and RTS-DJI compositions, a structural difference occurred between the numbers of items between the negative and positive sides, which was enhanced with a lack of power-law distribution in several cases (see figure 6). But these results have an important message: it is quite difficult to manage a well diversified portfolio if markets behave so differently under "emerging" and "declining" circumstances. Risk management depends mostly on time-varying correlations. The benefits of diversification are eroded by increasing correlation on the tails of return probability distributions – especially on bear markets, as Campbell et al (2002) suggested, too.

Vulnerability is indicated by financial markets according to the garden of improbable events on the dropping side of probability distributions. This phenomenon underlines the necessity of public managed financial buffers.

10. Conclusion

Taxes and duties are the main sources of treasuring up capital into the Reserve Fund and National Welfare Fund, thus the country belongs to the first (raw material exporter) group of sovereign fund user countries – while manufacturer exporter sovereign wealth funds (SWFs) are supplied by fixed currency regimes. The funded part of the second pillar in the pension system acts as a general stabilizer, too, due to its federal bond allocations. SWFs are used only under external depressions as a supplementary source of the federal budget and Vnesheconombank, while liquidation of the foreign securities creates an additional demand for RBL.

The connection between sovereign wealth funds and the pension system is mainly indirect because the federal budget is able to use the assets of the Reserve Fund under critical circumstances, as Order of the Ministry of Finance of 10.03.2009 № 130 indicates, for the purchase of Russian Federation currency for financing the federal budget deficit. Resources of the National Wealth Fund were used only once (23 April 2010) for the purchase of Russian Federation currency for co-financing the voluntary pension savings of Russian citizens according to the Order of the Ministry of Finance of 14.02.2008 № 25n.

Russian sovereign wealth funds are not typical, as Vladimir Putin mentioned, for example due to their strictly conservative behaviour. But the Reserve Fund acted as an explicit tool of crisis management in 2009, and supported the federal budget directly, while the National Wealth Fund remained as an implicit tool according to its refinancing role for the economy.

Russia has to face with external turmoil in the future due to the structure of its economy, thus the strategy of forming sovereign wealth funds and the de facto monopoly in the second pillar is a logical strategy to smooth external shocks. But

the market-based management of the human life cycle means that market risks – and the flow of global liquidity – will influence not only the active years but inactive years too, while these risks were transferred from the state to the individual trough the introduction of the multipillar pension system. Therefore the introduction of the multipillar system cannot exactly solve the problems of ageing, but establish a stable demand for government bonds. Bottleneck effects on the capital markets were parallel with macroeconomic imbalances – a significant share of government bonds is necessary in the second pillars. The behaviour of government bonds converges to the stock markets in the emerging economies under extreme circumstances – so their mathematical role in portfolio building is weakened, but the allocation ensures the stability on the macro level.

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Some cooperation characteristics of micro, small and medium enterprises in Békés and Csongrád counties in Hungary

Andreász Kosztopulosz

Nowadays, business networks, clusters and co-operations have become more widespread phenomena. This study analyzes the specificities, motivations and practices of the co-operations concerning a special circle of enterprises based on the empirical findings of a Hungarian-Romanian common research project. One of the main objectives of the research was to identify and characterise the potentially cooperating circle of enterprises among the Békés and Csongrád county SMEs in Hungary. For that reason, we made a detailed analysis of the forms of manifestation, relation, frequency and importance of existing (and non-existing) cooperations among the enterprises of the two counties and the role of their cooperation with universities and research institutes, which could contribute to the improvement of the innovation potential.

Key words: SMEs, cooperation, universities
JEL code: I23, L25, O18, R11

1. Introduction

In modern economies, business networks, clusters and co-operations have become more widespread phenomena. There are several factors explaining why firms seek the opportunities for engaging in co-operations. Generally speaking, via co-operating the enterprises aim to take the advantages that they are not able to realize by individual efforts (Brito 2001), or in more expressive words: they aim to exploit collective efficiency (Schmitz 1995). Another finding that belongs to this context is that in order to succeed in their objectives, firms can also utilize the resources that they do not possess individually by taking part in a business network (Szerb 2003). Thus, co-operation will be understood as a relationship between independent enterprises or partners that combine their efforts and resources in a value creation process (DG ENTR 2004).

Motivations are of great significance in forming, operating and shaping networks. We try to emphasize the most frequently mentioned elements from the relevant and very diversified literature, such as, for example: the common benefits of co-operation for the partners. Our typology is made up of the different motivations with the most frequent occurrence because we assumed that these are

the most explanatory factors behind the co-operation. Our typology is very similar to the DG Enterprise's typology (DG ENTR 2004) with the modification that we have combined the advantages of reducing transaction and transformation costs into one group. According to categorization of the relevant literature, we can distinguish the following five fundamentally diverse motivations driving the small and medium companies to cooperate (DG ENTR 2004, Johannisson 1997, Lechner–Dowling 2003, ADAPT 2001, OECD 2004, Elfring–Hulsink 2003, Imreh 2008):

– the need to secure resources, e.g. labour and capital;
– reduced costs;
– efficient access to markets;
– enhancing reputation; or
– learning and access to new knowledge.

There are of course many other reasons for the cooperation of the enterprises in addition to this; however, we think that these causes of collaboration appear in the case of almost all cooperations to some extent.

It seems highly important that, although in Hungary there is a growing number of enterprise foundations, there is a shortage of international relations essential to survival in successful world market competition (Kállay–Lengyel 2008). One of the success factors of the cross-border cooperations is exactly the recognition of the benefits implied in cooperations.

This study analyzes the specificities, motivations and practices of the co-operations concerning a special circle of enterprises based on the empirical findings of a Hungarian-Romanian common research project. The research started in November 2009 with the cooperation of the University of Szeged, the Szeged-based Association of Young Research Economists (Fiatal Kutató Közgazdászok Egyesülete) and the University of western Timisoara (Universitatea de Vest din Timişoara) for investigating the small and medium enterprises in the region of the Hungarian-Romanian border. The project named InCoDeSME, in which the University of Szeged was represented by the Faculty of Economics and Business Administration, aimed at mapping the operation, the innovation and cooperation inclination and activity of the SMEs working in Csongrád and Békés, as well as in Timiş and Arad counties, then at formulating proposals on development for the policy decision-makers and the wide-ranging dissemination of the findings. The work and research success of the consortium was supported by the European Regional Development Fund and the Hungarian and Romanian States within the framework of the Hungary-Romania Cross-border Cooperation Programme 2007–2013.

2. Objectives and methodology of the survey

The fundamental objective of the survey[1] was to get to know the innovation willingness and activities and the level of cooperation and internationalism of micro, small and medium enterprises operating in Békés and Csongrád counties in Hungary. The survey was repeated with the same methodology on the other side of the border in Timiş and Arad counties, in Romania. Our expectations are that the findings will be of interest to researchers, entrepreneurs and development policy decision makers. In this paper we are focusing on the cooperation characteristics of micro, small and medium enterprises in Békés and Csongrád counties.

The survey involved micro, small and medium enterprises *employing more than one person* and which had been *established prior to 1 January 2008*. International innovation surveys usually focus the research on companies employing over 10 or 20 employees; however, that way, we would not have got an adequate sample, since this underdeveloped region is dominated by smaller enterprises. The *headquarters* of the companies *had to be in Békés or Csongrád county. No business types were excluded from the survey* since a significant proportion of enterprises operate as private enterprises in the region. We applied a *sector neutral* approach, i.e. all profit oriented companies apart from financial services could participate in the survey. During the selection of the companies to be included in the survey, we opted for random stratified sampling. Stratification was performed according the number of employees (corporate size), the age of the enterprise and the size of the settlement.

The survey was conducted in May 2010 by the employees of Szociográf Kft. Some 2000 enterprises were approached in order to get the *500-entity sample*, but besides refusal, often no one was found at the headquarters, and there were many non-operational companies, or those under liquidation or already terminated. During the personal questionnaire query, the person providing answers was the owner in the case of companies with less than 20 employees and, in the case of those with more, a member of the management.

[1] The survey was supported by the Hungary-Romania Cross-Border Co-operation Programme 2007–2013 (project ID: HURO/0801/087).

3. Introduction to the counties and the enterprises participating in the Survey

Békés and Csongrád counties are parts of the Southern Great Plain – the largest region in Hungary. This region's competitiveness is very poor with few internationally competitive products and services. Local economic sectors cannot generate significant economic growth, and the expansion of industrial activities falls behind the national average (Lengyel 2003).

We questioned over 1% of the enterprises operating in Békés and Csongrád counties. The sample, due to the stratified sampling providing preference for enterprises with a history and with employees, *does not represent the total population*, that is, the approximately 46,000 companies operating with a headquarters in one of the two counties. (The real population is even narrower, since the sample only included enterprises with a history of at least 2 years and which had at least two employees.)

62% of the enterprises of the region were private enterprises, while the remaining 38% were partnership enterprises in 2007 (Table 1). However, the sample largely did not include private enterprises that generally had no employees and a half of which actually pursued agricultural activities (according to the information from the Central Statistical Office – KSH). The type of corporation with the highest proportion in the sample is the Kft. (65%) followed by the Bt. (22%), and the other types are more or less equally represented in the sample.

The compiled database, which, similarly to many other innovation studies is not representative, includes commercial companies in the highest proportion (36.4%), which are followed by the processing industry (16.4%), construction (10.6%) and agricultural companies. The sector of national economy underrepresented the most is agriculture, due to the reasons mentioned above.

Almost 60% of micro, small and medium enterprises participating in the survey employ fewer than 10 employees, one sixth employs 10–19 persons and another sixth 20–49 persons. Medium enterprises are the ones most overrepresented in the sample, since although they add up to 0.7% of companies in the region, they provide 10.4% of the companies in the database.

Table 1. Characteristics of the sample and the population

Division of enterprises	In the sample		In Békés and Csongrád counties	
	number	proportion (%)	number	proportion (%)
According to corporation type*				
Private entrepreneur	15	3.0	28 702	62.1
Limited partnership (Bt.)	110	22.0	8 035	17.4
Private unlimited company (Kkt.)	21	4.2	271	0.6
Limited liability company (Kft.)	325	65.0	8 064	18.6
Company limited by shares (Rt.)	20	4.0	177	0.4
Cooperative society	9	1.8	261	0.6
Total	*500*	*100,0*	*46 195*	*99.7*
According to age				
2 - 6 years	138	27.6	n/a	
7 - 10 years	133	26.6	n/a	
11 - 15 years	103	20.6	n/a	
over 16 years	126	25.2	n/a	
Total	*500*	*100.0*	n/a	
According to main scope of activities **				
Agriculture, game management, forestry, aquaculture	45	9.0	62 762	46.1
Processing industry	82	16.4	4 854	3.6
Construction	53	10.6	5 594	4.1
Transportation, storage, postal services, telecommunications	19	3.8	2 500	1.8
Accommodation, catering	23	4.6	3 609	2.7
Trade, repairs	182	36.4	13 500	9.9
Other sectors of the national economy	96	19.2	43 206	31.8
Total	*500*	*100.0*	*136 025*	*100.0*
According to number of employees*				
1 – 9 persons §	292	58.4	43 871	95.0
10 – 19 persons	74	14.8	1 237	2.7
20 – 49 persons	82	16.4	724	1.6
50 – 249 persons	52	10.4	317	0.7
250 persons or more	0	0.0	46	0.1
Total	*500*	*100.0*	*46 195*	*100.0*
According to location of headquarters*				
Békés	231	46.2	18 644	40.4
Csongrád	269	53.8	27 551	59.6
Total	*500*	*100.0*	*46 195*	*100.0*

Notes: * operating enterprises, 2007 data, ** registered enterprises, 2008 data § in the sample 2 – 9 persons
Source: Regional Statistical Yearbook (2009)

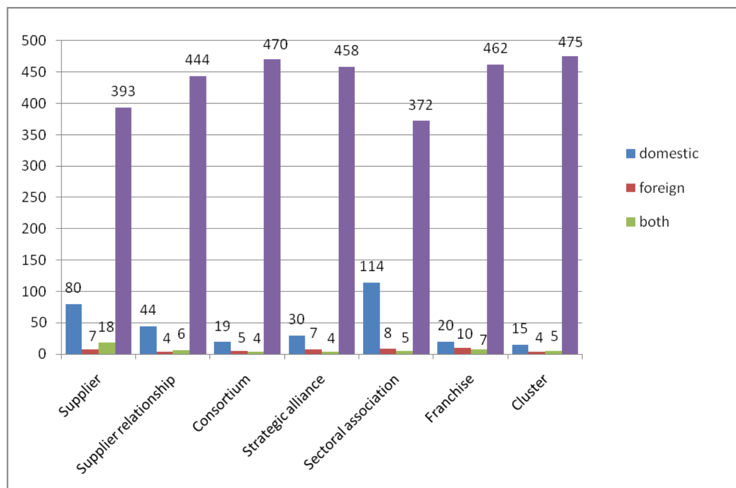
4. Characteristics of cooperation between SMEs

One of the main objectives of the research was to identify and characterise the potentially cooperating circle of enterprises among the Békés and Csongrád county SMEs. For that reason, we made a detailed analysis of the forms of manifestation, relation, frequency and importance of existing (and non-existing) cooperations among the enterprises of the two counties and the role of their cooperation with universities and research institutes, which could contribute to the improvement of the innovation potential.

4.1 The forms of cooperation

Figure 1 clearly shows that a significant majority of enterprises *does not participate* in cooperations currently. It is also clear that existing cooperations are primarily entered into with domestic partners, foreign cooperations being much more rare. The *most common form* of cooperation is participation in sectoral or professional associations, and, apart form that, cooperations for the sake of supply and purchasing and strategic cooperations are also relatively widespread. *Foreign cooperations* are also most often supplier relationships, or – interestingly – implemented within franchise networks.

Figure 1. Frequency and relation of various typical forms of cooperation



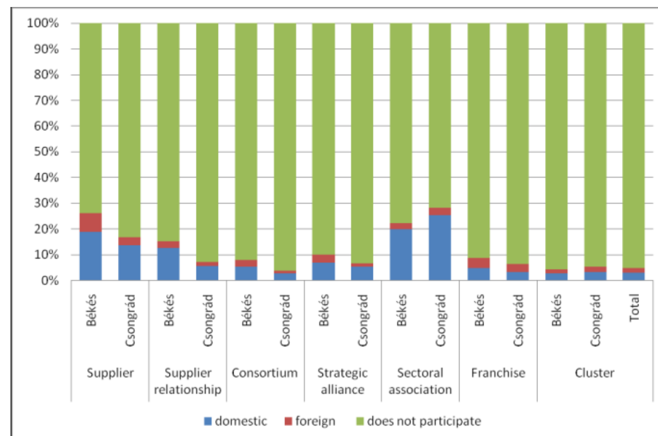
Note: The figures on the columns show the number of cases. The violet coloured bar shows those companies which do not participate any cooperation.
Source: own construction

Comparing the enterprises of the two counties – Békés and Csongrád – it is clear that we find a larger proportion of cooperating enterprises in Békés county,

which is also visible concerning cooperations with a foreign relation, that is, Békés county enterprises are more active concerning foreign relationships (Figure 2). The only exception is participation in sectoral or professional associations, in which Csongrád county enterprises are relatively more ready to participate.

Differences are visible in the willingness towards cooperation of the enterprises of the two counties in relation to the division according to *age* and *size*. Cooperation implemented in the form of *participation in sectoral and professional associations* provides a bigger role for older enterprises in Csongrád county, while in Békés county, we see more activity among middle-aged enterprises (Figure 3). Concerning the division according to size (Figure 4), the activity among the Békés county companies with over 50 employees is striking, whereas a relative passiveness is seen among smaller companies in both counties.

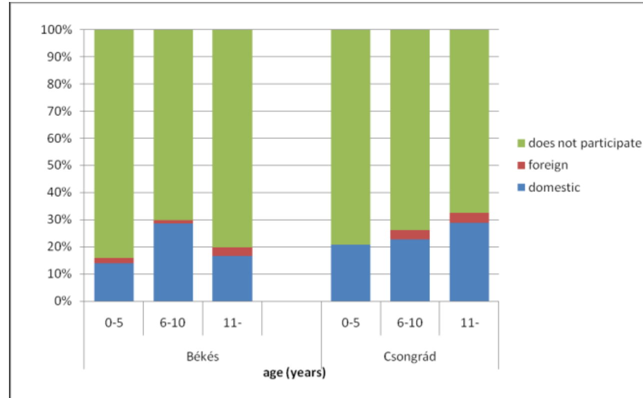
Figure 2. Different proportions of the frequency of various types of cooperation in the two counties



Note: 1. Foreign relations include enterprises cooperating with both domestic and foreign partners. 2. The figures on the columns depict the number of responders that stated that they did not participate in the given form of cooperation.

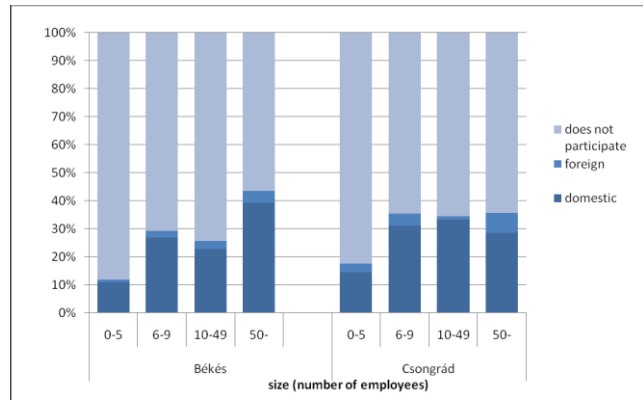
Source: own construction

Figure 3. Participation of enterprises of various age in sectoral and professional associations



Note: Foreign relations include enterprises cooperating with both domestic and foreign partners.
Source: own construction

Figure 4. Participation of enterprises of various size in sectoral and professional associations

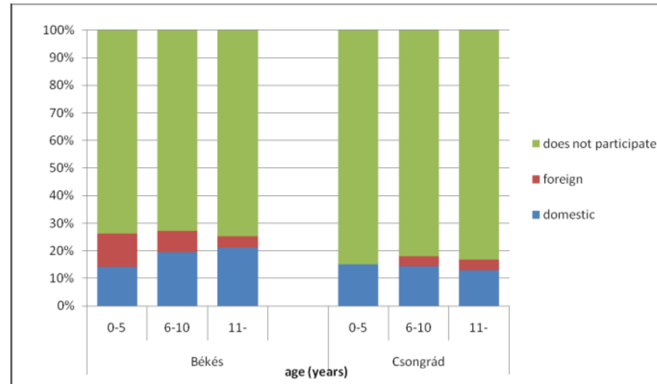


Note: Foreign relations include enterprises cooperating with both domestic and foreign partners.
Source: own construction

In relation to *supplier relationships*, the larger activity primarily visible among Békés county enterprises in a foreign relation is striking (interestingly, that is especially abundant among the youngest Békés county enterprises) because the same is absolutely uncharacteristic of Csongrád county enterprises (Figure 5). Analysing the division according to size, it is clear that supplier relationships are more common among the smallest and largest enterprises in Békés county. In Csongrád county,

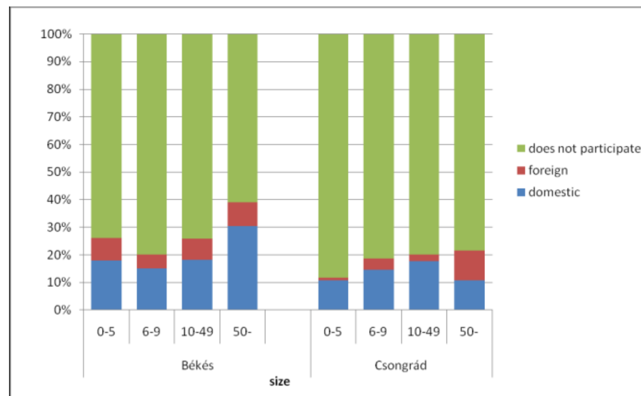
however, the relative passiveness of small enterprises and the foreign activity of larger companies is characteristic (Figure 6).

Figure 5. The participation of enterprises of various age in supplier networks



Note: Foreign relations include enterprises cooperating with both domestic and foreign partners.
Source: own construction

Figure 6. The participation of enterprises of various size in supplier networks

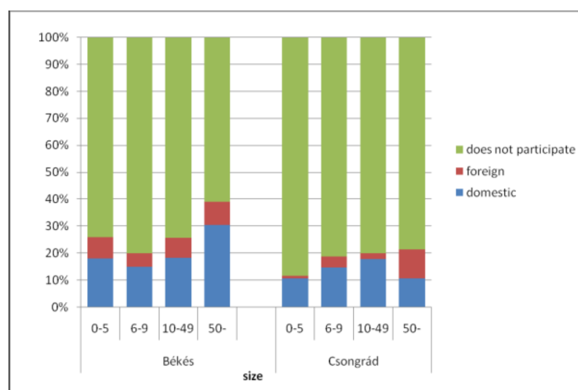


Note: Foreign relations include enterprises cooperating with both domestic and foreign partners.
Source: own construction

The third most common form of cooperation are *purchasing associations*, targeting purchase. The activity of companies in the various age categories seems relatively balanced; however, in the division according to size, differences are *more plastic, and it is the largest enterprises that display the most activity within the sample* (Figure 7).

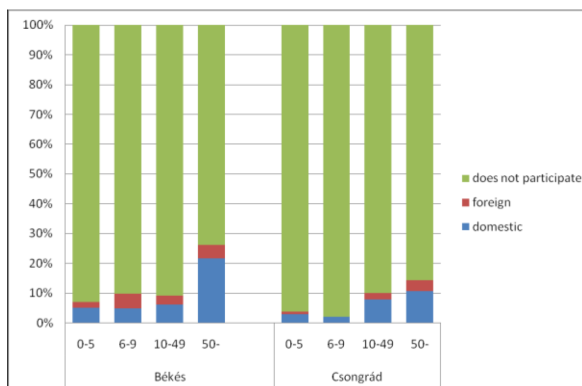
It is also worth analysing cooperations surfacing in the form of strategic associations. No significant differences are visible between the age categories, however, upon analysing the division according to size, the increased activity of larger companies is clearly visible in these types of cooperation (Figure 8). An interesting difference is seen in the proportion of the activities of the smallest companies to the benefit of those in Békés county.

Figure 7. The participation of enterprises of various size in purchasing associations



Note: Foreign relations include enterprises cooperating with both domestic and foreign partners.
Source: own construction

Figure 8. The participation of enterprises of various size in strategic associations

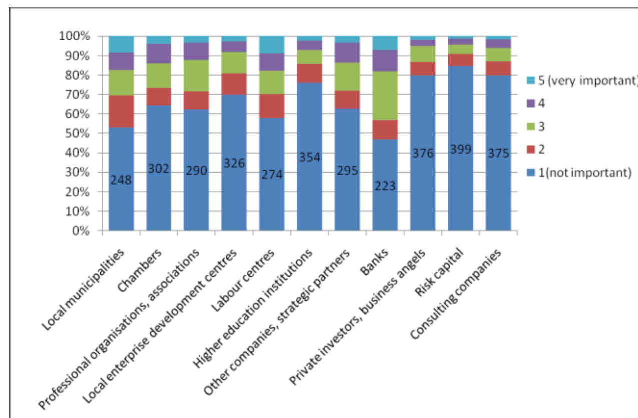


Note: Foreign relations include enterprises cooperating with both domestic and foreign partners.
Source: own construction

4.2 Relations of cooperation

The enterprises are and can be related to numerous *institutions and organisations*, and these relationships can also be interpreted as some sort of cooperation. During the research, enterprises were asked to evaluate on a scale of 1 to 5 (1 – totally unimportant, 5 – very important) the importance of these types of cooperation in the development of the enterprise, based upon the experiences of the previous three years. The results depicted on Figure 9 show that the most important relationships for enterprises are those with *banks* (the average of the responses was 2.21), *municipalities* (2.03) and *labour centres* (1.98). It is especially sad that there are very few responders who regard the role of higher education institutions important. At the same time, although it was no surprise that for a great majority of responders risk capital and private investors were not important, it was unexpected that 4.2–4.6% of responders regarded their role as important.

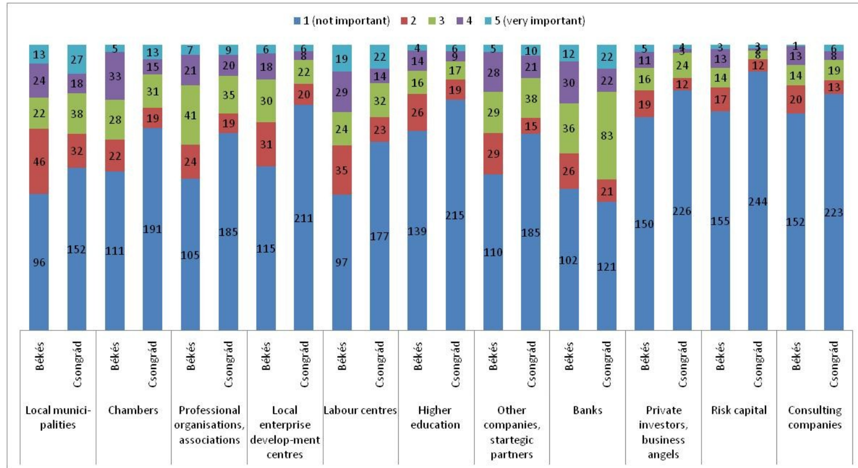
Figure 9. The importance of various external organisations' role according to the evaluation of enterprises



Note: The figures in the columns show the frequency of the response "totally unimportant" in relation to the organisations.
Source: own construction

The evaluation of the relations towards organisations is different in the *two counties* (Figure 10). In the majority of cases, it seems that these organisations have played a more important role in the life of Békés county enterprises in the past period. That difference is most striking in the case of labour centres, local enterprise development centres and chambers. Only the evaluation of banks displays any highlighted role among Csongrád county enterprises. Interestingly, the proximity of higher education institutions in Csongrád county (Szeged is a university town) is not reflected in the evaluation of their importance.

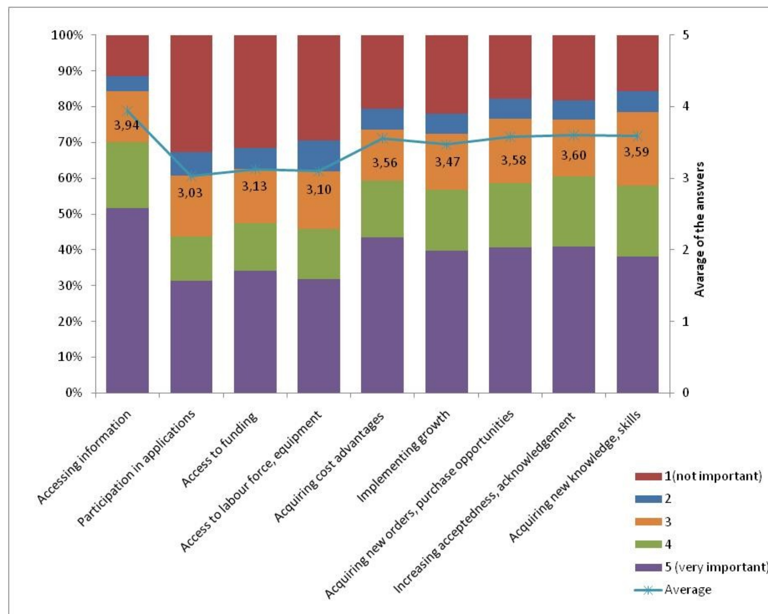
Figure 10. The importance of various external organisations' role according to the evaluation of enterprises, by county



Source: own construction

One of the main objectives of the research was to discover the *inducement of cooperation* with other enterprises. Enterprises were asked to evaluate on a scale of 1 to 5 (1 – totally unimportant, 5 – very important) the possible positive impacts of cooperation. Figure 11 shows that *gaining information* was the most important for enterprises, but the *desire for acknowledgement, acquiring new skills and knowledge, gaining potential orders and purchasing opportunities*, and last, but not least *gaining cost advantages* also appeared as important aspects. Enterprises regarded the advantages deriving from joint participation in tenders relatively less important. The comparison of the two counties shows that Csongrád county enterprises expect more from the cooperations (Figure 12).

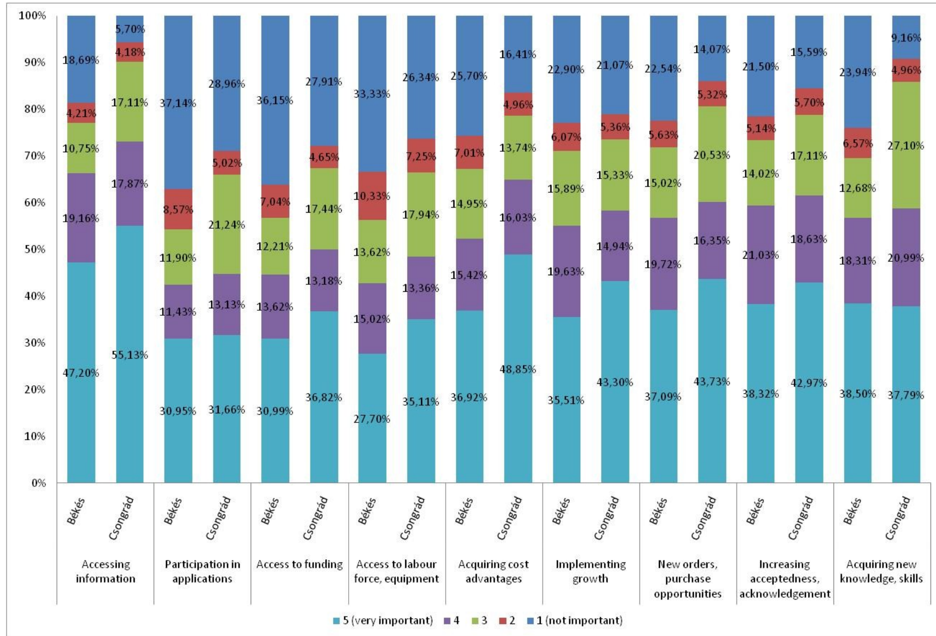
Figure 11. The evaluation of advantages expected from cooperation among enterprises



Source: own construction

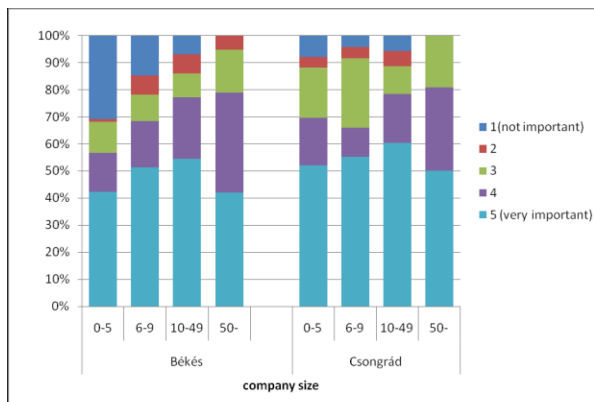
The evaluation of the advantages attributed to cooperation show a different pattern in the case of enterprises of different size and age in the two counties. Analysing the most important inducements *according to size*, we found that the importance of the various aspects increases parallel to the increase in size. That connection is clearly visible in the evaluation of gaining information as a possible advantage (Figure 13). Analysing the important inducements *according to the age* of enterprises, it is striking how important these are in the eyes of the youngest Csongrád county enterprises (Figure 14). The same is visible in Békés county too, but among more mature enterprises: the youngest generation there attributes a strikingly low importance to some highlighted positive impacts of cooperation.

Figure 12. Differences in the evaluation of advantages expected from cooperation in the two counties



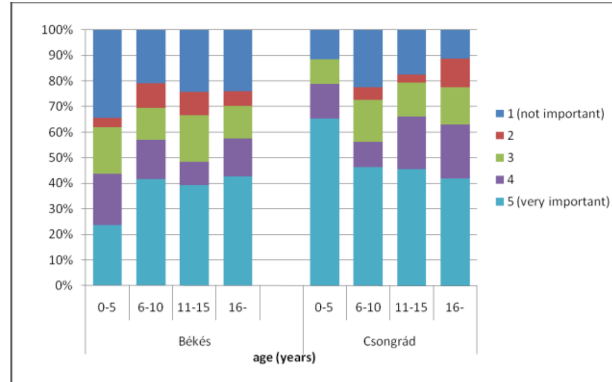
Source: own construction

Figure 13. Differences in evaluating gaining information as an advantage expected from cooperation among the enterprises of various sizes



Source: own construction

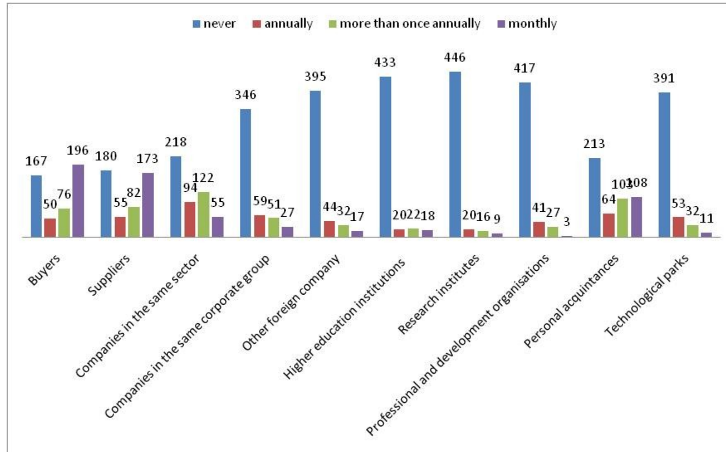
Figure 14. Differences in evaluating acquiring cost advantages as an advantage expected from cooperation among the enterprises of various ages



Source: own construction

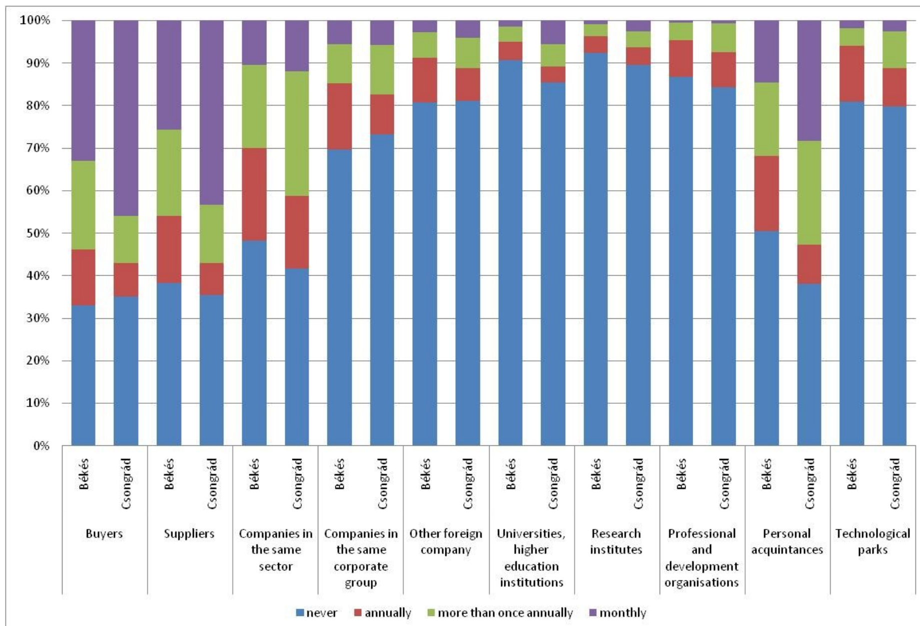
The ability to acquire *new business knowledge and technological skills* and activities in any cooperation targeting their acquisition are decisive components to the innovation potential of enterprises. Figure 11 shows that enterprises regard the acquisition of new skills and knowledge relatively important (according to the average value of responses – 3.59 – this comes in third place) during the evaluation of cooperations. During the survey, we also examined which market players constituted the *main sources* of acquiring new skills, based upon the intensity of cooperation. Figure 15 shows that most enterprises cooperate most intensively with *clients, suppliers, personal acquaintances and other companies in the sector* with the intention of gaining new knowledge. It is quite interesting that almost 100 companies indicated that they cooperated with companies with foreign headquarters to some extent; it is, however, concerning that enterprises work together most rarely with higher education institutions or research centres in order to gain new knowledge. Analysing the difference between the two counties, we find that Csongrád county enterprises cooperate somewhat more intensively with practically all partners, and that difference is relatively significant in the frequency of cooperation with higher education institutions (Figure 16). There is no significant difference in the frequency of cooperation with the most important players among the various generations of enterprises; however, it is true that larger companies cooperate more intensively with most players, and medium companies (50 persons) are the most active.

Figure 15. Frequency of cooperation with the various players in order to acquire new business and technological skills



Source: own construction

Figure 16. The division of the frequency of cooperation with the various players in order to acquire new business and technological skills in the two counties

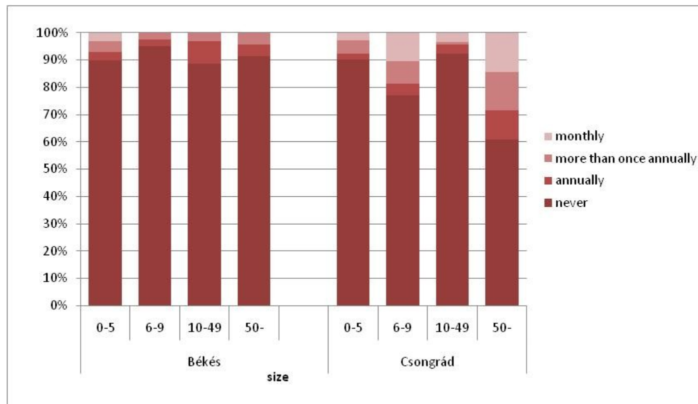


Source: own construction

4.3 Cooperation with higher education institutions

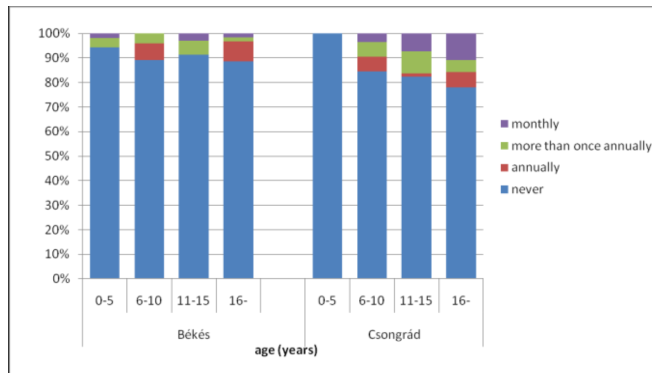
The division according to age and size in the cooperation with *higher education institutions*, which is of special interest to us, shows real differences. The relatively more intense activity concerning cooperation with higher education institutions of Csongrád county medium sized and 6–9-person companies (Figure17), and, on the other hand, Csongrád county middle-aged (6–9 years) and the explicitly mature (older than 16 years) companies (Figure 18) is rather characteristic.

Figure 17. Division of the frequency of cooperation with higher education institutions among enterprises of various size in the two counties



Source: own construction

Figure 18. Division of the frequency of cooperation with higher education institutions among enterprises of various age in the two counties

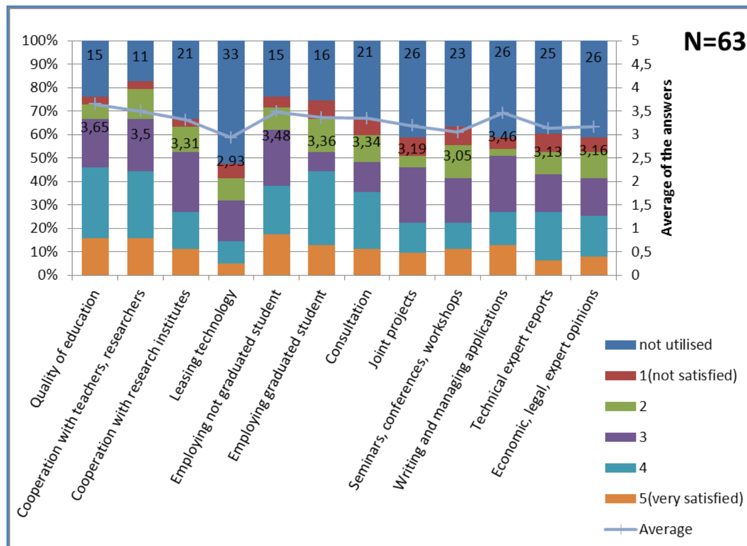


Source: own construction

It is true however, that enterprises that cooperated with a certain frequency with higher education institutions in the past three years (their total number in the

sample was 63) were mostly satisfied with the services provided by the institutions (Figure 19).

Figure 19. How satisfied are you with the services provided by higher education institutions in the past period?



Note: The values at the top of the columns show the number of enterprises that did not utilise the given service.
Source: own construction

What could be the *reason for the weak cooperation* between higher education institutions and companies? The reasons might partly be related to the institutions (they are unaware of their services, their services are not valuable, etc.), but it is possible that it is related partly to the behaviour, approach, or condition of the companies. The responses provided to the questions concerning the possible answers show significant differences among the enterprises utilising higher education services (active) and those not (passive) (Table 2). A striking difference is that in the case of practically all alternatives, the number of uncertain companies is much lower among active than among passive companies. The only odd one out is the first alternative: both groups are highly uncertain in evaluating whether companies are aware of the services offered by higher education institutions. In the case of certain questions, the prevailing opinion of the two groups of companies is fundamentally different. For instance, while the opinion among non-cooperating companies, according to which universities and colleges offer nothing or nothing useful for companies is rather widespread, and at the same time, a vast majority of cooperating companies clearly view the services of higher education institutions as useful. Similar – often very intense – differences in opinion are visible in relation to the

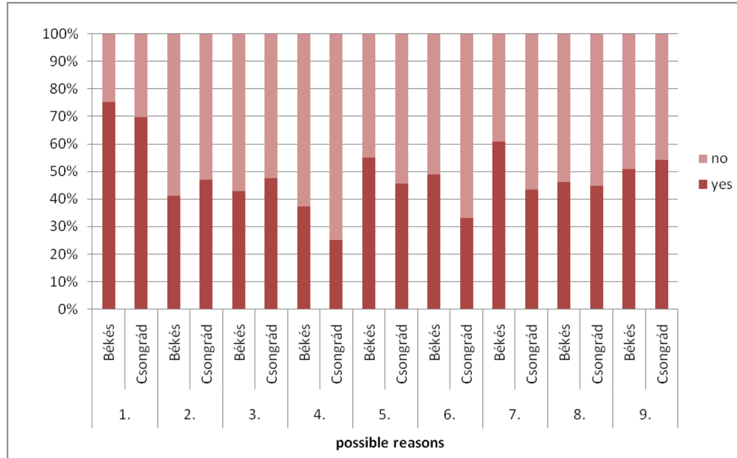
practical experiences of higher education employees, the costliness of higher education services and the speed of response of the institutions. Cooperating companies had a positive view of a majority of the questions. Nonetheless, a majority of active enterprises sense that the institutional mechanisms of handing over knowledge are missing, the services of higher education institutions are not really known to companies, and are also expensive, and that universities and colleges respond slowly to requests. We saw interesting differences upon analysing the opinion of the enterprises of the two counties. Both active and passive enterprises formulated a *more beneficial evaluation of higher education institutions in Csongrád county* (Figures 20 and 21). (The only exception was the evaluation of the first statement among cooperating enterprises: here we saw that Békés county cooperating enterprises unanimously believe that companies are unaware of the services of universities and colleges, whereas we found more companies sharing that thought among non-cooperating companies in Csongrád county.)

Table 2. Companies evaluation of possible reasons for weak cooperation tied to Higher education institutions among cooperating and non-cooperating companies

1. Companies are unaware of the services provided by higher education institutions	*passive*	98	24%	64	15%	253	61%
	active	18	31%	5	8%	36	61%
2. Higher education institutions offer nothing to companies	*passive*	151	36%	141	34%	122	29%
	active	17	29%	36	61%	6	10%
3. Higher education institutions offer nothing useful to companies	*passive*	151	37%	135	33%	127	31%
	active	14	24%	38	64%	7	12%
4. Those in higher education lack adequate corporate practical experiences	*passive*	226	55%	92	22%	95	23%
	active	22	37%	30	51%	7	12%
5.Corporate cooperation is not an interest of higher education institutions	*passive*	136	33%	148	36%	130	31%
	active	21	36%	30	51%	8	14%
6. The mechanisms for handing over knowledge are missing (e.g. technology transfer office)	*passive*	177	43%	127	31%	110	27%
	active	29	49%	24	41%	6	10%
7. Higher education institutions lack adequate technology	*passive*	131	32%	153	37%	129	31%
	active	18	31%	31	53%	10	17%
8. The services of higher education institutions are too expensive	*passive*	174	42%	94	23%	144	35%
	active	21	36%	27	46%	11	19%
9. Higher education institutions respond slowly to requests	*passive*	140	34%	115	28%	158	38%
	active	23	39%	26	44%	10	17%

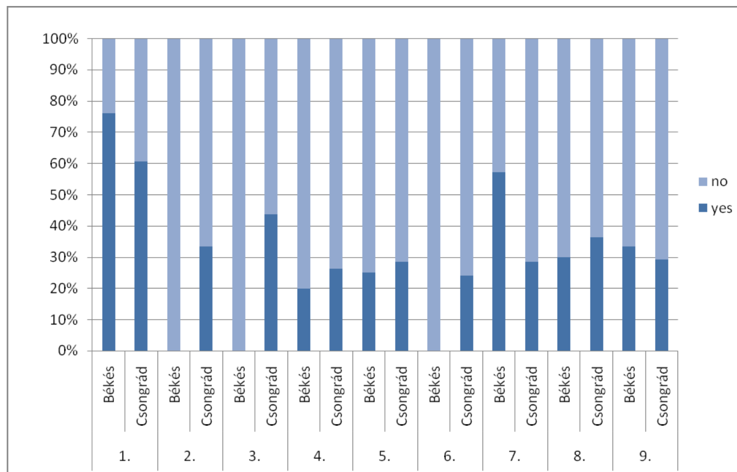
Source: own calculation

Figure 20. Differences in evaluating the various reasons among non-cooperating enterprises in the two counties



Note: The code numbers of possible reasons correspond to the numbers used in Table 2
Source: own construction

Figure 21. Differences in evaluating the various reasons among cooperating enterprises in the two counties



Note: The code numbers of possible reasons correspond to the numbers used in Table 2
Source: own construction

The evaluation of possible reasons related to *companies' behaviour,* approach or condition also differs in the case of cooperating and non-cooperating enterprises (Table 3). The majority of cooperating companies, which are much less uncertain in evaluating the various components, as opposed to non-cooperating companies,

believe that companies have the adequate knowledge and human resources for any cooperation with higher education institutions and regard the utilisation of the services of universities and colleges as necessary for innovation since the knowledge offered by higher education institutions can successfully be applied at the company. A larger part of both active and passive companies share the opinion that companies do not show interest in the services provided by higher education institutions, and that the establishment of any cooperation is hindered by a lack of financial resources.

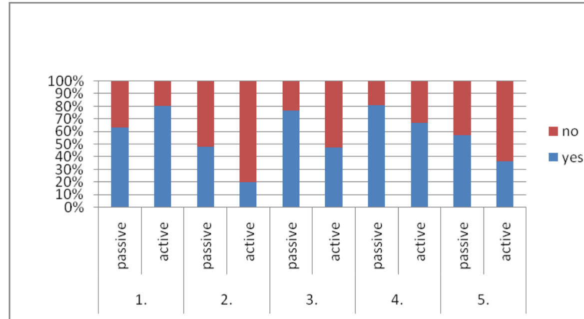
Table 3. Companies evaluation of possible reasons for weak cooperation tied to companies among cooperating and non-cooperating companies

Alternative		yes		no		does not know	
		number	percent	number	percent	number	percent
1. Companies are not interested in the services offered by higher education institutions	*passive*	181	44%	153	37%	77	19%
	active	34	58%	21	36%	4	7%
2. Companies do not have enough knowledge or people for cooperation	*passive*	158	38%	193	47%	62	15%
	active	21	36%	35	59%	3	5%
3. Companies do not necessarily require the participation of higher education for innovation	*passive*	241	58%	118	29%	54	13%
	active	26	44%	31	53%	2	3%
4. Companies lack the adequate financial sources for cooperation	*passive*	275	67%	79	19%	59	14%
	active	36	61%	20	34%	3	5%
5. Companies do not believe the skills offered by higher education could be applied successfully	*passive*	174	42%	167	41%	70	17%
	active	18	31%	33	56%	8	14%

Source: own calculation

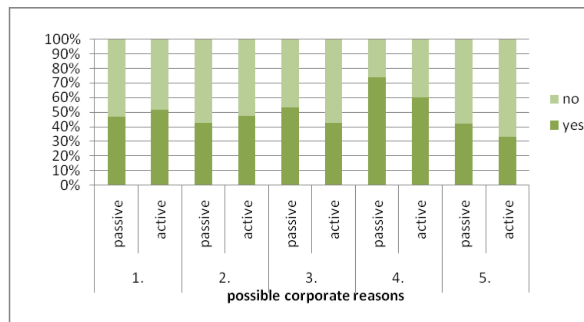
Upon comparing the enterprises of the two counties, it becomes clear that we find more companies among cooperating and non-cooperating enterprises in Csongrád county that agree with the aforementioned statements (Figures 22 and 23). The evaluation of the second reason is very different in the two counties. In Békés county, compared to passive companies, there is a high proportion among active companies of those that believe that companies do not have adequate skills and human resources for any cooperation with higher education institutions, while among Csongrád county active companies, the exact opposite opinion is predominant.

Figure 22. Differences in evaluating various corporate reasons among Csongrád county enterprises



Note: The code numbers of possible reasons correspond to the numbers used in Table 3
Source: own construction

Figure 23. Differences in evaluating various corporate reasons among Békés county enterprises



Note: The code numbers of possible reasons correspond to the numbers used in Table 3
Source: own construction

5. Conclusion

According to our research, a significant majority of enterprises (nearly 60 percent) *does not participate* in cooperations currently. Existing cooperations are primarily entered into with domestic partners – foreign cooperations are much more rare. The *most common form* of cooperation is participation in sectoral or professional associations, and, apart from that, cooperations for the sake of supply and purchasing and strategic cooperations are also relatively widespread. *Foreign cooperations* are also most often supplier relationships, or – interestingly – implemented within franchise networks.

Most enterprises cooperate most intensively with *clients, suppliers, personal acquaintances and other companies in the sector* with the intention of gaining new

knowledge. It is quite interesting that almost 100 companies indicated that they cooperated with companies with foreign headquarters to some extent; it is, however, concerning that enterprises work together most rarely with higher education institutions or research centres in order to gain new knowledge.

Gaining information was the most important for enterprises, but the *desire for acknowledgement, acquiring new skills and knowledge, gaining potential orders and purchasing opportunities*, and last, but not least *gaining cost advantages* also appeared as important aspects. Enterprises regarded the advantages deriving from joint participation in tenders relatively less important. The comparison of the two counties shows that Csongrád county enterprises expect more from the cooperations.

The research also revealed *some probable reasons for the weak cooperation* between the higher educational institutions and the enterprises. According to the majority of the enterprises, the participants in higher education do not have sufficient corporate practical experience, the institutional mechanisms of knowledge transfer are missing, the services of the higher educational institutions are not really known by the enterprises, and, in addition, they are expensive and the universities, colleges respond to the invitations slowly. From the causes concerning the corporate side, the entrepreneurs considered the insufficient financial resources as the most important cause, furthermore, that the involvement of the higher education is not necessary for the renewal of the enterprises. This all shows that there may be considerable reserves in the South Great Plain in the utilization of the knowledge base for business through cooperations, thus finding the effective methods of utilization can be identified as a potential break-out point among the possible endogenous factors of development.

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An outline of the determinations of the past two decades of Hungarian public finance

Árpád Kovács

From the beginning of the social-economic changes that took place in 1989 public finance functioned in the next twenty years organized into two – central and local – levels. From financing aspects it was organized into four subsystems; central budget, social security funds, separated state funds and local governments. Although the number, the organizational position, the relationship order of the public finance system have undergone continuous changes – contractions and „re-contractions" – public finance itself, regarding its role in the public law and its tasks, its so-called chapter-structure, functioning model and thus in the forms of its financing has changed very little until 2010, the coming to power of the new government. In the course of the past twenty years public finance provided its tasks within the existing structure managed to provide public services, development however its financial management was wasteful and under-financed at the same time. As a consequence, its functioning has been more and more expensive, less efficient and of low quality. As a result of a governance that lacked longer term goals, that was unwilling to undertake substantial modernization measures and that acted as „giver" and „drainer", periods of overspending and consolidating (restricting) have followed each other. However, public finance could be financed only by drawing on huge external resources and forceful restrictions. This study attempts to introduce the processes and their substantial reasons.

Key words: determination, governance, overspending, stabilizations, central budget, privatizations, public debt
JEL code: H30, H50, H61

1. Introduction: frames, possibilities of the topic and the risks of the outline

When we attempt to summarize the trends and the functioning of public finance in Hungary in the two decades that followed the 1989–90 transformation, we should also try to find answers to the "whys" - even if this means the risk of touching the borderlands of political and social sciences.

In anticipation, we should also mention that the years preceding the transformation of the regime brought more and more difficulties to maintaining public finance, which had been creeping towards the inability of financing the social provision systems -, even at the price of the considerable growth of public debt. This was the proof that, due to the uncompetitive nature of the "existing socialism" as a

model, it could not be viable in Hungary, either. We don't have the opportunity to explain in more detail why there were so few, who could realistically size up the real consequences of the past four decades that we all wished to exceed. However, beyond explaining the regulatory and institutional solutions and, the fiscal processes, we cannot avoid describing the contents and reasons for *the changes (and lack of changes) as well* (Artner et al 2003).

Periods of over-spending were alternated by periods of consolidation – rather periods of –"forced stability" – with considerable delays and for brief periods only. Attempts at modernization brought merely partial results. Up to the last period, the public finance system established before the socio-economic transformations, the stiffened regime remained fundamentally unchanged. Although we produced results in the field of a more regulated financial management, there were still reserves in the "business management" solutions and *the regime itself was unable to function efficiently* (Laki 2006). The liabilities of withdrawals required for financing public finance also set back the development of the real economy. Thus *we have been spinning in a vicious circle* that has resulted in the consequence of having tax revenues that served the basis of the general and proportionate sharing of taxation that did not cover the financing of public finance in the given structure, even prior to the global financial crisis. To do so it was necessary to involve huge external sources. The social, public political, economic performance and, last but not least, financing causes of the established "regime" thus became their own effects.

The present outline is looking for answers regarding the motives, phenomena, and deeper determinations that burdened the past two decades, from the aspect of a starting point that, getting rid of the above – *the outbreak* – in itself offers a chance for those endeavors that wish to transform the course of public finance to *an angelic circle.*

2. Compulsions of the public finance, the determinations of the tasks and institutional functions

The financial-financing makings of the functioning of public finance, the trends of financing it, are rather subservient to the system of values and goals of the state and to the ensuing tasks, and are the consequence of "what and why" although they reactively influence the aforementioned regime. The *external* (the environment, the pressures and models of adaptability, the orientation) and the *internal* (funds of the real economy, of institutions that can be mobilized, the social adaptability skills) *system of* conditions as double determinations have transformed the functioning and the direction of public finance in the course of the past two decades (Báger–Kovács 2007).

The external and internal determinations affecting the secure state functioning system and the modernization possibilities of the services in Hungary followed a

contradictory trend and, in respect of their origin, were more reactive. This affected very unfavorably the stability of the regulation of public finance, the calculability of the financing, the perspectives of the normative or the so-called, social organization of social provisions (i.e. provisions for those in need), and even the chances of the competition-related choice of goals that would result in real economy growth (Petschnig 2007).

The troubles of financing public finance and, the shortfalls of performance, are merely consequences; *due to the controversy of public policy, the state was unable to act pro-actively*, and its behavior was reactive, adjusting to the demands of the EU or various social embodiments of values, only occasionally. Altogether it was drifting.

2.1. External influencing factors

The system of conditions for the functioning of public finance is determined by *the extent of the state's undertaking of task provision and the money available for this purpose* – for all intents and purposes, the output of the economy. The reasons however, for in what harmony and form this was embodied in practice in Hungary finally from 1989 on, were such *external, social, economic and political factors*; like the changing political and economic system itself, the transformation from the planned economy to a market economy, the changing ownership structure and – by the significant gaining ground of foreign investors – the models, system of values, and the determinations that they had relayed. On the other hand and apart from the above, the system of conditions of the functioning of public finance was significantly influenced by the adaptation process of the EU accession, later by the EU membership and last, but not least, the affecting mechanisms of globalization. From the view of our topic it is not only our recent pressures originating from the global financial and economic crisis, rather the irreversibly changed conditions that demand attention, when we are looking back to the past two decades.

From 1989 onward, the unquestionable system of goals of Hungarian public policy, EU accession (at the time of the changes still called the European Community) and approaching the welfare system of the developed western countries as a social goal, offered the basic, external determination, by characterizing itself as a *social market economy* that became an enactment in the Hungarian Constitution in 1989. In the significant segments of the Hungarian public finance, adjustment *to the European Union meant a compulsion to move forward*. Thanks to this, significant modernization changes took place in several fields, thus in developments, the possibilities of auditing culture and of obtaining resources and, last but not least - due to the changing approach – also in the field of thinking regionally. The balance is positive, even if in fields like tenders, public procurement, allocating investments

and their direction was halting and, occasionally, counter-productive.[1] Beside the altogether *favorable* effects, however, it is common knowledge that for those shaping domestic public policy the different ways of thinking of the new European and overseas partners, raised *issues of choosing orientations and models*, already in the period of preparing the changes in the regime. The picture of the service-providing responsibility and economic role of the state remained uncertain and obscure, as it was indicating the unfinished status of the political and economic changes and, following the turn of the millennium, the situation in this respect rather grew instead of receding.

For those shaping policy in the regime-changing Hungary, but also for the wide social strata of the country, the economic and social *system of values and arguments* of the European integration as well as the – *"social market economy"* representing the above, served as *direct models* encompassing the *need to converge to the welfare provisions* undertaken by the state as well as the determination fed by it. This meant the acceptance of the prevailing legal system (i.e. the *acquis communautaire*) of the obligatory adjustment to the system of rules and institutions of the EU. However, we cannot speak about the consequent following of the European model - neither in regard to social services (social policy, healthcare and pension provision), nor in respect to the state acting as organizer of the society and of the economy (managing, governing, directing). Namely, the so-called *main-stream* models relayed from overseas, propagated the efficiency of the *"state as the night-watch man", the advantages of marketing of social services, and the self-care of the citizens*, and were conceived as keys of joining the mainstream for a decision-shaping segment of the political-economic elite, as a *quasi* dogma. Apart from this, the fact *of what kind of business models were relayed* by professional and later business investors in the course privatizations and of green meadow developments also exerted strong influence on the functioning of public finance. Their system of demands, entrepreneurial culture, growing economic presence, and the system of values and conditions[2] brought to the surface, ever more forcefully, the weak functioning of the institutional system financed by public finance resources, its slow and insecure adaptation, the inconsistency of the regulation and enforcement of will.

In selecting the *imported adaptation* model, the general uncertainties[3] regarding the choice between the European or the Anglo-Saxon course apart from

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[1] For example, building took place not where it was necessary or was what was needed, rather what and where they could get the resource, because they were available.

[2] See the respective SAO (State Audit Office of Hungary) reports and studies on privatization, concerning the budgetary funds and, innovations, used for the support of the economy: www.asz.hu

[3] It would be unfair to cite here representatives of one or the other approaches. However, we might probably indicate that people getting into leadership positions brought along with them the characteristics of their own orientation. Apart from their schooling, experiences, occasionally their professional relationships built while working in foreign research institutes and the views collected in the course of their respective scientific careers, the fact which foreign partners, investors, economists, scientists, whom they

professional conviction, the changes in respect of the influence (power relations), deriving from authority, and the ability of enforcing political interests, were also playing important roles. All of the above brought into governance o obscurity in respect to creating harmony and determining our own path to be followed – such as "what" and "why" should we undertake and "how" are we going to deliver it – and this resulted in zigzags in governance and choosing the action scenario. And this was to be attributed not only to the political rotation system, but also to the open or hidden shifting of the balance of governmental coalitions. Beyond the fact that this made it impossible to reform the big provision systems, it also affected negatively the modernization of the aforementioned provision systems on the business management or technical levels. *Consequently, the public finance system was functioning with inadequate efficiency which also limited the output of the real economy.*

2.2. Internal determinations

The growing fragmentation of the social structure and the growing political divisions became barriers to the implementation of the changes. These days, the consequences concerning the timing of the implementation, the collision of interests, the reception of the society, and even the strong sense of disillusionment etc. are playing an ever growing role in the process. A number of excellent studies (Bogár 2009, pp. 12–15.; Jenei 2008, pp. 44–66.; Laki 2008, pp. 67–85.; Stumpf 2006) discussed in detail the above ideas, the burdens of past bed experiences and mistakes which influence today's acts and that often extinguish or immobilize each other, overwrite rationality. These factors have considerably limited any acts aiming at implementing changes. At the same time, pitting against each other the neo-liberal, the conservative and social and economic views in an unforgiving way such that they were stiffened like dogmas, constituted the limits of modernization. This approach also deteriorated to mere zigzags, the feasibility of steps that, under different circumstances, could have been relatively easy to harmonize (Erdős 2006).

Although the internal determinations, the *controversial* internal relations of the trend of Hungarian public finance, its *missing picture of the future* that can be partly regarded[4] also as reflections of the external troubles of following models, can

considered or believed to be dominant experts and whose voice carried weight, they happened to be consulting.

[4] When judging the crisis of values, the period leading up to 1989 and the personal adaptation process, beyond political polarization the society has been burdened with a number of very serious conflicts of interest that Hungarian public policy has been unable to dilute, rather these conflicts are growing deeper. Such controversy that is also endangering the basis of harmonic and purposeful acting is a basically different system of goals and values and is causing strain between the active and inactive social groups, between those who are facing the risk of falling behind and those who have already fallen behind, between the employers and employees, between those being employed in public service and those working in the real economy or between the "poorer and the wealthier". These divisions are becoming deeper in respect to the division of burdens related to the expenses of the crisis.

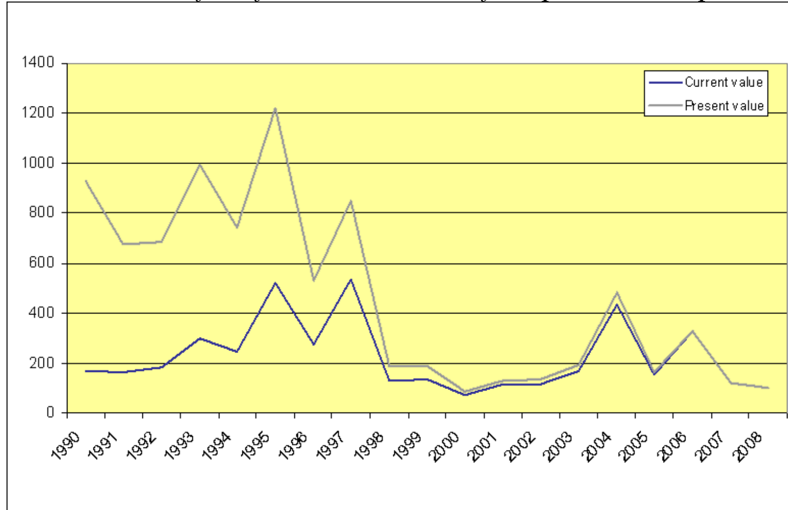
be attributed basically not to the above, rather to the *conciliatory* character of the changing of the regime[5].

The basic feature of the turn that took place in 1989 and which aimed at the goals of establishing a market economy, a multi-party democracy and the rule of law, was that the laws adopted at the time and that served as the basis of the economic and political changes ensured the transition (Simon 2007). The process that started in 1989 and that was divided into several stages, proved to be irreversible, but *far from complete*. The then existing cooperation of the determining forces (the developing opposition that was far from being secure in obtaining power, and the falling-apart state party) played a fundamental role in establishing the legal and market economy institutional framework of the rule of law, the multi-party democracy and the market economy, as well as the ability of looking for political consensus that many regard nowadays as excessive. The „correctness" of the above can be questioned; one thing, however, is certain, that is that the cooperation of the two sides ensured a solid, constitutional public law framework for the transition process that involved relatively small convulsions and offered a free – maybe too free – course for the economic transformation. As the privatization process was fundamentally determined by the financing needs of public finance and less by the endeavors of the adaptation to the technologies, innovations and market requirements, by the second half of the 1980ies a dual structure[6] of the economy was established that presented limits not only for competitiveness and the GDP trends, but also – by retroactively influencing the economic performance – for the growth of budgetary revenues. Privatizing the assets of the state, existing in market enterprises was practically completed by 2008, while the selling of assets embodied in servicing organizations and properties, were put off the agenda, partly due to the lack of demand brought on by the worldwide economic crisis and by the changing views regarding the role of the state.

[5] The "conciliatory" character is being used in various meanings. One, most obvious approach, is when they emphasize the peaceful, negotiating character that established new rules while keeping in their old function a considerable part of the elite of state officials. The other interpretation is when establishing a view they focus on the fact that the former elite could change its political power to economic power when a means of such transition was also the privatization process that otherwise contributed to the changes in the economic structure. Here, both the former relations with western countries as a "tailwind" and the managerial experiences gained during the "socialist market economy" have assisted the prominent persons of the former system to become capitalists or – to "convert" themselves to top managers of foreign properties.

[6] By the dual structure of the real economy, we mean that while half of the economic output originates from a couple of dozen of multi-national firms, the other is made up from thousands of domestic small and medium business, and the crucial revenues from export and taxes are due to businesses belonging to the former group.

Figure 1. *The outline of the financial balance of the privatization process*[7]



Source: own construction on the basis of data from SAO and of László (2007)

At the same time the modernization[8] of the great communal welfare provision systems was cancelled, due to the earlier mentioned model adaptation uncertainties regarding the role of the state, and this contributed to the peculiar torso of the changing regime. *They left unchanged such crucial social services like the pension system, the health care provision system or education, all of which were built on the provision responsibilities of the state*. At the same time, a growing financing obligation was taking shape that was submitted to new needs as a result of technological development, the aging society, and the developing medical technology. The overburdened system was made even more difficult to manage, thanks to the dumping of offerings to potential supporting groups, age groups, and social strata, closely tied to the election cycles. The social provisions that, in many respects, originated in the former, paternalistic regime and were considered as social achievements or simply, considered as such, occasionally due to familiarity or fear of the unknown, constituted the basis of the structure that has been functioning since the 1991s[9].

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[7] Following 2008 the privatization process essentially stopped.

[8] In the latter, the aim of safekeeping the peaceful character of the transition undoubtedly was also playing a role, but also the fact that the promise of maintaining and developing social services made the switching of the former political-governance powers to economic positions more acceptable, too (Steiger 2008).

[9] All this enjoyed legal protection without a deeper, more precise theoretical clarification of the changing social and economic role and tasks of the state, while they did not analyze substantively whether the just given, legally regulated solution represented real modernization or not. Were there

The financing form that appeared from 2002 onward and was built on the public and private sectors' cooperation – while representing theoretical possibilities regarding the opening up for modernization and involving resources – also brought along new determinations and "asymmetric' risks for public finance. Namely, the state would be responsible for task provision even if the company, undertaking the outsourced task, cannot meet its undertaken obligations. The fact that, apart from the rebirth of the needs for entrepreneurial supports provided by the state, a growing circle of entrepreneurs was counting on getting positions not in the competitive sector but rather - by employing their respective abilities of enforcing their political interests - in the field of public or local governmental commissions, in the market of public services realized in the form of the cooperation of public and private capital (Pitti 2004). The entrepreneurial strata in a way expected the widening of such markets that represented fewer risks than the real economy, while they were using 'modernization' slogans to support the existence of their businesses. *This was the entrepreneurial circle that was linked to political parties, occasionally acting as their representative, but rather, composing the parties' supporter's background that influenced, "modulated" the market move and, the expenditures related to the functioning of the social provision systems, by using their respective relationship capital and system of values* and not in the least, the daily and the long-term professional-management activities that determined the trends of modernization. As a consequence, up to spring 2010 the outlining of public tasks with the pretence of assigning a longer-term public finance development course for public tasks proved to be unattainable[10].

solutions socially more justified, but in respect of technology and organization more modern or cheaper? And anyway, can what is there be financed at all or (possibly) does all this serve merely the purpose of covering the dwindling of financing resources and the purpose of "improving the way we feel"? Antal Stark wrote:"Aproaching the 1994 general elections the government was determined to make bold steps. By increasing the welfare and economic expenditures of the public finances, by boosting the outflow of wages and salaries it induced an artificial speeding up of the pace […] that finally meant a 3.1 % GDP gain. Real wages grew in a significantly bigger pace, by 7.2 %. As a consequence the balance of payment kept declining, out GDP related internal public debt increased to 91%. Foreign public debt increased from USD 20,4 billion in 1989 to USD 28,5 billion" (Stark 2009).

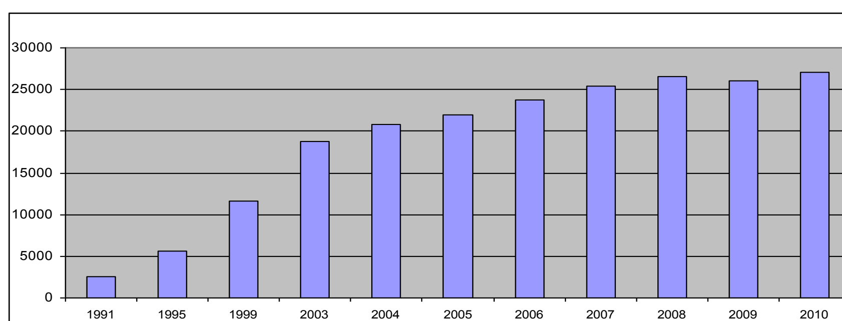
[10] In Chapter VII dealing with the government, the Constitution speaks about the tasks of the state. It declares that the government identifies the tasks of the state in the field of scientific and cultural development, ensures the conditions necessary for the respective implementation, additionally identifies the state system of the social and healthcare provision, and takes care of the financial backing of the provision (at the same place). Henceforward in Chapter XII titled Fundamental rights and duties – although the Constitution does not use the concept of public task – it indirectly touches upon the services (tasks) bearing guarantee-like character in this respect to be provided to the citizens by the state, without more closely limiting the contents and extent of them. Act XXXVIII of 1992 (Act on Public Finances) then returns to this issue in the part dealing with budgetary organizations, by saying that budgetary organizations - provide public tasks that are determined - by the law, resolutions, and deeds of foundations and serve the purpose of providing for the common needs of the society as an obligation. It is not known, either in the technical literature or among those dealing with the reforming of the public finances that the clarification of public tasks ever happened, even if in general, nobody

3. The breaking points of the functioning of public finance

With respect to the fact that in the course of the past twenty years the revenues of public finance, the approximately 50% proportion of redistribution, as well as the deprivation have not changed up to the end of 2010 in essence, they have naturally followed the GDP trends.

Figure 2. The total of revenues produced in the country (GDP)

(Value, at current price in HUF billion)



Source: own construction on the basis of Hungarian Central Statistical Office (HCSO)-Ministry of Finance (MoF)-State Audit Office (SAO) database.

In the case of Hungary, the bottom line of the economic performance occurred in 1991when the GDP fell back by 12%. The economic output that significantly determined the *revenue* side reached the level prior to the change of the regime only in the second half of the 1990s. Looking at the public finance expenditures, it is obvious that the changes in the major fields' appropriations annually followed practically only the changing inflation – disregarding smaller fluctuations and effects of ad-hoc measures. Despite the smaller and greater changes, the *expenditures*' structure in a decade-long time frame has been extremely inflexible. The reasons for this are manifold: on the one hand these are related to external orientations, and on the other hand, to the widely and deeply ingrained experience of considering the social security mechanisms of the former regime as achievements (Kovács 2005).

ever questioned the necessity of doing so. In the valid Act on Public Finances the substantial definition of public task is missing – contrary to the original purposes. The definition of public tasks in Hungary concerns not only the central level of public finances but it is a dominant factor in respect to the local governments' sub-system as the implementation of a considerable amount of public tasks is realized via the local governmental institutional system.

The expenditure proportions related to social welfare, education, law enforcement, support for business organizations and health care provisions, essentially have not changed since the change of the regime. Among the conditions of a system that works with weak efficiency, ensuring the resources for providing the above services was possible only partially, even among conditions of continuously high concentration of revenues – continuously fluctuating between 42% and 48%[11], high tax burdens, in comparison to similar indicators of the EU partner countries, and marked social security contribution. It was a continuous necessity to involve external funds (borrowings, bond issues, running through revenues from selling assets), even if to a varying extent (Hungarian Central Statistical Office database).

The trends of redistribution and income concentration were shaped by the external and internal determinations – transmitted by public policy – as well as by the real process of the operation. These could have been mitigated essentially and in a lasting way only if they had substantially changed the public finance structure, the limits of provisions attached to the individual tasks, and functions. This did not happen[12]. Although the proportions of welfare expenditures drastically diminished in the years 1995–1996 and remained practically the same up to 2001, alas, beginning with 2001 these proportions started to raise again and surpassed the capacity of the economy (Kovács 2007).

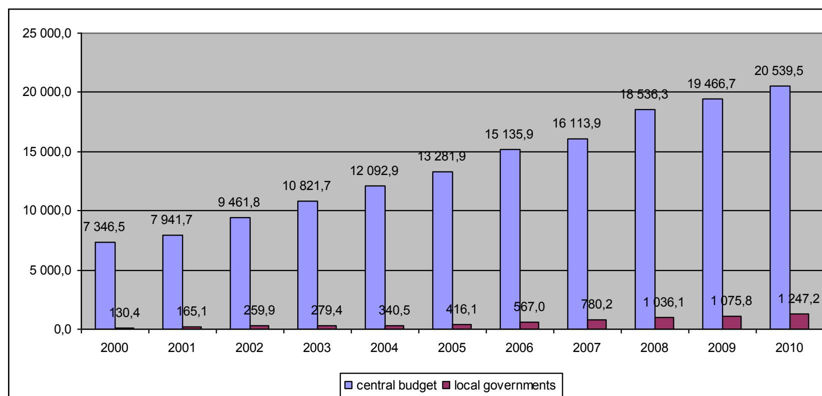
Although public dues have more than doubled in the first five years following the changing of the regime, due to substantial inflation, in reality, this represented an approximately 40% decrease. Thus, altogether the GDP proportionate public dues were perceptively mitigated, but were followed by the expenditures of public finance only in 1996. Although public dues grew as well in the subsequent period of consolidation, self-restraint regarding expenditures did exist up to 2001. After this, in the period up to 2007, the mitigation of public dues and the increase of expenditures co-existed. Comparing income centralization and redistribution as well as the indicators expressing public dues to the data of revenues, expenditures and indebtedness – with the exception of a relatively brief periods spilling across different governments – these data continuously are showing a smaller or greater

[11] The revenue concentration that was about 48% at the beginning of the period, decreased to 42% by the middle of the same period and after a small scale fluctuation rose to 45- 47% by the years of 2007 – 2008. Tax cuts and the raising of taxes (VAT tax cut and raise, changes in the ratings, raising personal income tax limits, cutting the number of tax keys, introduction and termination of tax exemptions) related to the changing governments, the EU accession and the convergence program, together with the weak performance of the economy, especially in the last years of the surveyed period, mostly as a result of the worldwide economic crisis, were playing an important role.

[12] Apart from a number of other factors, the fact that in Hungary the number of people employed by the state and thus living on income originating from the state is high – as János Kornai pointed out on the basis of the model set up by Swedish economist Lindbeck - and the so-called dependence indicator that can be explained in connection with the above, lack of the structural renewal of the central budget counteracts to the considerable mitigation of redistribution. (Kornai 1995, 1996)

lack of harmony, the lack of harmony between opportunities and the undertaken tasks, every year.

Figure 3. The trend of public debt



Source: own construction on the basis of Hungarian Central Statistical Office (HCSO)-Ministry of Finance (MoF)-State Audit Office (SAO) database.

From the aspect of being able to finance public finance, mistaken acts of two periods proved to be nearly "fatal". This was the period directly preceding the 1994 general elections and then the years following the 2002 - 2006 parliamentary elections, especially the period between the latter elections when *counter-productive steps were made that completely lost touch with the performance of the real economy*. In 1994 they induced a speeding up of the growth pace by boosting the welfare and economic expenditures of public finance that resulted in a 3,1% growth of GDP, while real wages and salaries were multiplied by more than the double of this proportion. As a consequence, the balance of payments kept worsening and, the GDP proportionate internal public debt of Hungary rose to 91%. External debt increased from USD 20,4 billion in 1989 to USD 28,5 billion (Stark 2009, p. 39.).

Due to the stabilization measures that were introduced in 1995 and 1996 and that brought serious burdens for the citizens[13] (the introduction of the so-called sliding-devaluation of the Hungarian Forint, resorting to the introduction of one-off customs dues), and first of all, thanks to the very significant privatization revenues, the situation of public finance was consolidated and then followed by a period of balanced public finance policy that also undertook some modernization endeavors. In the year 2000, the Hungarian budgetary debt was below 3%, however, we should

[13] As Antal Stark wrote in his aforementioned note: "Restrictions and curtailments reached every corner of the society despite the fact that the Constitutional Court [Á K.: just on the basis of the principles of social market economy and the protection of social security included in the Constitution] annulled it."

add that part of the items that contributed to the deficit were handled by the system outside the realm of public finance.

The deficit started to increase in 2001 (it made up 4,1% of the GDP) then, in 2002 a sudden decline took place in the fiscal position of Hungary. Namely the changing governments decreased public dues within a short time by resorting to the ambitious slogans of “European welfare” and “Falling into line with in the economy”. Thus they significantly increased social expenditures, wages and new provisions, launched the introduction of pensions for the “13th month”, and even, at the same time, they increased state spending as well. Consequently we became at once the country among the Visegrád group with the largest deficit (9% of the GDP). Yet, even at this point, regarding our position we were on the same rank as the others. The improving public finance balance started after 2003 in the region and the Hungarian fiscal policy followed this tendency up to 2004[14]. In 2004 there was still an opportunity to not only going on with the decreasing of the deficit but also to even lightly speed up the process of establishing a balance without introducing any special reforms, yet this did not happen.

Falling behind the neighboring countries (the increasing deficit) started in 2005. At the time we made parallel steps with the result of decreasing budgetary revenues (VAT) and started ambitious development projects. Thus we managed to further increase social expenditures – without coverage. *This spending spree that exceeded all previous measures* [15] *led to a 10% deficit in 2006, and to serious fiscal*

[14] Éva Palócz wrote:”In Hungary it was not the lack of radical reforms, rather the overspending that was exceeding any former extent, that resulted in the 2006 annual deficit of 10% and all the subsequent negative consequences. Namely, the Hungarian Government made parallel steps to decrease revenues (social security dues, VAT), started ambitious development projects (motorways and other), increased social expenditures and left (supported) the significant overspending in the fields related to the operational expenditures’ appropriations of budgetary institutions. All the above led to serious fiscal inconsistency. Without the aforementioned steps, the GDP proportionate deficit would have slightly decreased by itself, not to the extent it did in Slovakia, rather like in Poland or the Czech Republic. In Hungary it was the misguided economic policy of the past 5 - 6 years that led to the problems we are facing these days and it was not the result of some ”thousand-year old curse”- again. Should we explain the origins of today’s problems with some sort of Hungarian specialty or the negative inheritance of the Kádár regime then we should also pose the question, of why these effects didn’t emerge at the turn of the millennium (2000), when the Hungarian economy was standing out among the Visegrád countries by its high growth rate but also with its low budgetary deficit. And if it is so, then the theoretical troubles would be relatively easy to redeem at least in a foreseeable future.” (Palócz 2008, pp. 198–202.)

[15] By 2006 the debt rose to 66% of the GDP (thus the trend even for the years 201–2012 is still growing, exceeding 80%) while according to the so-called basic scenario, the debt should have been only 36,9% of the GDP in that year. Between 2001 and 2006, by the annually 4% GDP growth, borrowing in average was increasing by 2,5% more than the expansion of domestic production. Thus the GDP proportionate public debt rate rose from 52% to nearly 66%. We should mention here also the fact that between 2003 and 2006, in none of these years did we manage to fully perform the changing public debt deficit target (in the annual budgets it was fluctuating between 4 to 6%) stipulated by the so called convergence programs and thus getting closer to the goal off accessing to the Euro zone.

inconsistency in such a way that we have not managed to overcome the effects of the comprehensive budgetary-political slackness up to now and this will mean serious burdens even in the coming years. (Ohnsorge-Szabó–Romhányi 2007, p. 265.)

Following this breaking point, additional consolidation steps became unavoidable that were urged also by the criteria of accessing the Euro zone. In its given form however this remained “one sided”. Thus, although budgetary overspending on the expenditures’ side created bearable financing conditions with marked restraints, at the same time, by increasing public (entrepreneurial) dues and the decrease of gross accumulations – that increased the risks of building the future because from the aspect of improving competitiveness this was a limiting factor – by cancelling certain developments or by postponing them, this was restraining the output and the closing up of the real economy, the real convergence.

Under the circumstances of the worldwide economic crisis that erupted in the meantime, the *actualized* continuation of the convergence program, which was accepted in the second half of 2008, naturally could not take place. At the most, the aim could be the avoidance of state bankruptcy and maintaining the functioning of public finance; all this, at the price of worsening provision of services, the withdrawal of allowances and benefits, the freezing of wages, the raising of taxes, the interruption of development projects, etc. All this was possible only thanks to the fact that in late fall of 2008 the Hungarian State could get a stand-by loan worth EUR 20,5 billion via financial brokers and the assistance of IMF, the European Union and the World Bank, avoiding public finance, yet, indirectly, debiting it nevertheless.

It was the consequence of the events that took place between 2002–2006 that after twenty years, in respect to the absolute (compared to itself) indicators of the position of public finance and also relatively speaking (in comparison to the majority of the neighboring countries that started from similar situations, respectively to the older member states of the EU) *they are worse than at the time of the changing of the regime*. The fundamental reason for this is that – apart from a relatively brief period that spanned different governments (1995–2001) up to 2007 the financing was ensured practically independently from the performance of the real economy. The additional needs of different social services were ensured from loans and from the revenues of selling communal assets. Due to the worldwide economic crisis, growth has significantly fallen behind. Thanks to the shrinking economy, public debt has increasingly risen to the annual rate of the GDP, a third of what was embodied in securities denominated in foreign currency, thus further increasing the risk of financing. Thus the management of public finance has become a key issue from the aspect of the functioning of the whole national economy (Tóth 2009, Vigvári 2006).

Standard international organizations and foreign investors equally resented the “shifting” of some of the budgetary expenditures, their respective rescheduling to the next year to thus “exempt” the central budget of the given year.

4. The central budget and its planning

The framework of this summary affords the opportunity to only mention as a practical example that, as a result of the internal and external determinations outlined in the earlier chapters, what limited possibilities the structural transformation of the central administration did have and how the zigzags of following foreign models led to "modernization experiments" that cost a lot of money but were lacking substantial improvements or, rather, to transformations and restructurings, to the over-development of higher education or to the stimulation of the economy that proved to be counterproductive in its effects, and to the insignificant results produced by the use of EU resources when it came to the equalization of the gaps of development level[16]. Henceforth I wish to outline a single issue, instead of a detailed explanation of the aforementioned problems and results. And this is *the issue of budget planning*. It was an obvious experience that the weak *planning*[17] *that diverted from real possibilities and that often exceeded the regulations itself, was one of the reasons of poor execution*.

When we compare the planned, the amended and the factual revenues-expenditures corner numbers of the past twenty years then – apart from brief, consolidation periods – we can detect an annually growing gap between the original ideas and the reality, especially in the course of the past five years. The years of 2009 and 2010 brought only changes – partly at the price of the burden of the "skeletons" of a number of postponed development projects, maintenance and unpaid obligations. At the same time, it would be a simplification and a mistake if we attributed this 2009 process merely to the undisciplined utilization of the expenditure limits or to the forced course of the "determinations". *Consecutively, the problem was that the planning of revenues was over-optimistic.* Apart from this yet also related to this, additional and typical planning errors have exerted their recurring influence: the judgment of the processes of the basic year *successively* proved to be more favorable than reasonable, the evaluation and prognosis of the macroeconomic processes of the subject year of the planning also have been over-optimistic and – not in the least – the estimation of the effects of the planned measures was often over-optimistic, as well (P. Kiss 2007, p. 376.). In the meantime – as various SAO audits kept recurrently reflecting[18] – well founded impact assessments were missing and the budget bills did not contain, or did not fully contain, data, charts and evaluations that could have been used for mid-range

[16] See: several hundred SAO reports (www.asz.hu)
[17] It is part of the legal mandate of SAO to give an opinion on the fairness of the central budget and prepare a report on this for the National Assembly. This report is a legal requisite of discussing the budget bill. Following the crisis situation in the years 2006–2008 the Research Institute of SAO also assisted the work of the lawmakers by macroeconomic analyses. From 2009 this task became superfluous with the foundation of the Fiscal Committee. See the documents annually at: www.asz.hu
[18] See: the reports concerning the fairness of budgetary planning at the bilingual website of SAO: www.asz.hu

outlooks and substantive parliamentary decision-making, otherwise stipulated by the Act of Public Finance.

Under the circumstances of the decline, brought on by the first years of the social-economic transitory period (beginning of the 1990s), and those of the new worldwide economic crisis that erupted in the planning period of the 2009 budget, all this could have been explained, yet, this was not typical in the "normal" years. Contrary to the appeals of professional circles and, researchers – and far from the least – of the State Audit Office of Hungary, *what got into the central budget was what – on the basis of their short term political and vote maximizing interests- the decision-making majority wanted to see there*. At the beginning, corrections took place in the form of supplementary estimates (as a result of the dawning economic realities and the facing of the fact that the plans were not realizable in the given year). This, however, was essentially cancelled by amending the Act on Public Finance by stipulating that for the submitting of supplementary estimates it was a precondition to have diversions the occurrence of which was practically zero. Instead, they created rules that ensured a wide room to move for the acting government and its parliamentary majority to submit arbitrary amendments.

In the ensuing system that practically lacked mature goals and preferences, the organizations financed from the central budget could not really have other, direct (operational) goals than delivering their obligatory (public) tasks annually, by getting a growing share of resources and personnel (Báger 2006). Although it was possible to technically improve the order of financing and, to introduce new methods – as we have witnessed in the course of the past years - this in itself could not be the answer to the lack of a harmonized planning process that was trying to adjust to the realities. Additionally, the parliamentary majority tacitly and consecutively acknowledged that they had not observed the technical stipulations of the Act on Public Finance; no budget guidelines available for the wide circle of those concerned were prepared that could have been a starting point for the debates and that would have outlined the major priorities, goals, possibilities and conditions, etc. The major numbers of the budget were developed on the basis of select conciliations, by by-passing earlier published analyzes, and impact assessments.

The process and its result did show well every year in the form of the often referred to *'stiffened structures'*, the limits of the intentions to change and, naturally, the fact that this planning mechanism could not be maintained any longer; together with the missing often heard modernization plans (health-care, local governments, etc.), the lack of priorities, and their respective realities. (By the period of planning for 2011, it became obvious that it is impossible to maintain the functioning of public finance, if within it we are not creating priorities; in the given situation, regarding available resources, the former practice of evenly cutting back sources and thus spreading the burdens of former consolidation attempts cannot be continued.)

The most important conditions of the stability and consistency of state measures have not always succeeded in the financial management of public finance

and the regulatory practice that did not examine, or did not examine with adequate circumspection, the effects of the individual measures, orders, the respective financial consequences of their implementation or the ensuing financial conditions[19], even though the Act on Legislation[20] stipulated that impact assessments should be submitted in connection with draft bills. These however, often have not been prepared or were built on modeling conditions that proved to be useless after introducing them, or which were simply disregarded when creating the conditions for their implementation.

From the loose fiscal discipline, the deficit of public finance and the inflation of wages, via monetary limitations and the real valorization of the Hungarian currency, the road led straight to the slowing down of economic growth (Erdős 2003, p. 475.). The position of public finance and, apart from this, the extent of redistribution, and additionally the structure of the revenues and expenditures of the budget and the fiscal policy shaping the former, became more and more the central issue of sustainable development. The importance of the observance of the international requirements related to public finance, the so called Maastricht criteria (GDP proportionate deficit, inflation, GDP proportionate public debt) has grown, and the undisciplined Hungarian fiscal policy is not a "private affair" anymore[21]. After the "fiscal alcoholism" of periods of overspending and consolidation[22], the

[19] See the 1996 Government Decree on the managing and, selling of treasury assets and other obligations related to such assets, and Chapter 2 of the Treasury Assets Recording Rules where, contrary to the objections of SAO no changes were made for a decade. Another outstanding example for this is also Act 1996/I on Radio and Television Broadcasting, the so-called Media Act.

[20] Act 1987/XI. (Act on Legislation)

[21] The problem of overspending, the sustainability of the central budget and the growing debts have emerged during the past two decades also in up and coming and developed countries that could be regarded as stable and not only in the "new democracies" of East Europe that have started their respective transition processes regarding their social, political and economic systems from the former party state framework to a social market economy, and which suffered very significant setbacks in real economy. In a number of countries these processes have been accompanied by bank and currency crises as well. In some of these countries, due to the shocks to the balance of the central budget, they introduced various temporary (for longer or shorter periods of time) rules to restrain expenditures. These were occasionally successful and, sometimes they did not bring positive results. In professional lingo, rules promoting rules-based fiscal policy are often referred to as rules-based budgetary systems. These fiscal rules have three pillars: numerical targets, procedural rules and independent institutions influencing the budgetary processes.

[22] György Kopits used this expression in May 2006 at the conference organized by the SAO, the Hungarian Central Bank and the Ministry of Finance, where they were dealing with professional issues of budgetary responsibility. In his presentation, Kopits underlined that in the course of the past one and a half decades Hungary was displaying gradual and strong fiscal debt inclination. Lack of the culture of stability, that we can refer to also as "fiscal alcoholism", can be recognized by the well-known symptoms (denial, postponed tapering-off cure, blaming others, etc.). The budgetary responsibility system (BRS) should be introduced by the building of political determination and social consensus including transparency, the strengthening of the rules of procedure (planning of mid-range budget included) and launching comprehensive reform steps (especially focusing on the transformation of the social security and the health care system). Concerning the structure and functioning of (BRS there are

creation of self restraining fiscal rules took place in 2008[23]. The act represented a stepping forward when compared to the former regulations and quality conditions of the planning[24].

We should note: employing fiscal rules reached its goal in those countries (Chile, Sweden, etc.) where they recognized that in their respective positions *it was impossible to artificially stimulate the economy and thus the growth of consumption and revenues – when lacking reserves and resources – thus they were focusing primarily on the mitigation of the expenditures* and the modernization of the structure of the central budget. Characteristically, we can detect the success of such consolidations where the introduction of rules based fiscal policy was not motivated by external forces, rather, by public policy, the professional circles and the internal decision of state governance and, where this was supported by the decisive majority of the society.

5. Conclusion: The criticism of the past, the possibility of the ”angelic circle”

The crisis reached Hungary in the middle of a stabilization program that followed a period of limitless overspending. The serious budgetary shortfall that evolved in the period of 2002–2006 and the ensuing high level of public debt does not make it possible to follow an anti-cyclic economic policy. In the short run, budgetary expenditures should be aligned with the dramatically decreasing revenues and only then can we proceed with growth stimulating economic steps by implementing structural reforms. Both tasks require the supervision of state expenditures and of the role of state institutions, even of the role of the state itself.

One of the fundamental questions of the future is whether it will be possible to restore both the external and internal trust. Up to the recent past, from among

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several solutions; however, it is indispensable to limit primary expenditures, to be supported by a cautious macro-fiscal warning system and ensuring that it should be audited by an independent authority (for example the SAO) (P. Kiss–Kékesi 2006, p. 384–385.).

[23] Act LXXV of 2008 on Fiscal Responsibility, otherwise referred to as the “Budgetary Ceiling Act” is a macro-level guarantee regulation, respectively, on micro level it was Act CV of 2008, the so-called “Status Act” that put the budgetary institutional financial management on a new basis. We should note, however, that, a number of institutional conditions were missing at the time of finishing this manuscript that would have been necessary for the enforcement of the Act and it can only evolve its role in the process of planning the 2010 central budget. In the submitted bill that bears the signs of less usual technical solutions, we can find all the elements that have already been employed successfully in other countries. The bill is introducing certain “ceiling” rules that put an obstacle in the way of having expenditures getting out of control, and by detailed calculation, rules and institutional assurances of the Fiscal Committee attempts to achieve that the budget act and other acts influencing the budget could be discussed and endorsed only after certain analyses, prognoses and impact assessments.

[24] The institutional conditions mentioned in the regulation were changed at the end of 2010. The composition of the Fiscal Committee and that of the backup office has been changed and the functioning of the earlier macroeconomic analyzing team was terminated. At the same time, the sphere of authority and the range of the Committee’s intervening possibilities have been strengthened.

plans, promises, and undertakings regarding Hungarian public finance, none have materialized ever, so the big question is whether we will succeed at all, and if so, to what extent.

The other, fundamental question is, when and how effectively it would be possible to put forth the structural reforms that influence the position of the central budget (and, naturally, that of the production sector), first of all the modernization of the big providing systems, thus the pension system, the health care system and education, the developments that would strengthen competitiveness by relying on EU resources and by aligning these to the reform-scale modernization of public administration and within this the modernization of the local governmental system, in the respective regions. In the interests of sustainable development and, growth that is financeable, it is necessary to introduce changes that cannot be postponed any longer and to a level of conformity that meets the principles of the social market economy; and by assisting the performance of the real economy it should also undertake financeable social provisions.

Under such circumstances, Hungarian economic policy should cope with several priorities and fundamental tasks that – in many respects – might cross each other. By keeping the results of the newly born stabilization and, consolidation so far and by effective crisis management we should handle the consequences of the fiscal tensions and of the recession; in order to avert further fiscal and currency crises and we should take steps to alleviate the growth of unemployment and, at the same time, to improve the liquidity and the rating of the actors of the economy. Additionally, apart from the above, establishing the possibilities of looking for various ways out and, the conditions and chances of sustainable and financeable growth and development should be (and should already have been) established (Kovács 2010).

In transitory economies and societies like Hungary, consolidation and development depend to a greater extent on the resolute harmonization of interests and on the value creating undertaking of responsibility, than in other, European countries. Breaking out of the established compulsory course requires changing such social expenditures and, social transfers that also interact with each other and that cannot be realized without re-thinking the fundamental constitutional rights (pension, health-care, education and other tasks earlier undertaken by the state), and without establishing such new, social and political compromises like territorial management, local governments, redefining the role of the state and the "re-building" of the state.

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Multidisciplinary fairness and equity interpretations influencing research on fairness in interorganizational business relations

Eszter Megyeri

Research on fairness and equity is linked closely to justice studies, which have academic roots in many disciplines such as philosophy, law or social psychology. In the past decades, economic theorists have attempted to incorporate fairness perceptions into their models as well. Recently, management science has been focusing on fairness and loyalty research not only in intraorganizational settings, but also among entities participating in business transactions with the objective of identifying improvement opportunities, which can increase the efficiency and effectiveness of business interactions in network operations or collaborations. Research suggests that a business relationship which is considered fair is more balanced and stable (Scheer–Kumar et al 2003). As a part of a broader research on this topic, it is essential to understand the different layers and aspects of fairness interpretations which can affect the definition and the measurement of fairness in interorganizational relationships. This paper provides a literature overview, which provides the foundation for the next stage of the study, in which we will compare fairness expressions in interorganizational relationships in a cross-cultural empirical research setting.

Keywords: fairness, equity, interorganizational relationships, management
JEL code: D63, D64, M19

1. 1. Introduction

The research on fairness and equity, closely linked to different interpretations of justice, has its academic roots in many fields of social science. The objective is to give an overview on fairness research by summarizing the different disciplines' approach to fairness. This introduction will lead the way to the managerial interpretation and research of fairness, specifically focusing on the interorganizational aspects.

We are going to review the base, dictionary-driven definitions of fairness and equity, which are often used as synonyms in the literature. The next part will review Aristotle's interpretation of justice and its link to fairness and equity definitions, which is followed by the review of the main path of philosophical interpretations of justice. We examine the fairness interpretation in different legal systems. Then, we review some economic theories incorporating the concept of fairness in their

models. At the end, we look at the applicable intraorganizational justice insights. We capture the key findings and potential implications on the definition and measurement of fairness for the management aspects specifically affecting interorganizational relationships.

As a first approach, let us review the basic dictionary definitions of fairness and equity. Out of the many meanings, fair, as an adjective, means "treating people equally without favoritism or discrimination." It is also referred to as "just or appropriate in the given circumstances."[1]

Fairness and equity is interchangeably used in many works. Therefore, we will use them as interchangeable expressions in this review.

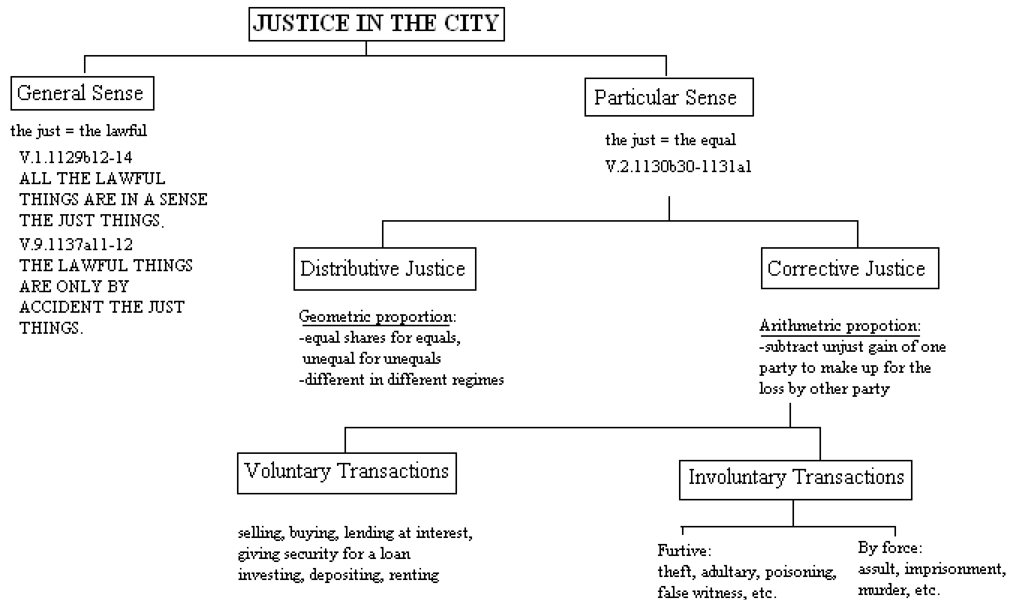
2. Aristotle's definition of justice and equity

Although equity and fairness research have an extensive multidisciplinary academic literature, the basic interpretation leads us back to Aristotle's teaching and definitions. Even for a reader of today, the books of Nicomachean Ethics are fascinating studies. In the IVth and Vth books, Aristotle organized his interpretation of justice and fairness. In general, he considers *universal justice legal and equal for all*. However, he differentiates distinctive types of justices such as *distributive justice* (justitia distributiva) and *corrective justice* (justitia correctiva). In the recent work of Burger, a relationship map (Figure 1.) between Aristotle's distribution justice and corrective justice is set up, which are the key guidelines organizing the life of a community or society, called city or city-state (Burger 2008). Distributive justice distributes richness, power and honor based on merits, which represents geometric proportion in the relative sense. Corrective justice compensates for inequalities, and balances loss and gain in the transactions of life in a so-called arithmetic proportion in an absolute sense. Within that, Aristotle distinguishes cases as a part of voluntary and involuntary transactions (Aristotle 350.B.C.).

In the Vth book, chapter 10, Aristotle also deals with equity as fairness in relation to justice. In his initial approach, he presents us a confusing picture of having them neither absolutely the same nor generically different. When considering them being similar, the just and the equitable, are both good; while the equitable is superior. This controversy is unlocked in the following way.

[1] Oxford Dictionaries, 2010 Oxford University Press. http://oxforddictionaries.com

Figure 1. Aristotle's categories of Justice



Source: Burger (2008, p. 223.)

"What creates the problem is that the equitable is just, but not the legally just, but a correction of legal justice. The reason is that all law is universal but about some things, it is not possible to make a universal statement which shall be correct. In those cases then, in which it is necessary to speak universally, but not possible to do so correctly, the law takes the usual case, though it is not ignorant of the possibility of error. In addition, it is nonetheless correct; for the error is neither in the law nor in the legislator but in the nature of the thing, since the matter of practical affairs is of this kind from the start. …Hence the equitable is just and … not better than absolute justice but better than the error that arises from the absoluteness of the statement. And this is the nature of the equitable, a correction of law where it is defective owing to its universality." (Aristotle 350 B.C. V.10.). In this interpretation, therefore, when speaking about *equity and fairness, it represents an extension of the idea and intention of the law where the law itself cannot be literally applied*. That explains the superiority of equity, as it corrects the defective law, which becomes universally applicable through equity.

In V.5. *reciprocity* is detailed as well, which is linked to equality. Equality has two distinguishable forms in Aristotle's definition, which are *simple, numerical equality and proportional equality* (Aristotle 350 B.C.). Numerically equal treatment of others or distribution exists when it treats all persons identically or granting them the same quantity of a good per capita, which is not always just. In contrast,

proportionally equal treatment of others or distribution exists when it treats all relevant persons in relation to their due. Numerical equality is only just under special circumstances, when persons are equal in the relevant respects so that the relevant proportions are equal. “Proportional equality in the treatment and distribution of goods to persons involves at least the following concepts or variables: Two or more persons (*P1, P2*) and two or more allocations of goods to persons (*G*) and *X* and *Y* as the quantity in which individuals have the relevant normative quality (*E*). This can be represented as an equation with fractions or as a ratio. If *P1* has *E* in the amount of *X* and if *P2* has E in the amount *Y*, then *P1* is due *G* in the amount of *X'* and *P2* is due *G* in the amount of *Y'*, so that the ratio $X/Y = X'/Y'$ is valid” (Gosepath 2007, p. 4.).

Commutative justice (justitia commutativa) has been differentiated from the Distributive Justice by the Scholastics when interpreting Aristotle’s teaching and applying it for economic exchange (Farkas 1989). Commutative justice guided the exchange between equal partners serving a root for thinkers to develop the basic concepts of economics and economic transactions. Commutative justice represents a state resulting from fair and free exchange. A principle of commutative justice specifies how individuals should be treated in a given class of actions and transactions.

However, the term justice is a constantly disputed concept, whose meaning is never final or fixed. Aristotle called justice representing a middle point between conflicting aims. Based on that, each society or group within a society will have its own definition of justice which cannot be reconciled given the special local circumstances. Each society will have its own ideas about justice and fairness, and its own practices for implementing them. These concepts are inevitably conflictual and can be politically charged.

3. Fairness in philosophy

The philosophical doctrines continuously emphasize the importance of applying ethical aspects when defining fairness, which is linked and related to defining justice as well. The concepts briefly described in these paragraphs are to give a broader view of the ongoing justice debate without the attempt of making a full review. The reason why we feel it is critical to mention these concepts is that when developing any economic or business model, the base assumptions are leading us back to the philosophical principles of what is considered to be just or fair. Different social justice concepts create various approaches dependent on the range of society members affected, the projected dimensions and other parameters of the model such as the level of acceptance of human disparity (Tóth 1991).

Based on the *utilitarian approach*, social welfare is to be determined by the aggregate of individual utilities, which results in total social utility. The social

welfare function maximizes the aggregate social utility by looking for a Pareto-optimal situation, in which the aggregate social utility is the largest in such a way that any change does not deteriorate any individual utility (Tóth 1991). However, it is insensitive to any additional problems related to the distribution of wealth among the individuals within the society. In all cases, the greater aggregate utility is preferred regardless of the potential of distribution inequalities.

John Rawls was associated with the concept of *liberal egalitarianism* relying on the social contract concept and modern decision-making approaches (Tóth 1991). Rawls's approach to justice represents the central theme of decision-making. Distributing equally is the starting point in his concept. Unequal distribution is only considered acceptable if it serves the common good (Rawls 1971). The first priority rule refers to the principle of freedom, which does not allow conversion between economic benefits and freedoms when the social distribution is determined. The second priority rule emphasizes the primacy of exchange between justice versus prosperity and efficiency. Based on this, he considers an institution just which improves the situation of the most disadvantaged ones first.

Friedrich August Hayek, an Austrian *empirical libertarian* economist and philosopher, lays down the following arguments when navigating through the issues of justice. In his interpretation, freedom is considered a fundamental pillar, which is interpreted as a potential to choose among alternative options (Tóth 1991). Freedom exists when there is a lack of compulsion. The second pillar represents limited cognoscibility, as due to its limitations, the human mind cannot embrace fully the complexity of the society. The third pillar is methodological individualism. In a society, individuals represent the entity of a society of individuals. Hayek distinguishes between two social idealistic states of orders. One is the established order, which is the result of human design, organized in a hierarchy of goals, operating principles and structures (Tóth 1991). Based on his above-mentioned principles, such an order cannot be optimal. The other is spontaneous order, which can be captured only in an abstract way due to its complexities. Hayek raises the question whether there is any sense of social justice applicable to an order. Just or unjust can be applied only to human behavior. In a spontaneous order, there is *no entity to be accountable for justice*. Therefore, we cannot speak of the just or unjust nature of distribution in that case.

Robert Nozick, a representative of *natural rights liberalism*, makes a distinction between the justice of acquiring and the justice of the transfer. *Property acquisition* and transfer are the only legitimate ways of *transfer*. However, that is not always the case. Therefore, he introduces *the principle of compensation* to make up for the unjustly impacted party (Tóth 1991). These three principles constitute Nozick's concept of justice.

Philosophy offers us a variety of approaches when considering social justice. They work as a basic framework for different concepts of fairness. When looking at

fairness interpretations and models, we will be able to link back basic assumptions of different social justice concepts to the different philosophical routes.

4. The legal interpretation of fairness related to justice

The key philosophical concepts are materialized through the ways of working of a society. The key element of this are the legal systems, which eventually provide a framework for individuals and business entities to operate. The law, with a collection of structured rules, provides a base and contractual framework of operations for an individual, a business or any other entities and organizations of a society. When looking at the different legal frameworks, we immediately face a colorful varieties of approaches.

The continental *civil law* system is a widely used legal system in more than seventy countries around the world. As a legal framework, it represents a complete set of rules and regulations about determining what is right and what is wrong (McFarlin–Sweeney 2006). The historical roots of the civil laws date back to the Roman times, and were later used as a base when establishing the Code Napoleon. Today it is widely spread in Continental Europe and in those non-European countries where the colonization of Europeans left its marks. In the civil law system, the judge takes a great part in proceedings including decisions about what evidence is presented to the court (Pokol 2001). The legal cases are decided under the strict rule of law. *A contract, even it may prove to be unfair, will be normally upheld and enforced by the legal system*. When the written law is not applied strictly to a specific case, then it is to be decided *ex aequo et bono, which means that the case to be decided by principles of what is fair and just*. However, a case to be decided ex aequo et bono on its merits, when the strict rule of law is overridden, requiring a decision based on what is fair and just in given circumstances (McFarlin–Sweeney 2006).

The Anglo-Saxon *common law* system is practiced in more than thirty countries including the United Kingdom and most of its former colonies, the United States, Canada, Australia, and Ireland (McFarlin–Sweeney 2006). The common law uses the rulings and outcomes of previous cases or precedents to resolve legal disputes. The focus is put on the specific case and its similarities to previously resolved cases and its outcomes instead of applying general principles. Great importance is put on the procedure of legal dispute resolution in which the judge in a common law system is relatively passive, typically functioning as a neutral referee. The lawyers of the plaintiff and defendant are expected to present evidence and develop a legal case to resolve the dispute. *Common law does not have an interpretation of fairness*. The statue of Prohibition of abuse of rights exists in the UK, which prohibits engaging in any activity or performing any act aimed at the

destruction of any of the rights and freedoms set forth herein or at their limitation to a greater extent than is provided by the law.[2]

Beyond the different interpretation of civil and common law system, there are other systems such as religious law, customary law and mixed or pluralistic systems with each of them having a different interpretation and guidelines on fairness, which are locally influencing and influenced by the local interaction among individuals and entities.

European Union Law had developed as a sub-discipline of international law, now being a "sui generis" law system known as "supranational law", in which the rights of sovereign nations are limited in relation to one another. International law, on the other hand, is the law of the international community, or the body of customary rules and treaty rules accepted as legally binding by states in their relations with each other. International law differs from other legal systems in that it primarily concerns sovereign political entities (Shaw 2003). Both on the international and supranational level, general guidelines are laid on top of the local systems to mitigate the interactions between nations without serving as solid globally accepted approach.

Therefore, from our point of view it can be observed that different sizes of legal spaces exist for practicing fairness within the legal framework, which are embedded in the legal systems. However, dependent on the historical development of a country, the legal system and the local national culture shape the practical ways of working locally creating greatly different local business environments.

5. Fairness in economic models

Neoclassical economic concepts date back to economists such as Jevons, Menger and Walras, who independently formulated and published the principle of diminishing marginal utility at the beginning of the 1870s. A commodity requiring twice the work hours is not twice as valuable as another as the customers' willingness to pay twice as much is independent from the work hours needed (Polónyi 2002). Utility is a considered subjective, consumer-related category having a value of being useful in meeting consumer needs. The consumer assesses the goods based on the marginal utility of each unit of goods, evaluating the adequate market price (Polónyi 2002). Neoclassical economics worked with mathematical models in which utility determines value. The objective of a Pareto-efficient solution drives the optimization process until there is no other allocation in which any individual is better off, while no individual is worse off. This model builds on a stylized reality in which perfect competition is assumed without external economic

[2] Convention for the Protection of Human Rights and Fundamental Freedoms as amended by Protocols Nos. 11 and 14.

effects. The neoclassical approach considers individuals to be selfish and rational players maximizing their own benefits. The models does not consider the discussion of equity issues to be the task of economics, therefore it does not deal with equity and fairness issues.

On the microeconomic level, attempts were made to incorporate the question of fairness. We will review Baumol's model, who worked with the assumption that there is a possible trade-off between fairness and efficiency goals and objectives. This meets the utilitarian approach, but contradicts Rawls and Hayek's interpretation of justice just as a reference. Foley defined the *envy-free principal*, which was built into Varian's fair distribution definition. Varian determines that an equitable distribution exists if it is envy-free, *which means that no individual prefers anyone else's share of the distribution more than his own. Varian calls the distribution fair when it is equitable and Pareto optimal* (Varian 2008).

Baumol argues that Varian's definition of fairness invites confusion between issues of the allocation efficiency and equity, which is clarified in Baumol's approach of fairness and superfairness theory (Baumol 1987).

Baumol's definition of fairness states that "a distribution is called superfair, if each class of participants prefers its own share to the share received by other group, that is, if no participant envies the other" (Baumol 1987, p. 15.).

There is a fairness boundary line which separates the combinations deemed unfair to the group from the fair combination. The Edgeworth box is equal distribution, expressing concern at the heart of any individual's fairness boundary passing through the same indifference curve, and therefore equal distribution is always preferred over any fair distribution. The area of superfair distribution is considered those points which are fair or more than fair from both actors' points of view. We look for a distribution, which is superfair distribution, which is better than the equal distribution of non-homogeneous products (Bara 1998).

6. Fairness from the intraorganizational perspective

When looking at the *management application of fairness theories*, we find that many areas of management are impacted by the findings of social psychology. Areas of Human Resource Management have specifically built a number of practical applications in hiring, performance management, compensation and benefit management in order to build a genuine and adherent business culture (Brockner 2006).

Social psychology made a major effort in theorizing on fairness in Organizational Justice studies. Homan published first about the s*ocial exchange theory* proposing that an individuals' objective is achieving the maximum benefits with the minimal cost which is also used for evaluating relationships (Homans 1961). Further theorizing on Homans' work, Adam published the well-known *Equity*

Theory (Adams 1965). The theory suggests that people compare the ratio of inputs and outputs, which is being used to determine the equitable state and drives their satisfaction level. Here we can identify the link to Aristotle's proportionate equality definition. Adams' works generated a wave of debates resulting in the so-called *Distributive Justice* research in social psychology. Later on scientists started to exam the way in which a decision is made to arrive to a certain outcome. In this approach, called the *Procedural Justice*, researchers find that the distribution of outcomes cannot be fair without a fair procedure. Procedural justice examines aspects of an individual's fairness perception of the outcome of the allocation process, for which a number of procedural justice models, for example the Group Value model, were developed (Tyler–Lind 1992). *Interactional Justice* is the third dimension of the organizational justice research. It "refers to the perceived fairness of the enactment or implementation of procedures and has two sub-facets. Interpersonal justice captures the sincerity and respectfulness of authority communication, while informational justice concerns the use of honest and adequate explanations for decisions" (Colquitt et al 2006, p. 111.). *Integrative Justice* theory embraces all the three (distributive, procedural and interactional) approaches. Folger's *Referent Cognitions Theory* was among the first integrative models, soon followed by others such as the *Fairness Theory* or the *Fairness Heuristic Theory* (Lind 2001, Cropanzano et al 2001).

Organizational Justice focuses on intra-organization fairness issues. With the increasing number of interorganization and international co-operations, it is relevant to ask how organizations interpret fairness in business to business relationships. An empirical study was done this topic with the objective to investigate perceived inequity in interorganizational relationships between automobile producers and dealers the Netherlands and the US, which revealed that different cultures interpret fairness differently during their business interactions (Sheer–Kumar et al 2003).

7. Conclusion

The reviews above clearly showed that there is a striking difference when looking at fairness concepts on the theoretical level compared to elements of practical life. Aristotle documented this observation as well, who made a clear differentiation between justice and equity theories. We see a path formulated on distributive and procedural justice leading to an integrative approach through the intra-organizational research. Therefore, fairness is practically linked to the objectives and procedures as well, whether applied to a life of a society or an organization. We cannot ignore the local, legal environment and the cultural features of the business environment in which business entities are operating. However, how far fairness can be interpreted universally in an interorganizational business setting can be a question of an empirical cross-cultural comparison, which is the next stage of our research agenda.

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The effect of energy market liberalization on EU competition

Sarolta Somosi

A new entrant in a network industry faces a very difficult situation if it wishes to compete with a company already on the market. According to Bara (2006), competition is endangered by two factors: the state and the competitors themselves. However, such sectors exist where competition can not develop in a natural manner. Concerning the network industries and the competition policy guarding the newly formed/forming competitive energy markets, the challenge is especially the characteristic that the operation of the market, the opening itself, is not necessarily able to eliminate the monopoly structure. Thus the subject of our analysis is the effect of energy market liberalization, launched a decade ago in the European Union, on the competition in the sector. Has the European Union in reality reached the effect it planned or has the opposite occurred?

Keywords: liberalization, energy market, market concentration
JEL code: L16, L43, L94, L95

1. Introduction

In the opinion of Bara (2006), competition is endangered within a sector by two factors: the state and the competitors themselves. However, such sectors exist where competition can not develop in a natural manner. *Concerning the network industries and the competition policy guarding the newly formed/forming competitive energy markets, the challenge is especially the characteristic that the operation of the market, the opening itself, is not necessarily able to eliminate the monopoly structure* (Kovács 2008). This can be explained by the fact that the entry to the market is not only incidental but can also be immensely costly and risky owing to the entry barriers demonstrated previously. A new entrant in a network industry faces a very difficult situation if it wishes to compete with a company already on the market (in position) (hereinafter: incumbent), since it is not enough to simply offer a better and/or cheaper product if the expectation of the consumer is that nobody would buy the product. The less compatible the new service is with the existing one, as well as the more committed the consumers are toward the incumbents, the greater this self-fulfilling expectation is (Kovács 2008). Thus, such markets (owing to some artificial, structural or strategic causes) are closed to the potential competitors, and their actors are called natural monopolies by the literature. Telecommunications, railway transport, gas and electricity service, basic public services (water, sewage,

waste transportation, public lighting, etc.), and postal services all belonged to this group, among others, until now. *"In these sectors problems of competition arise from the closed nature of the market, thus from the fact that in case of the state's inaction (lack of state legislation) only the incumbent company, protected by the monopoly position, is able to reach the consumer"* (Bara 2006, p. 208.). Competition starts when these markets open, owing to the creation of the conditions for the wide availability of the indispensable instruments as was done during the liberalization initiated in 1998. In present article we forbear demonstration of the technical and regulatory side of market opening, thus here the requirements and consequences of competition law, with respect to liberalization, will be provided.

1.1. Changes in competition policy owing to liberalization

Thanks to the EU legislation, *as a consequence of the sharpening competition*, the consumers – also thanks to their more and more conscious behaviour and quality expectations – *are theoretically able to use the public services in increasingly better quality*. Nevertheless, an insolvable *contradiction* seems to exist between *the securing of basic services, the increase of the level of services, as well as the narrowing resources, increase of efficiency and the interest in profit*. Development of the services, including liberalization, necessarily involved the development of competition policy since competition policy and competition regulation, as its practical manifestation almost everywhere, is one of, if not the most, efficient instruments (Motta 2007). Consumers had and have to be assured that the opening of newer and newer public service sectors for competition does not affect them disadvantageously. Competition policy tried to follow the changes occurring in the services market – the rearrangement of power in favour of the tertiary sector, as well as transnationalization. Thus in the life of the European communities the direction of competition policy occurring from the 1970s mostly in industry mirrors well the changes happening almost forty years later in the services market (Pelle 2009).

Three important processes can be seen lately in the competition policy of the EU. One is that the *sectoral legislation and the general competition legislation are becoming closer to each other (1)*. Earlier, the general notion was that the task of competition regulation is to keep well in hand the occurring market behaviours independently from the sector, without sector-specific analysis and legislation – the sectoral regulations fulfilled this task – while nowadays more and more regulators realize that the specific market and the currently existing, restricted or in some cases non-existing competition cannot be treated as totally independently from each other. Therefore market analyses have become the basic instrument of modern competition policy[1], according to Motta (2007).

[1] The analyses on liberalization beyond a certain depth required the comprehensive study of the concerned sectors, which has appeared as a new institution in the European economic integration. The Directorate General for Competition of the European Commission had been entrusted with the task of preparation of sectoral studies. With respect to the new scope of authority, those service sectors had

It is beneficial to make a short detour in order to define the difference between *general competition regulation and sectoral competition regulation*. In certain sectors of the sphere of public services, *regulation is twofold*, as in the sector of gas services. *One part of it covers all the public services and their common points; the other part is expressly sector-specific, and relates to its economics. In the case of the regulation of monopoly markets, competition regulation and sectoral regulation differ from each other*. Task of the latter in this case is to guarantee that even in the lack of competition, optimal conditions should be attained for the society. *Frontiers between competition and sectoral regulation fade away when in monopoly markets* – in our case in the previously monopolized gas markets providing public services, as the effect of liberalization – *competition occurs*. At this time *"...the regulator of the competition has to deal with the monopoly markets, while the regulator of the monopolistic sectoral markets has to deal with the competition markets."* (Kiss 2008, p. 23.) Nevertheless, the newly liberalized markets still significantly differ from the operating oligopoly competitive markets. They still have the public service and sectoral characteristics, and to understand their operation and for effective regulation, being familiar with the specific market is essential. It is generally true that the general requirements of competition should be achieved grounded upon the peculiarities of the sector. In the viewpoint of the EU, competition policy in itself is not able to induce competition in all circumstances; for this, companies have to operate generally in such economic circumstances which stimulate competition. In an indirect way, synchronized with the adequate sectoral policy, this can contribute to the improvement of the competitiveness of the European Union.

The second phenomenon is that some *kind of convergence can be found in the regulation (2)*. Since the object of regulation is the same, competition, the applied instruments, that is market analyses, are also becoming closer and closer to each other, and thus clearly convergence also appears in the regulation (Pelle 2009). However, the synergy seems to be realized in the case of the EU, in spite of the fact that convergence, during which the regulatory tasks of the liberalized markets are transferred to the competition regulators, as well as the taking of public service and other sectoral elements into the functions of competition regulators, is still going on. Fitting to the general competition regulation, deadlines in the sectoral regulations for the new phases of market opening fell into the period between 2007 and 2009 (Valentiny 2008). Based on the previous experiences, sectoral regulations promised more frequent and often more radical changes when compared to competition regulation.

The third element is *deregulation* (3). This is grounded upon the idea the aims are often more efficiently reached by operation of the market than by regulation. Thus, the primary goal of regulation should be the assurance of the operation of the

been named which are under scrutiny. These are the following (DG Comp. EC 2008b): electricity and gas services, financial services, media, postal services (relevant case: COMP/36.915), telecommunications, and professional services.

market, which on the other hand can only be provided by the synchronized development of the sectoral and competition regulation (Pelle 2009). Naturally, this is true for the group of public services, especially for the energy market, only in a restricted way. The necessity of the regulation and its indispensable importance has been acknowledged since the market opening in the gas markets. Thus, in this sector we should not mention deregulation, but rather "re-regulation".

Generally, the development of competition regulation looks similar irrespective of the sector. Usually a legal case calls attention to the deficiencies of the market. Subsequently a comprehensive, public, market analysing, sectoral inquiry takes place with the participation of different professional and social organizations. (In the case of the gas market this came about in 2005[2].) Taking the consequences as a starting point, the Commission drafts proposals, and then the final outcome is embodied in the development of the applicable law (Pelle 2009). Thus it is well demonstrated that competition cases form a very important part of the European competition law, since the outcome of these competition cases affect the regulation of competition. Starting right from the cases appearing before of the Commission to the rendered decisions, as well as the new, more market-conformed and competition-strengthening behaviours displayed by the companies, the effects of the above-mentioned situation can be seen.

It is important to highlight that competition law – especially outside of Europe – does not stand by itself, and is only one of the integration policies. For this, the most spectacular and mostly cited example is the policy of the internal market ensuring the four freedoms, which is directed against the state measures which hinder integration, while competition regulation takes steps against those measures of the market actors which have the same direction. Hence this means that the barriers of trade eliminated gradually in the course of years are not allowed through the competition policy to be rebuilt by the companies. Thus thanks to the convergence in the market of public services, as well as in other sectors, the relevant EU and state competition regulation should be applied adequately owing to the compulsion originating from the market opening[3]. The basis of the competition regulation of the EU is provided in the Rome Treaty founding the European

[2] The Commission was entrusted with the task of conducting a comprehensive inquiry (Energy Sector Inquiry) which took into account the competition aspects of the energy sector in 2005. More detailed information is available on the following website: http://ec.europa.eu/competition/sectors/energy/inquiry/index.html. The aim of the inquiry was to prepare an in-depth analysis for the exploration of the characteristics of operation, or rather, the causes of the inadequate operation. This is all for the improvement of the competitiveness of the whole European economy through bringing it to perfection. The above mentioned final report was prepared based on this comprehensive inquiry, and published in January, 2007.

[3] According to the economic idea behind the legislation, these are such public services which would not operate if the state did not provide them. The two main aspects are the operation of the service and its safety. The EU has started to examine whether these are really public services, and to what extent (the size of the part), and whether competition can be introduced to the market of these services (EC DG Comp. cited by Pelle 2009).

Economic Community and its amendments. Specifically, it is Articles 101 and 102, as well as 106 of the Treaty on the Functioning of the EU (TFEU) that regulate the behaviour of the companies, while Articles 107–108 contain the rules on state aid. Article 106 (2) of the TFEU states in this respect that undertakings entrusted with the operation of services of general economic interest are subject to the rules contained in the TFEU, in particular to the rules on competition[4]. As a new element, *liberalization* has occurred, it has become the frontier territory of the community competition policy.

2. Concentration in the energy sector

According to Bara (2006), groups of competition problems relating to market opening are composed of such sector-specific questions like: which are these aspects, how can they be realized in the particular sector, and what, how, and when should they be (or should they not be) regulated? During the preparation for, establishment of, and finally execution of the market opening, the European Union might find itself opposing primarily the member states, and then the major actors if they do not or inadequately take into account the objectives of the creation of the competition and the aspects of the competition itself. The danger of this might be that in spite of the market opening, no efficient competition forms in the relevant sector. Furthermore, in the case of opening of the European gas market, this process can even demonstrate some opposing aspects. Thus, in the following we map whether the gas market liberalization – as well as including a few cases concerning the whole energy market – is able to create – if only a restricted – competitive market, or if we are just witnessing a concentration. Subsequently concentration is interpreted in accordance with these categories:

- As the consequence of the separation, *horizontal and vertical cartels* have formed in the gas market (or in the whole energy market) owing to different considerations (effectiveness, economies of scale, strategic considerations, etc.)

[4] Art. 106 (2): "Undertakings entrusted with the operation of services of general economic interest or having the character of a revenue-producing monopoly shall be subject to the rules contained in the Treaties, in particular to the rules on competition, in so far as the application of such rules does not obstruct the performance, in law or in fact, of the particular tasks assigned to them. The development of trade must not be affected to such an extent as would be contrary to the interests of the Union."
However, Article 106 (2) allows an exception from the rules contained in the Treaty, provided that a number of criteria are met. Firstly, there must be an act of entrustment, whereby the State confers responsibility for the execution of a certain task to an undertaking. Secondly, the entrustment must relate to a service of general economic interest. Thirdly, the exception (compensation) has to be necessary for the performance of the tasks assigned and proportional to that end (the necessity requirement). Finally, the development of trade must not be affected to such an extent as would be contrary to the interests of the EU.

– Owing to different reasons, but the *dominant position of national incumbents is increasing*
– Owing to different reasons, *takeovers and mergers* might take place more frequently in the gas market (energy market).

When observing this from an institutional point of view, instead of looking at the behaviour, the listing can be reversed. In the above-mentioned situation the actors are institutionally independent from each other and are not necessarily in a dominant position, they are "just" collaborating and cooperating. Competition policy has to deal with them in an ex post way. From this aspect it is worse if the structure is already established, for example by mergers and takeovers, or if owing to state aid monopolies can be created. In such cases there are grounds only for ex post de facto sectoral regulation, monitoring and competition authority.

2.1. Mergers and takeovers in the energy sector

Energy sectors are characterized by the operation of relatively few undertakings, but at the same time ones of great size. Within this group of undertakings, mergers and takeovers frequently take place, which result in such a concentration of ownership that directly affects the structure of the market, and the intensity and conditions of the competition. It is becoming more and more obvious that the energy sector is traditionally the hunting grounds of the transnational companies, where lately, partially as a consequence of vertical separation conducted in accordance with liberalization, concentration has increased.

What can motivate the fusions that aim at convergence and/or concentration? The first reason for this can be that the *companies interested in the energy industry would rather spend their profit on takeovers* than additional investments in their own business policy. Secondly, although the aim or means of liberalization was the vertical separation of the supply chains, *for the energy generating undertakings a new vertical integration is more beneficial, owing to the possibility of reducing transactional costs, than the establishment of contractual relations substituting it*. With respect to passage through the sectors, the energy generating companies and the gas transmitting undertakings *mutually enjoy the above-mentioned advantages of the synergy*. A further advantage of the institutionalized convergence between the two sectors is that *the gas supplier company will be able to distribute electricity thanks to the fusion*. This is used in all of the households as long as the price of gas is lower. However, owing to this, the situation of the other competitors who wish to enter is, additionally, rendered more difficult. Further motivation between the two companies having different profiles can be the above-mentioned *existing relationship between the supplier/customer networks*, as well as the diminishing of transactional costs on account of this. Besides *the two activities complementing each other, the new company established as a result of the fusion might be able to create*

the possibility of risk-reducing diversification. And last but not least, *the market position, the infrastructure, the instruments, the information and the market knowledge is obtainable through the takeover* (Vince 2009).

2.1.1. Types of fusion based on the revealed reasons behind them

The phenomenon observable in the market of the European Union is also supported by the experience of the American energy market, namely that not the emergence of new companies will be the ruling tendency, but rather the *establishment of vertically integrated companies interested in many sectors – such as electricity, gas, and maybe water – which are of a European scale*. In the past eight years on the territory of the Union 30 percent of the reported fusions contained trans-boundary elements, while, though at an increasing rate, an average of 50 percent of them contained a trans-sectoral element (Verde 2008).

It is typical that such fusions/takeovers realizing the convergence of the two sectors rather take place in those member states where liberalization is the most advanced, such as the United Kingdom, Germany, Italy or France[5]. However, these are all fusions within one state. Nevertheless, such fusions/takeovers assisting the convergence of the two sectors might have a trans-boundary characteristic. Typically in reality this happens with the mainly Western-European companies, who are capital intensive and in a good position with a strong national basis, standing alert, waiting for the time of the separation in Eastern Europe, and as soon as it became possible, they selected from the pieces of the separated gas supply chain. Such cases were the takeover of gas business unit of Hungarian oil company, MOL by E.On, a German company acting on the electricity market (COMP/M.3696), or the takeover of the Polish electricity generator company, ZEDO by the Spanish Endesa company (COMP/M.4060).

Although it might seem that reaching the aim of liberalization is rendered impossible by them, the fusions and takeovers are logical consequences of liberalization since the market actors try to answer the insecurity of demand and the fluctuation of prices by calling upon efficiency owing to economies of scale and economies of scope[6]. Furthermore, the essence of liberalization is to create a more and more widespread and at the same time a single energy market as the result of the cooperation of the Member States of the European Union. A bigger market is able to handle bigger undertakings, which are thus able to be more efficient and to establish economies of scale (Jacobsen et al 2006). So the pressure for fusions and takeovers is constantly strong. This phenomenon should not really be disapproved of on the

[5] One of Europe's significantly grand electricity suppliers, the French EDF aims at reaching a level of 53 billion m^3 gas trade per year by 2015 (Zyuzev 2008).

[6] These takeovers have an obvious explanation if we know the relationship between the gas sector and electricity generation. Companies generating electricity hope to gain economic advantages and bigger safety of supply by the takeover of a gas company, while gas transmitters see a safe market when merging with an electricity generator company.

grounds of the market if these takeovers are conducted by such sectoral actors which are exclusively in private ownership and operate under the rules of the market.

Now we move on to the *other trend* that is traceable in the market, according to Verde (2008). On the international energy markets – since these are public services – it is not unusual that dominant companies, moreover with state share in ownership, are competing (Losoncz 2007)[7]. Thus when a company, with a state share and in accordance with it controlled under the existing governmental interests, takes steps in order to protect the market, as well as the national sector, this might inevitably entail the *creation of a "national champion"*. It's just enough to mention the cases of Gaz de France/Suez (COMP/M.4180) or Gas Natural/Endesa (COMP/M.3986). A common feature of these fusions is that the concerned Member States had contributed to the success of the action directly and actively with a series of legislation created in an ad hoc way (Verde 2008). Instead of direct state aid, a more sophisticated version of active state action is the creation of market, as well as influencing the chances of the company in the acquisition and keeping of markets, briefly, the *creation of a "national champion"*.

Such national interests can lie behind this as the protection against friendly or hostile takeovers. An aspect of security policy also belongs to protection, namely that certain activities should anyhow be conducted by national undertakings. The official government policy with respect to the national champion of the energy market is primarily the safety of supply, since an occasional market competition "dictated from above", from their point of view, might endanger the safety of the supply mainly on the smaller gas markets which do not have their own resources and depend on high imports of energy. Nevertheless, this does not mean that only countries having such characteristics maintain national champions[8]. This might signify a new form of protectionism if the national actors are not protected from the competition, but the national market and the benefits of the incumbents are protected from the entrants. Pursuit of both tendencies is some kind of preparation for leave of the competitive market at Union level. Let alone that the companies established this way are able to represent a significant negotiation position when dealing with a supplier.

Those *interests and motivations*, partially mentioned above, along which the fusions and takeovers of the energy market can be differentiated are summarized in Table 1, below. Some of these represent protectionist goals having an effect against liberalization, while others rather assist in preparation for the entry into the competitive market and rationalisation. But it is common among them that *all of*

[7] The list of those companies interested in the energy sector which are a hundred percent or partially state owned is quite long. Those companies which have state ownership in their share capital are capable of operating under the rules of market economy, but it is more frequent that their management asserts other aspects of a not economic character: political pressure, etc. (Losoncz 2007).

[8] It's just enough to mention the cases of Gaz de France/Suez or Gas Natural/Endesa.

them could/can develop as the consequence of the liberalization process of the Union.

Table 1. The revealed reasons behind the different types of fusions/takeovers in the energy market

	Sectoral and horizontal fusions/takeovers	Transsectorial and vertical fusions/takeovers
Fusions/ takeovers within the national market*	– Protection against (hostile) takeovers *(GdF/Suez (COMP/M.5092), Helsingin/Vantaan/E.On Finland/Lahti/SEU (COMP/M.3507))*[9] – (re)gaining of activities into national hands – Establishment of such a national market actor who has a strong negotiation position and thus capable of successful action against/with suppliers and competitors – formation of economies of scale[10] *(DONG/Elsam/EnergiE2 (COMP/M.3868))*	– A cost-reducing step fulfilled by the integration of the different levels of the supply chain – Establishment of a strong national champion of the energy industry with the fusion of the national gas- and electricity generating company *(E.On/Ruhrgas*[11]*)*
Trans-boundary fusions/ takeovers	– Expansion in a geographical sense of companies providing certain partial activities *(Enel/Slovenske Elektrarne (COMP/M.3665))* – Acquiring a focal role at the European level before the end of the process of liberalization *(Tennet/E.On (COMP/M.5707))*	– Companies generating electricity hope to gain economic advantages and bigger safety of supply by the takeover of a gas company *(E.On/MOL (COMP/M.3696), Endesa/Zedo (COMP/M.4060))* – Gas transmitters see a safe market when merging with an electricity generator company

*Note:** If the EU case number is not provided after the name of the concerned companies, its explanation is that the effect of the fusion on the market was judged by the authority of the Member State.
Source: own construction on the basis of Jacobsen et al (2006), Verde (2008) and of the website of the European Commission

[9] One example of a hostile takeover can be the case of OMV-MOL, when MOL did not wish to get under the control of OMV. Finally OMV backed out of the situation owing to the expected condemning decision of the Commission and the enacting of a not definitely market-conform legal instrument, the Lex MOL, by the Hungarian Parliament.
[10] Earlier, in the course of Hungarian privatization, such a decision was rendered that the national gas producer and importer company (MOL Rt.) was not allowed to participate in the privatization of the gas transmitters covering big portion of the territory of the country (in order to avoid the establishment of vertical integration). Following the privatization, a few smaller gas transmitter companies were founded in some unsupplied parts of the country (the less inhabited and relatively underdeveloped territories). After a few years of operation it became clear that these companies could not develop owing to their poor state of capital, thus they intended to sell their market and activity. The only customer to come forward was MOL Rt. The transactions required authorization under the provisions of competition law. The Hungarian Competition Authority gave the permission for the fusion. The explanation in the decision was that since the price of natural gas is fixed there is no possibility to abuse it. (GVH 2000).
[11] This fusion can represent an example for the merger of gas supplier and electricity generator companies, as well as for the formation of multisectoral energy suppliers.

According to Valentiny (2008), it is not a negligible consequence of the appearance of the multi-sectoral service providers, that this way the traditional framework of regulation might be transformed. The yet separated regulatory institutions which operate on a sectoral basis are compelled to cooperation, and might even merge. With the proliferation of the transnational companies there is an increasing need for the establishment of inter-regional regulation. Already the Sapir Report of 2003 had considered the time ripe for the creation of a European-level regulatory institution (Sapir 2003). The regulatory tasks have long overstepped the level which is solvable within the national framework; however, the establishment of the European-level regulatory institution is yet to come.

2.1.2. EU-level monitoring of concentration on the energy market

In spite of all the positive consequences mentioned above, fusions and takeovers might result in anticompetition behaviour or outcomes, so in the European Union, the judgment of these is the task of the European Commission. Monitoring of fusions is the latest formed branch of competition law worldwide, but its role seems to be increasingly appreciated[12]. The reason for this might be that structural monitoring, as means to prevent the competition problem, can significantly reduce the need for an ex post intervention. The regulation of mergers in the European Union is the youngest branch of competition regulation of companies. Besides the national authorities, the Commission for a long time had dealt with concentrations under Articles 101 and 102 (previously Articles 81 and 82), although they had not been expressly designed for merger control; thus, it became necessary to separately regulate mergers. In contrast to the former, merger control does not mean the regulation of the behaviour, but the structure[13]. Previously in such cases, the national authorities rendered the decisions, which resulted in the situation that decisions of the cases were not based on the same standard. The first Regulation (EEC) No. 4046/1989 entered into force in 1990, the present one, 139/2004/EC Regulation has been in effect since 2004. The essence of the change was to place in the centre of the valuation the SLC-test[14], also used in the United States, instead of the previously applied dominance test. The proposal had resulted in great disputes. Putting an end

[12] Although the tendency is well-traceable, naturally there are schools disagreeing with this right to monitor, as it can be seen from the assessment of competition policy of the Chicago School.

[13] Under the provisions of the 139/2004/EC Regulation, a merger takes place when a concentration arises with the following conditions: *"the merger of two or more previously independent undertakings or parts of undertakings, or the acquisition, by one or more persons already controlling at least one undertaking, or by one or more undertakings, whether by purchase of securities or assets, by contract or by any other means, of direct or indirect control of the whole or parts of one or more other undertakings."*

[14] The essence of the SLC-test ("Substantial Lessening of Competition" test) or often cited as significant lessening of competition test is that it is the task of the competition authority, during the merger control, is to decide whether the merger can result in significant lessening of the competition. This used to be called the SIEC-test in continental competition policy.

to these, according to the new merger regulation, which entered into force at the same time with the May 2004 enlargement of the EU, *granting of authorisation for a merger cannot be refused if it does not significantly impede effective competition* (Significantly Impede Effective Competition, the SIEC-test), especially if it does not result in the creation or strengthening of a dominant position. Otherwise, the merger has to be banned. With respect to merger control in the EU, *the objective of monitoring structural changes concerning a certain product or service is to hinder the creation or strengthening of a dominant position, which would significantly impede effective competition on significant parts of the common market*.

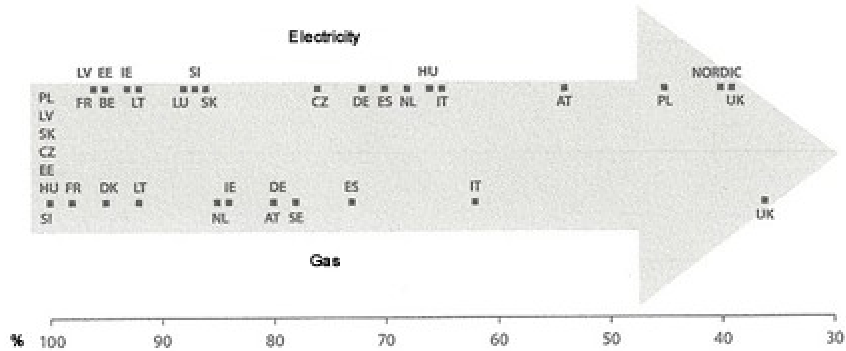
Another reason for the modification of the regulation was that it is disadvantageous for the operation of the economy when actions decided by the actors of the market are delayed, thus losing the power of surprise, and with governmental or other hostile instruments applied by other competitors they are placed in an impossible situation. Thus the pending legal situation existing until the end of the merger-authorization proceedings can have disadvantageous effects on market processes. Although these disadvantages are balanced by the protection of public interest relating to competition, it is reasonable that authorization proceedings should last for the shortest possible period of time – without neglecting the requirement of well-founded decision-making (Bodócsi 2004).

Concentrations creating dominant ownership shares, often not exempt from overlap of owners, are able to result in a more transparent situation with respect to the conditions of competition, as it has already been stated by Vince (2008) in relation to the Hungarian market. The group of owners, who has a share and influence in the undertakings of the energy market, might get narrower. In certain cases fewer owners control the actors of the market. Parallel with this, the separate groups of owners participate in the management of the companies not directly, but through their interests. On the other side of the scale we find that concentration in ownership might create the possibility of enforcement of the advantages stemming from dominance (Vince 2008). It is the task of the competition authorities to take into consideration this possibility by analysis of the horizontal, vertical and portfolio effects, and to reveal the concentrations which restrict competition.

2.2. Other possible competition consequences of the concentrations existing in the sector

It can be stated concerning the effect of the already concluded vertical integration on competition that in most of the countries a very high level of organizational concentration has been formed (see the Figure 1). The weight of the three biggest gas transmitter companies exceeds 60 percent in all the countries except the United Kingdom. One of the benchmarks of competition at the national markets is the full market share of the three biggest generator (electricity) and wholesale transmitter (gas) companies (COM(2005) 568).

Figure 1. Capacity-share of the three biggest participants and generators of the wholesale market in the gas- and electricity markets



Note: Member states are indicated in percentage according to the capacity-share of the three biggest participants in their electricity (upper row) and gas (lower row) markets.
Source: Vince (2008) based on COM (2005) 568

If possibilities of ex ante regulation of competition are exhausted owing to the authorization of mergers and sectoral regulations, then the need might still occur for the control of behaviour of the companies created by concentration. This is the role of the other areas of EU competition law.

2.2.1. The liberalized gas market, dominance and questions of competition regulation related to it

Under the EU's competition rules – basically Article 102 of the TFEU – a dominant position is such that a firm (or group of firms) would be in a position to behave to an appreciable extent independently of its competitors, customers and ultimately of its consumers[15]. Such a position would usually arise when a firm or group of firms accounted for a large share of the supply in any given market, provided that other factors analysed in the assessment (such as entry barriers, customers' capacity to react, etc.) point in the same direction.

Concentration is not the sole way how dominant undertakings can be created in the energy market. During the privatization and liberalization of the network industries, despite all the efforts, the undertakings already in the market with a monopoly, thanks to formerly being a public service provider, had not lost much of their starting advantages, and according to the practice, they still have been

[15] This definition is given by the Court of Justice in its judgment of 13 February 1979 in Case 85/76, Hoffmann-La Roche [1979] ECR 461, and confirmed by the Court in subsequent judgments.

dominant, determinant actors of the market[16]. It is obvious that the service provider undertakings, as former monopoly actors on the market with state ownership, endeavour to still keep their role, and their significance after liberalization. Those markets can represent an exception where the former natural monopoly service provider undertakings were purchased during privatization fully or partially by capital intensive foreign companies. However, in this case it's only the ownership structure that has changed and not the position. *The position of the dominant participants of the market in the European Union* is further strengthened by the increasingly criticized special state shares called *golden shares* (Valentiny 2007). Furthermore there are markets where they have the same share level as prior to the opening of the market, and *thanks to the separation of properties executed with respect to the Union legislation, often they could even purchase in other markets, thus further increasing their market share at European level*.

It is important to highlight that the competition law of the European Union does not penalize dominance itself, but the abuse of it and the possible loss of the consumers. Its aim is not, or at least not primarily, to dismember such giant companies, but to provide an efficient and competition-based European energy market[17]. Also, an argument for keeping the dominant position is, according to Voszka (2009) and Jacobsen et al (2006), that the change of structure of the market under the aegis of liberalization might worsen the competitiveness of the whole sector, thus curtailment of the incumbent can be at least in the same way detrimental as the lack of competition.

The incumbent monopolist, competition distorting, strategic behaviour directed to the hindrance of entry can, for example, be below-cost pricing, confinement of the inputs necessary for production from the other competitors, price-discrimination, or tying, which are typical subjects of the competition investigations proceeded by the competition authorities. Generally it can be stated that competition authorities have to intervene in these cases if a monopoly impedes entry into the market with such behaviour which is profitable only owing to its capability of keeping the other competitors away. However, these behaviours and the actions against them belong to the sphere of Union and national competition law. Significant cases of the past years were for example: the proceedings against *E.ON, RWE and Gaz de France* for sharing of the French and German market (COMP/39388), while *Electrabel* (Belgian) and *EDF* (French) as two incumbent

[16] The competition-distorting behaviour of such companies can be attained in many different ways, starting with the impediment of other competitors' access to the essential networks, the application of inadequate pricing techniques or, for example, cross-financing.

[17] An argument for keeping the dominant position might be the theory of Schumpeter, according to which imperfect competition or monopolistic power can be favourable for research because the accumulation of the profit of monopoly creates for the undertakings the financial sources for research and for coping with the instability of the results. Furthermore, the power of monopoly and impediment of the entry into the market makes it possible to prevent imitation and to sustain a high level of profitability.

undertakings had abused their dominance in their own national markets (COMP/38091)[18]. The European Commission had instituted anti-trust proceedings against RWE in May 2007 (COMP/39402), in the course of which Brussels endeavoured to prove its suspicion that the German energy company really provided *unnecessary barriers* in the regional gas market of North Rhein Westphalia for the entry into one of the most important *so-called "core markets"*. In 2006 the Commission initiated proceedings against an Italian energy provider undertaking called ENI for dominant market position (COMP/39315). The objective of ENI and its associates had been an alleged market foreclosure not only on their parts of the national markets, but also from the Austrian and German market interests. Judgment of this is a difficult question of jurisprudence since in the network industries frequently it has caused hardships to separate fair competitive behaviour from, for example, foreclosure strategy (Kovács 2008)[19]. However, this again proves the role and influence of the regulation of the European Union also in other areas. For the new entrants, the situation is even more aggravated in that most of the pipelines are overloaded owing to the long-term agreements, thus there's relatively little space left for the transmission of the free quantity of gas[20]. Until now this situation was

[18] In 2006 the Commission initiated proceedings against an Italian energy provider undertaking called ENI for dominant market position (COMP/39315). The objective of ENI and its associates had been an alleged market foreclosure not only in their parts of the national markets, but also from the Austrian and German market interests. The behaviours distorting the market were *capacity hoarding and strategic underinvestment in development*. These activities were practiced by ENI S.p.A and its affiliates or partners (Trans Austria Gasleitung GmbH, Trans Europa Naturgas Pipeline GmbH & Co. KG, ENI Deutschland S.p.A. and Eni Gas Transport International SA) together. In the interpretation of Bökönyi (2005), this exhausts integration applied for securing market dominance. It has to be added that this investigation was not part of the competition-related inquiry of the sector.

[19] The basis of the proceeding was that according to the suspicion of the Commission, the instrument of this would have been the impediment of access to the gas transmitter network for the potential new service providers. As an effect of these, the RWE concern announced on June 2, 2008 that it would sell its gas pipeline network of 4100 kilometres. The German energy producer hoped that in exchange for this decision the Commission would end the proceedings against it for alleged abuse of dominant market position. This proceeding had not only threatened them with a grave fine, but would have also created the possibility for their business partners to sue them for great sums of compensatory claims. The Commission had welcomed the decision right then, however it was able to conduct the market test of the offer of the company group only on December 5, 2008. This test meant that the Commission had collected commentaries from all the concerned parties concerning whether the promises of the company were adequate for dismissal of the anxieties about the abuse of dominance. The concerned parties had a one-month deadline from the publication of the notice for sending their opinions to the Commission. Brussels declared in advance that if the test proved to be positive, the Commission would accept the commitments, thus making them legally binding. As the consequence of the outcome of the test, the Commission accepted the offer of RWE in March, 2009, because the result of the test was that sale of the gas pipeline network was necessary and proportionate in the opinion of the concerned parties.

[20] It has occurred several times that capacity had been reserved without actual transmission, thus impeding the entry of new competitors into the market. Later even a rule had to be provided for this, according to which in case somebody is not conducting actual transmission in the previously bought

perfectly adequate for the European energy giants, who, respectively, have not activated themselves for the development of the transmission infrastructure.

One of the possibilities of abuse of dominant position in the energy sector is the so-called "*English clause*" referring to which the company does not let the customers leave. The *English clause* prescribes for the customer the obligation of reporting all better offers provided for them, and that the customer can accept it only in the case if the original supplier does not offer the same, or in some cases, a more advantageous one. This obligation might have the same effect as the non-compete obligation, especially if the customer has to reveal the name of the company making the better offer. Besides, by increasing the transparency of the market, this might facilitate collusion between competing suppliers (2000/C 291/01)[21]. However, this issue has another side also, that is there might be other reasons for hampering the withdrawal from a contract. The service provider might make investments designed for personal needs, which it would not undertake without the insurance of long-term commitment. Thus, it is not worth it to expressly forbid the application of English clauses, since reduction of the costs of negotiation arising from this possibility can be in the interest of both parties (Antal–Pomázi 2009)[22].

It is also part of the cases of dominance when the creation, maintenance, and protection of the above-mentioned and so-called *"national champions"* happens. This phenomenon partially belongs to the Union legislation of state aid. Frequently it is part of the maintenance that such supposedly strategic companies are artificially kept alive by not particularly EU-conforming means, such as market-seeking, state order, or consolidation (Voszka 2008). Nevertheless, some other objectives, such as motivation for innovation or European competitiveness in a wider sense, might be impaired by the lack of competition in the sector. Such, mainly not natural monopolies, further increase the need for regulation. National champion companies are not motivated in providing access for other service providers to the networks in their ownership (Röller et al 2007). In the light of this, some of the member states sacrifice domestic competition and support the horizontally and/or vertically integrated national giant energy companies in the interest of securing their already made investments and the access to the energy resources[23].

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capacity, then the system manager can freely sell it for a third party, while also keeping the originally paid sum (Patkó 2009).

[21] Also in Hungary, in case of five energy supplier companies (DÉDÁSZ, ÉDÁSZ, ELMŰ, ÉMÁSZ and TITÁSZ) the question arose whether they were hindering their customers from entering into the free market by fixing the principle of "most favourable offer" in the contract. The principle was the Hungarian equivalent of the English clause, and in 2008 a decision had been delivered in the cases (Vj–108/2006/46., Vj–107/2006/76., Vj–104/2006/130., Vj–105/2006/66., Vj–109/2006/99.).

[22] The Hungarian Competition Authority took the case further and declared that the application of the principle is the safeguard for the preparation for the opening of the market by the incumbents, and thus the consumer can in reality gain advantages from the free market competition.

[23] Glachant and Finon (2004) similarly present the French electricity supplier market and its national champion, EDF, who stayed in state ownership thanks to a daring reform in 1999–2000 (Vogelsang 2004).

These cases prove that in spite of the competition policy being a horizontal policy and independently from the gravity of the country of seat of the concerned undertaking, anybody can be punished by the Directorate-General for Competition of the European Commission; however, efficient supervision of the competition is missing. This fact and the low level of investments in the sector together might result in such further cases with great likelihood (Dreyer et al 2010).

2.2.2. Cartels in the gas market

Legislation of the European Union with respect to the prohibition of cartels (Article 101 of the TFEU) *distinguishes three forms of collusion*. The *agreement*, which covers all such behaviours that express the parties common will to behave in a certain, defined way in the market. This can be informal, based on trust, and it can be created in any loose form. *Decisions of associations of undertakings* usually pertain to vocational organizations and sector unions. While *concerted practices* do not reach the level of agreement, they might serve as a wilful substitution of it. The *types of a cartel can be horizontal, vertical or conglomerate*. In the former case, the agreement is concluded between competitors of the same level. The vertical cartel is when the participants in it are companies on different levels of the production process. A conglomerate is when more than one, not vertically related markets stand behind the concerted practices.

Under the prohibition of restriction of competition, those agreements and concerted practices are forbidden which negatively affect economic competition. Most often these are price-fixing, sharing of the market, restriction or control of production processes, tying, discriminative behaviour against the different partners and other behaviours.

In the past years an energy cartel's case (COMP/C.39401) has set the record for penalties, where the Commission had fined both of the companies in the case, namely E.On AG and GDF Suez SA for 533 million EUR, for the sharing of the German and French energy gas markets. The two gas supplier companies, according to the investigation, had agreed on the sharing of the market in 1975, under which they would not sell gas transmitted through the MEGAL-pipeline, constructed by them, in each others markets. They maintained their behaviour subsequent to the liberalization of the European gas market, this way depriving the German and French customers from the advantages of the competition in the gas market. The significance of the decision, apart from the sum of the penalty, is that this had been the first time when the Commission fined participants of the energy market (GVH 2009).

Nevertheless, collusion can also be in positive way, for example, if it is a cooperation for development which results in the growth of the welfare of

consumers and consequently of society. When somebody concludes cooperation[24], it should be known that according to some economists, competition ends there, and it immediately becomes suspicious. In contrast to this, others state that these relations are absolutely normal forms of cooperation and creation of values. If the state does not intervene, then the *undertaking or groups of undertakings have a great role in economic governance* not only owing to the fact that they have all the means to restrict competition, for gaining a monopoly position and because they use this possibility, but *because often this is the luckiest and most effective form of cooperation*. If they hinder this in the name of competition, then in some cases its damages can be more than its profits[25].

3. Conclusions

When liberalization guarantees conditions of competition and entry, then the next task is for the competition regulation to supervise the changes of structure as a result of the actions on the market, and to follow and control them. This is of high priority, especially because *many of the former vertically integrated incumbent companies have survived the liberalization*, instead of the many competitors intended to be created by the separation of ownership for the solution to market concentration. They could even get stronger as a result of the new possibilities arising from the separation. *Other European undertakings have weakened owing to the separation*, and through liberalization they have sacrificed their dependency for competition, thus becoming independent from the state *has made them more exposed* to the capital intensive and strategic-type foreign supplier companies (e.g. Gazprom, Sonatrach, and Statoil). We can find examples for any of the tendencies in all the member states.

Interests and motivation behind the concentrations experienced in the energy market can be very wide-ranging. Some of these represent protectionist objectives

[24] For example, if the insurance company agrees with the service station that it would send all its insured cars there; or if the bank makes it difficult for the indebted to agree with another bank providing a better offer (for example it prescribes a high prepayment fee); or if a company buys one of its suppliers, or simply prescribes that it cannot supply other competitors, then the economist supporting competition calls upon the state, expecting the protection and enforcement of competition by the state.

[25] Recognition of this opportunity was exactly the reason why Oliver E. Williamson had been granted a Nobel Prize in 2009. According to him, it's not only the logic of competition that is hidden in the market, but also cooperation and collaboration. Production, and the creation of values often require cooperation. It's just enough to think about clusters, producer organizations, research centres, etc. It was the subject of his research to consider in what types this cooperation can be formed. His research thesis was exactly, starting from the work of Coase, to define when it is worthwhile to organize production by contracting and when inside the company, for example, by purchase of the supplier. The theory of transactional costs developed by the 1970s does not consider vertical integrations (or other atypical forms of contracts) as the means of cartelling, but one of the ways of saving on the costs of contracts.

having an effect against liberalization, while others rather assist in preparation for the entry into the competitive market and rationalisation. But it's common among them, that *all of them could/can develop as the consequence of the liberalization process of the Union*. The capital intensive companies operating in the Union or in countries outside of the European Union, while preparing for the full opening or already being well-prepared, can shape the markets in a direction advantageous for them at all times, in the existing (or non-existing) framework of competition law, taking the opportunities provided by liberalization – no matter whether it's about securing the service or elimination of other competitors.

Thus, it is obvious that although the aim of liberalization is/was the creation of competition and the increase of intensity of competition, the market tendencies do not point to that direction. In most of the markets it seems that after the initial flaring, owing to the compulsory opening and separation of the market, restoration takes place. Besides all the positive consequences of liberalization it has reserved possibilities not taken into consideration by all of the member states. If it was possible, seeing this tendency, it would be worthwhile to draw the balance of quantifiable profits and costs or losses gained by liberalization. These could not be estimated in advance; opinions can be formed only in retrospect.

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The TRIPS Agreement and access to medicines: who are the main losers?

Beáta Udvari

"That, as we enjoy great advantages from the inventions of others, we should be glad of an opportunity to serve others by any invention of ours; and this we should do freely and generously." (Benjamin Franklin)

Nowadays, the World Trade Organization exceeds the activity for which it was really established: among other activities, it deals with the regulation of intellectual property rights relating to trade. The Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) has resulted in great influence not only on the competition in the pharmaceutical market, but also on the life and public health in developing countries. However, the reaction of poor countries to the changes caused by the agreement is not the same: there are great differences among the nations, and the heterogeneity of developing countries regarding the TRIPS Agreement can be seen in many fields. This study details these points and shows that the least-developed countries are the main losers, as they are unable to use the potential technical solutions.

Key words: TRIPS Agreement, developing countries, generic medicine, patent
JEL: F13, O34

1. Introduction

The pharmaceutical industry has always been a sensitive area in the economy as access to the essential medicines[1] is an issue of human rights. However, the promotion of further pharmaceutical research needs the provision of patents for new medicines. These two different (ethical and economic) aspects do not meet, and, first of all, developing countries are the losers in it. Several developing countries have had to face with enormous problem since the mid–1990s, but mainly since the early 2000s: the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS Agreement) adopted by the World Trade Organization (WTO) in 1995 prescribes at least 20-years patent protection for all inventions, among others, for pharmaceutical products, as well. This hinders the appearance of cheaper generic

[1] Since 1977, the World Health Organization has issued every two years the list of essential medicines which are needed for the basic health-care system and/or for priority diseases. The last update was in March 2010, see WHO (2010). According to the WTO, essential medicines are to satisfy the health care needs of the majority of the population and they should be available (Smith et al 2009).

drugs on the markets, hurting the right of access to medicines: people living in developing countries can mainly afford only these cheaper drugs.

As a consequence, in some countries and regions, illnesses which have already had treatments developed or can be prevented are still fatal. According to the data of the World Health Organization (WHO), in 2008 there were 247 million cases of malaria, out of which one million were fatal – mainly among African children (WHO 2009a). HIV/AIDS is only treatable and affects, first of all, the low and middle income countries – out of the 33 million AIDS-patients around 30 million live in developing countries. At least 9.7 million patients need antiretroviral, or ARV, therapy, however, only one third is able to receive it (WHO 2009b). Gathii (2007) adds that less than 17 percent of Sub-Saharan African people having infectious diseases can have access to the essential medicines. This problem for public health had become so important by 2000 that the Millennium Development Goals[2] of the United Nations contain the support of developing countries in the access to essential medicines (UN 2000). Furthermore, it can be recognized that the unsolved problem of access to medicines may hinder the poverty reduction, as well (Gathii 2007).

The relatively wide – mainly international and not Hungarian – economic literature analyses the connection between the TRIPS Agreement and public health in relation to developing countries, but there is no distinction made between them. Therefore, *the primary objective of this study is to reflect that the loss arising as a consequence of the TRIPS Agreement is different in both measure and characteristics in the developing countries*. Although the TRIPS Agreement covers a wide range of intellectual property rights, this study emphasizes only its pharmaceutical relations. The paper is structured as follows. As the TRIPS Agreement is not widely known in the Hungarian economic literature, Section 2 gives a short introduction to the TRIPS Agreement and its modifications. Section 3 introduces the recent literature on the effects of the agreement on the developing countries, reflecting the debate among economists. Section 4 details the differences among the developing countries regarding the losses. The study ends with the concluding remarks.

2. The TRIPS Agreement

Regulating the intellectual property rights relating to trade appeared in the mid 1980s at first, when the contracting parties of the GATT[3] during the Uruguay Round

[2] Members of the United Nations adopted eight goals in 2000 to meet the challenges of the developing countries; the deadline for fulfilling these objectives is 2015. For a detailed list of the goals see UN (2000).

[3] The General Agreement on Tariffs and Trade. It regulated the world trade till 1995. The World Trade Organization subsumed the GATT.

negotiated this subject. Finally, the pressure of the advanced countries (mainly of the USA, Japan and the European Union) resulted the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) (Correa 2002, Haakonsson–Richey 2007, Timmermans–Hutadjulu 2000). Although the question of intellectual property rights at the international level is not a new phenomenon, the earlier international or regional agreements[4] lack many things: there are many exemptions from these agreements, and most of them do not determine the length of patent protection (Martin–Winters 1995). On the other hand, the TRIPS Agreement is more comprehensive and does not have any missing areas (Correa 2002). Although the TRIPS Agreement covers a wide range of the intellectual property rights (patents, geographical indicators, copyrights, trademarks, industrial designs, etc.), this study emphasizes only the rules on patents because these affect mostly pharmaceutical products.

2.1. Main articles of the TRIPS Agreement regarding the pharmaceutical sector

The TRIPS Agreement enables the patenting of any kind of innovation. Patents as a way of intellectual property rights give an exclusive right for an inventor to make, sell, import, or use the invention without authorization within a country during a certain term (Watal 2002). Regarding the pharmaceutical sector and patents, the following articles have to be mentioned from the TRIPS Agreement (WTO 1994, pp. 322–323, 331–332, 334):

- Article 3 and Article 4 oblige Members to provide *national treatment and most-favoured-nation treatment* for other Members.
- Article 7 lays down the objectives for protecting and enforcing intellectual property rights as they *"should contribute to the promotion of technological innovation and to the transfer and dissemination of technology, to the mutual advantage of producers and users of technological knowledge"*.
- Article 27 (1) says that *"patents shall be available for any inventions, whether products or process, in all fields of technology, provided that they are new, involve an inventive step and are capable of industrial application"*.
- Article 28 provides the exclusive rights for the patent owner on *"making, using, offering for sale, selling, or importing for these purposes that product"*.
- Article 33 determines the term of protection which *"shall not end before the expiration of a period of twenty years counted from the filing date"*.

Consequently, when the TRIPS Agreement comes into force, the patent protection has to be provided for *both the pharmaceutical products and process,*

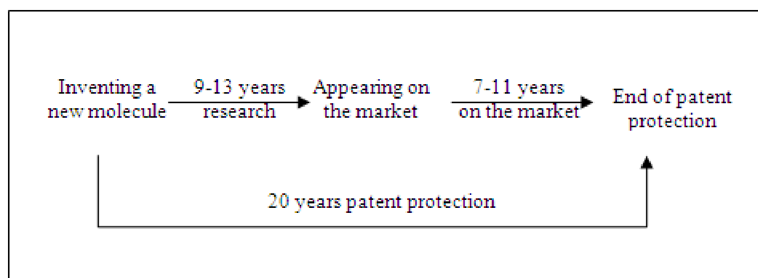
[4] One international agreement is, for example, the Paris Convention signed in 1883. Examples for regional agreements from Africa are the OAPI (African Industrial Property Office) or the ARIPO (African Regional Industrial Property Office).

therefore only the patent holder is eligible for producing and selling the product – that is, there is no right for copying a medicine using other production process. It is important to emphasize that in spite of other regional agreements, TRIPS unambiguously determines *the minimum term of protection giving 20 years for it*.

As for pharmaceutical production, these obligations lead to the following situation. Research in the pharmaceutical sector is a time consuming process: at least 9 or 13 years may pass until a new drug suitable for human consumption is invented from a molecule. Regarding the expenses, inventing a new medicine costs around 802 million USD (containing the costs of unsuccessful research), and this amount is equal to 30 percent of the company's total costs (Moerman–van der Laan 2006).[5]

If there is a possibility for patent protection, the generic producers cannot appear and compete on the market – and the lack of competition (namely the monopoly) leads to higher prices. The TRIPS Agreement provides patent protection for twenty years, and in this case the inventor has 7–11 years to gain revenues for covering their research costs and to continue further research (Figure 1). The monopoly arising due to the patent protection enables the inventor to keep prices at a high level which covers the costs, on one hand, and produces profits, on the other hand.

Figure 1. Linkages between research and patents



Source: own construction

Nowadays, there are 265 nations, dependencies and other entities, out of which 194 areas are independent states (CIA 2009, US Department of State 2009). Since the WTO has 153 Members, the possibility of patenting seems to be universal regarding pharmaceutical products, as well. To meet their WTO obligations, the countries had to change their national legislation, where there were no patent rules earlier, or if the national legislation did not comply with the WTO rules, the national rules had to be changed.

[5] DiMasi et al (2003) – using micro-level data – analysed the innovation costs of a new product in the pharmaceutical sector. Their findings show that the cost of a new drug reaches 403 million USD. Comparing these results with their earlier findings (DiMasi et al 1991), they stated that the innovation costs in this sector have increased above the average inflation rate.

2.2. Flexibilities of the TRIPS Agreement

As a result of the overall patent opportunity, more original and less generic pharmaceutical products will appear on the markets. Not only people in the developing countries could not buy the original products, but the governments themselves also have problems as they are unable to give any subsidy on these pharmaceutical products. Therefore, the linkages between the TRIPS Agreement and public health have appeared: many developing countries cannot afford the essential medicines. In the developed countries, medicines are subsidized by the government to a high extent in order to keep the prices at a lower level. According to the data of the WHO (2004), government assistance exceeded 40% of the pharmaceutical expenses in the developed countries, while this ratio is only around 28% in the developing nations. The reason for it is that the government budget is very narrow in the poor countries and cannot give such large subsidies on medicines. Consequently, the private sector in the underdeveloped nations has to spend more on drugs than in the developed countries.

In the last few years, more transition agreements have been adopted to handle the effects of TRIPS on public health. Barton (2004) and Sonderholm (2010) mention that pharmaceutical companies are obliged to follow differential pricing, and they have to determine lower prices in the developing than in the developed countries. Kremer (2002) adds that differential patent protection in the developed and developing world will lead to beneficial price discrimination. Although price discrimination may have critiques, Kremer (2002) emphasizes that it can enable both access to medicines and further research, but the governments of the developed nations and other international agreements have great responsibility to hamper the imports of cheaper drugs from the developing countries. If cheaper drugs are indeed imported from developing countries, as the author emphasizes, the pharmaceutical companies would increase the prices in the developing countries.

It was clarified at the Doha Ministerial Conference (in 2001) that the original TRIPS Agreement (Article 31) contained the provision that in case of a public health emergency, a certain country was allowed to produce the necessary medicines with its own capacities and without the permission of the patent holder in order to prevent further epidemics (Fink 2006, Sun 2004, Watal 2002). This facility is known as compulsory licensing.[6] To avoid the re-export of cheaper generic drugs to the developed countries, the production is allowed only for their own use and the new products must not appear in international markets (Barton 2004). However, several developing countries are unable to produce medicines with their own capacities. The solution for this problem appeared in August 2003. This decision contains the provision that if a country could not use the opportunities of compulsory licensing, it is allowed to import necessary generic drugs from other countries producing them

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[6] For more detailed information on compulsory licensing, see, for instance, Chien (2002) or Feldman (2009).

but the country has to do everything so that these drugs will not appear on the markets of developed countries (Fink 2006). This facility is called *parallel importation.*

2.3. A new phenomenon: the TRIPS-Plus

Although the decisions regarding the TRIPS Agreement provide flexibilities, protecting intellectual property remains a problem for the developing nations. Recently, a new phenomenon is influencing the TRIPS Agreement because the industrialized countries and pharmaceutical companies (mainly in the US) are trying to extend the TRIPS Agreement and make the protection of intellectual property rights (IPRs) much stricter. Their solution is to involve intellectual property rights into bilateral or regional trade agreements (Boring 2010, Gallagher 2008, Sell 2007, Smith et al 2009). This is the so-called "TRIPS-Plus" effect, and El Said (2007, p. 158.) defines it as when *"a country implements more extensive levels and standards of IPRs protection than of those required under the TRIPS Agreement, or undertakes the elimination of an option which was awarded to it under the agreement"*. That is, the TRIPS-Plus provisions exceed the requirements of the TRIPS Agreement or reject the flexibilities of it (Sell 2007). Because of this, the TRIPS-Plus is a good example how the large pharmaceutical (multinational) companies are able to influence the international economic processes for their own profit interests.

The United States has TRIPS-Plus agreements with Korea, Sri Lanka and the Philippines (Smith et al 2009). But El Said (2007) claims that the European Union has had such kind of agreement long before the US agreements, and the EU has built up this kind of relationship with countries in the Arab world.[7]

The TRIPS Agreement has a significant influential power both on the pharmaceutical companies and on the situation of the public health in the developing countries. Analysing the potential impact on public health is relevant in our study, as it can help us determine where there could be differentiation points among the developing countries. Furthermore, we can see that recent literature does not make differences among these nations.

3. TRIPS and public health

Although the economic (and law) literature on the effects of the TRIPS Agreement in the developing countries is very rich, its real effects on the access to essential medicines in the developing countries and on trade in patented products are still unclear. The debate over the TRIPS Agreement and public health raises both social and economic issues (Abbott 2002). Furthermore, Malhotra (2003) emphasizes that

[7] For more detailed analysis of the TRIPS-Plus see, for instance, Boring (2010), El Said (2007) and Sell (2007).

the TRIPS Agreement itself restricts trade and decreases competition by providing a monopoly for new products. Consequently, the TRIPS Agreement is in contradiction with the overall objective of the WTO of promoting economic development through increased trade. In the following we emphasize the most important literature on the access to medicines dividing it into two groups: one accepting and one rejecting the TRIPS-effects.

3.1. TRIPS as a reason for lack access to medicines

There are authors saying that the TRIPS Agreement is disadvantageous to the trade of generic drugs and access to medicines in the developing countries. For instance, Abbott (2002) strengthens the importance of patents from the point of view of pharmaceutical companies, adding that it results in higher consumer prices of pharmaceutical products and less generic drugs on the market. Besides this, developing countries cannot offer purchasing power for the more expensive medicines, and they can afford only cheaper generic drugs. Sonderholm (2010) emphasizes that owing to the TRIPS Agreement, *sales determine the profits* of the pharmaceutical company: the higher a price is acceptable on the market, the higher return the company can gain. Consequently, prices for pharmaceutical products will be higher.

Chaudhuri et al (2006) empirically investigated the *welfare effects* of the TRIPS Agreement using the example of India. The results of their econometric analysis show that the TRIPS Agreement may have adverse welfare effects, and the decrease in welfare is mainly the loss of consumer welfare. Although there is the possibility of parallel importation and compulsory licensing, Haakonsson–Richey (2007) focus attention on *a new phenomenon*: many African countries do not use these additional tools for access to medicines but try to develop their own generic pharmaceutical production using their donor relations and their support.

Sonderholm (2010) claims that beside the access problem, there exists the *"availability problem"* as there are illnesses from which people mainly in low-income countries are suffering (such as malaria, and leishmaniasis). For the for-profit pharmaceutical companies it is not worth spending on R&D for drugs on these diseases as the return on investment is uncertain (Troullier et al 2001). In numbers it means that less than 1% of 1223 new drugs appeared on the world market between 1975 and 1997 were specifically for tropical diseases (Kremer 2002, Troullier et al 2001). A reason for this could be that the market for pharmaceuticals in the least-developed countries is quite tiny (Kremer 2002).[8] Kyle and McGahan (2009) analysed the *effects of patents on research and development* in both developed and developing countries. They found that patents positively affect the research in the

[8] A solution for the problem of neglected diseases may be advance purchase agreements, where the sponsors *"commit, in advance of product development, to financing the purchases of vaccines for low-income countries, at a fixed price specified in advance"* (Berndt–Huvitz 2005, p. 2.).

developed nations, while in the developing world there is no strong correlation. Therefore, they think that *patents cannot be the best incentives for developing new medicines for the neglected diseases.*

3.2. Rejecting the negative effects of the TRIPS Agreement

Some authors (e.g. Attaran 2004, Watal 2000) argue that *patent protection does not influence the access to medicines in the developing countries* but that deep poverty is the main reason for the lack access. Boring (2010) claims in her analysis that the level of intellectual protection does not influence the access to medicines in the developing countries, but the government activity in health care or the improvement of infrastructure are more important factors in this field. Attaran and Gillespie-White (2001) analysed whether the patents would have any effects on access to AIDS-drugs in Africa. They received a surprising result: patents do not affect access to medicines as there is no correlation between the geographic patent coverage and the access to treatment in Africa. Instead of patents, the authors – similarly to the researches mentioned above – assume that poverty, the high costs of treatment, national rules regarding medicines, and tariffs and taxes are the main barriers of access to medicines.

There are also some country analyses – both from the developed and developing side. For instance, Islam (2009) gives an interesting review on the effects of the TRIPS Agreement in several sectors in Bangladesh. As for the pharmaceutical sector, he strengthens the view that though there are some unfavourable effects of the agreement, the country seems to be in a good position owing to the generic drug producers, and it even can utilize the amendments of the Doha Declaration for producing and exporting generic drugs. Boring (2010) analysed the impacts of the TRIPS-rules on the US pharmaceutical trade using a gravity model, and she found there was no evidence that the TRIPS Agreement promoted the US pharmaceutical exports.

Some studies analysed how the TRIPS Agreement influences the patent-sensitive trade and innovation process in the underdeveloped nations. Ivus (2010) studied how the TRIPS-rules and patent rights affected the patent-sensitive exports from developed to developing countries over the 1962–2000 period. The author gave great emphasis on the colonial past, and investigated and compared the pre- and post-period of the TRIPS Agreement. The results are favourable as there was an increase in the export of these products, which is equal to an almost 9% increase in the developing countries' patent-sensitive imports.

Chen and Puttitanun (2005) analysed the effects of intellectual property rights on the innovation in the developing countries. Their model consisted of two sectors in a developing country: one of them was the import (foreign – North) sector, the other was a local one. Both sectors had two firms, out of which one had a patented technology, while the other could imitate the more developed technology. The authors reached a surprising conclusion about the TRIPS and innovation effects in

the developing countries: their empirical results involving 64 developing countries show that intellectual property rights have a positive impact on the innovation activity in the developing countries. Furthermore, they experienced a U-shaped relationship between intellectual property rights and economic development. Schneider (2005) analysed the innovation changes between 1970 and 1990 in 47 developed and developing countries preparing different regression models. She received a similar result to that of Chen and Puttitanun (2005), though she strengthens the view that the impact of IPRs on innovation is much stronger in developed than in developing countries.

Although there is still a dispute among researchers regarding the TRIPS Agreement, this agreement has intervened into pharmaceutical competition, and it has impact on the access to medicines in the developing world, as well.[9] The TRIPS Agreement seems to hurt one of the principles of the WTO, namely the principle of encouraging development. Looking through the most important literature about the effects of TRIPS Agreement, we could see that the literature emphasizes the impacts either on developing countries as a whole group, or on one or two countries as case studies. It is unambiguous that there is a great gap between advanced and developing regions, as the largest pharmaceutical companies are concentrated in the developed countries (Roth 2010). Furthermore, majority of the R&D activity is in the advanced countries, consequently, they are the main exporters of highly innovated and patented pharmaceuticals, while developing countries can be only importers and users of these products or of their generic versions (Smith et al 2009, WHO 2004).

This study does not investigate the differences between the developed and developing regions, but it tries to reflect that the developing countries are heterogeneous and "their pain" as a consequence of the TRIPS Agreement is different. Consequently, *our objective is to show that when analysing the impact of the TRIPS, we should make differences among the developing countries.* This study's aim is not to offer resolutions for the problem which arise due to the TRIPS Agreement[10], but to show that the developing countries are faced with different problems.

[9] There are several international organizations, programs and NGOs (for instance, the UNAIDS, the WHO, The Global Fund to Fight AIDS, Tuberculosis and Malaria, Medicines Sans Frontiers) which aim to provide the essential medicines to the poor. However, analysing their activity is not the subject of this paper – see, for instance, the studies of Aziz (2009), Brousselle and Champagne (2004) or Triponel (2009).

[10] For detailed solutions and the role of other international institutions and civil societies, see, for instance, Gathii (2007), Sonderholm (2010) and Sun (2004).

4. The different characteristics of the developing countries regarding the TRIPS

For determining and reflecting the different characteristics of the developing countries, the actions of the TRIPS and tools for solving the public health problems may be the basic points. Although the points for the differentiation are based on the effects, consequences and provisions of the TRIPS Agreement, they are even in relation with the development level of the country. We use the following points for differentiation:

– whether there was a patent protection law for pharmaceuticals and what it covered: only processes or products;
– whether there is a company producing generic drugs in the country;
– what kind of epidemics there are in the country;
– possibilities for using parallel importation and compulsory licensing;
– transitional periods for implementing the TRIPS Agreement.

In the following, we detail these points. We try to make strict differences between them, but in some cases there are strong relationships between these points. Consequently, in some cases there will be overlaps between the subsections.

4.1. Existence of patent protection law for pharmaceutical products before the TRIPS

The effects of the TRIPS Agreement are influenced by the fact of whether the country implemented a patent law earlier. The type of patent protection (process or product) also has an influential power. If the process was the only object for patent protection, the country was allowed to produce the same product but with another kind of process (Li 2008, Timmermans–Hutadjulu 2000), therefore the possibility of producing generic drugs was given. On the other hand, the product patent means a higher level of protection as the patent owner holds the exclusive right for production and selling – other companies are allowed to sell only with the permission of the patent holder (Li 2008, Timmermans–Hutadjulu 2000). As a result of the product patent, there are more original medicines on the market, and producers of generic drugs must wait for the expiration of the patent.

In general, most developing countries did not have any kind of patent law in the pharmaceutical sector before the Uruguay Round. If there was even some, pharmaceutical products were excluded or only the process could have been patented[11] (Barton 2004, Chaudhuri et al 2006, Cullet 2003, Lanjouw 1997).

[11] Islam (2009) claims that some developed countries, such as Portugal or Spain, did not have any product patent for pharmaceutical products before the Uruguay Round.

Consequently, three groups of the developing countries can be determined based on the patent law in the country before the TRIPS Agreement:

- countries not having any patent protection for pharmaceuticals;
- countries having patent protection law only for process in the pharmaceutical industry (most developing countries belong here);
- countries ensuring the highest level protection in the pharmaceutical industry with product patent law (e.g. China and Thailand).

The majority of the developing countries belong to the first two groups, however, there are a few states which ensured product patents before the TRIPS Agreement. Analysing the case of India and China, we can see the importance of the patent type as India and China granted protection in a different way.

Although India as a low-income country had had a patent law for products, since 1970 the country has excluded pharmaceutical products from the patent law – only process patents could be obtained for these goods and only for a seven-year period (Barton 2004, Chaudhuri et al 2006, Cullet 2003).[12] As a result of this, the production of generic drugs became important in the country – which, by the way, was a direct aim of this law, beside providing cheap drugs for the inhabitants (Chaundhuri et al 2006, Lanjouw 1997, Temmerman 2008).[13] In the 1970s, multinational companies dominated the Indian pharmaceutical industry; while by 2000 the Indian-owned enterprises became important actors not only on the domestic, but on foreign markets, as well (Chaudhuri et al 2006).[14]

Since the protection in India could be obtained only for production process, drug prices remained at a low level in the country in international comparison (Li 2008, Smith et al 2009). However, since 2005 India has had to comply with the rules of the TRIPS Agreement, and the country is obliged to ensure patents for products. Consequently, the companies producing generic drugs lost their foreign markets, for instance, in the Commonwealth of Independent States, in Africa and also in Europe and America (Kale 2005). As a result of this, decreasing potentials of producing generic drugs in India caused problems not only for the domestic companies, but the country itself lost. As these companies could not enter into foreign markets and sell their products, the Indian government lost a huge amount of income resulting a decreasing level of tax revenues.

On the other hand, China has been providing patents for pharmaceutical goods since the 1993 revision of the earlier 1985 patent law (Li 2008), which shows China as a special country in the developing world. Li (2008) details that the domestic

[12] Ganguli (2003) gives a relatively detailed introduction to the earlier history of patent law in India.
[13] Bangladesh has similar characteristics, and for a deeper analysis, see, for instance, the study of Islam (2009).
[14] Timmerman (2008) claims that in the 1970s the multinational companies' market share reached 70% in India; today it is less than 35%.

pharmaceutical industry was not concentrated before the product patents: there were several small companies with small market shares. As a consequence, they could not spend a lot on research and development. Perhaps this was also a reason to introduce the product patent law in the country. Although this experience helped China adjust to the new WTO-rules, there are still problems in the country. Empirical studies show that access to medicines in China is still a problem, and the effects of the product patent and the following monopoly is unambiguous: prices for the medicines are relatively high in the country (Li 2008). This means a great problem as social differences are large within the country and the rate of people living under poverty line is high (Csanádi et al 2009).

The cases of India and China reflect how important it is whether a country had experiences with patents. Both countries had the aim to help the pharmaceutical sector develop and they seem to be successful in this field. In spite of fact that they had patent laws, the TRIPS-rules affect them differently: China could adjust to the new rules more easily, while India's development process is hindered.

It has to be emphasized that the existence of intellectual property rights does not mean that the country is able to provide protection for intellectual property without any problem, because in many countries there are problems with the enforcement of these rules. Kusumadara (2010) mentions Indonesia as an example: although the country had experience in the field of intellectual property rights, the country faces difficulties in complying with the TRIPS-rules. One of the reasons may be the low level of law development in Indonesia or the different cultural background of the country. Beside Indonesia, China is also criticised because of the low level of IPRs enforcement (Athanasakou 2007).

4.2. The existence of companies producing generic drugs

The existence of generic drug companies has strict linkages with the patent rules. It often arises that patent rules miss some areas and there are no rules on intellectual property rights in order to support the development of a sector – or to obtain goods at a lower price level. In a simple way, many countries are said to have no patent rules or only process patents in order to ensure the establishment of companies producing generic drugs (see, for instance, the case of India). For implementing the TRIPS Agreement, there are differences among countries whether there are generic drug companies in the country and whether they can use compulsory licensing. Consequently, countries can be divided into two main groups:

- countries having companies producing generic drugs;
- countries which do not have these companies
    - but have the physical and human capacity for producing generic drugs;

- and do not have capacities for producing generic drugs either[15].

However, if there was a generic drug producing company in the country, the country unambiguously lost by implementing the TRIPS Agreement. These companies are not allowed to copy the original medicines sparing the R&D costs as they have to wait for the expiration of the patent protection. These cause significant time- and income-loss for the companies, which influence the development process of the country, as well. Consequently, regarding the capacities of producing generic drugs, the TRIPS Agreement influences whether the country can impose compulsory licensing and parallel importation, on one hand, and it jeopardises the existence of companies producing generic drugs, on the other hand.

Among the developing countries, for instance, India, China, Brazil, Thailand and Bangladesh have pharmaceutical companies producing generic drugs. Analysing the differences of the patent laws, we mentioned that India did not have product patents for pharmaceutical goods, and it ensured the development of the generic industry (Barton 2004, Cullet 2003, Gerster 2000, Temmerman 2008, Tulasi–Rao 2008). As a result of the development, nowadays this sector employs more than 500,000 workers (Gerster 2000), India became the main supplier of generic drugs for the poorest countries (Barton 2004, Timmermans 2006), and India was said to be the greatest producer of generic drugs in the world[16] (Chaudhuri et al 2006). Consequently, the TRIPS Agreement does not effect exclusively only the public health and economy of a country, but other countries also may feel the negative consequences due to the mutual interdependence appearing through international trade. However, interdependence can occur with countries outside of the WTO, therefore countries with no WTO-membership can feel the negative impact as well.

4.3. Transition periods

The WTO provided transition periods for implementing the TRIPS Agreement: developing countries obtained a moratorium for adjusting to the new rules. However, the length of the transition period is not the same for all countries: it depends mainly on both the development level of the country and on the earlier patent rules. Advanced countries were obliged to implement the TRIPS Agreement by 1 January 1996, and compared to this date three groups of developing countries appear (Correa 2002, Sonderholm 2010, Sun 2004, Temmerman 2008, WTO 1994):

- The *first group* contains the relatively developed developing countries except the least developed ones. They received an additional four years to comply with the TRIPS-rules. This means that the relatively developed developing countries had to implement them by 1 January 2000, and this transition period is also called *general transition period.*

[15] The least developed countries must belong to this last group.
[16] Recently, India's market share reached 30% on the global generic market (Temmerman 2008).

- The *second group* consists of countries which did not have product patent laws and protected only the processes before the TRIPS Agreement. They received a so-called *special transition period* with an additional 10 years compared to the developed countries: they had to implement the TRIPS rules by 1 January 2005. Countries like India, Egypt, Argentina and Arab countries belong to this group.
- The *third group* contains the least developed countries.[17] At first, they received an additional one year compared to the previous group (deadline: 1 January 2006), but regarding the pharmaceutical products, the deadline could be extended by 10 years, and at the Doha Ministerial Conference (in 2001), the Member States adopted it.[18] Consequently, the least developed countries must implement the TRIPS-rules by 2016.

The transition period gives an important opportunity to the generic drugs producers. Islam (2009) argues in the case of Bangladesh that the country can benefit from the transition period because during this time the country is allowed to produce generic versions of the patented life saving pharmaceuticals. Consequently, the transition period is not only a preferential implementation date, but gives also opportunity for some generic producer countries.

It is important to note that though most developing countries may enjoy a transition period, they have obligations as well in this field. During the transition period, they must ensure the principles of national treatment and most favoured nations for all WTO-members. However, it is not clear how much the transition period can solve the problems of developing countries. Regarding the least developed countries, it is not the national implementation, but the background institutions for the final implementation which mean the greatest problem, because if there is no or only a small level of research and development, the appropriate institutions lack in these countries. To establish these essential serving institutions would be the primary task for the country – but in a poor country, satisfying the basic human needs is also problematic, therefore the government is unable to finance the infrastructure-question.

4.4. Illnesses, epidemics

Regarding illnesses and epidemics, developing countries seem to be the most homogeneous. However, Kremer (2002) explains that the developing countries have to face with different diseases than the developed nations because of poverty and geographic features. Ito and Yagmata (2005) make a distinction between two types of infectious illnesses as follows: one of them affects both the low and high income

[17] Out of the 49 least developed countries (UN 2009), 32 states are members of the WTO.

[18] The reason for it is mainly the public pressure regarding the pricing features of the AIDS medicines (Kremer 2002).

countries, i.e. they are said to be global epidemics (e.g. HIV/AIDS, tuberculosis), while the other affects exclusively the developing countries – they are the so-called neglected illnesses (e.g. malaria). Both types have impact on the developing countries – and they appear when analysing the effects of the TRIPS on public health: beside the WTO documents, researchers analyze these illnesses, as well. The reason for it is that these epidemics belong to national emergencies when compulsory licensing or parallel importation may be used. However, these are not the most important and most serious epidemics in all countries; therefore other pharmaceuticals may be needed.

Pharmaceutical companies do not spend much on the development of pharmaceutical products which are for treating tropical diseases (Opderbeck 2005, Sterckx 2004, Smith et al 2009). According to the WHO (2004), only one-tenth of the R&D expenses is spent on development of medicines for epidemics, which cause 90% of the health damages (it is the so-called "10/90 gap"). This suggests that countries which suffer from epidemics affecting many countries (i.e. illnesses of the first type) are in a much better position. Where there is a rare illness and low-level of purchasing power, pharmaceutical companies do not have the interest to develop medicines these countries really need.

4.5. Using parallel importation and compulsory licensing

Whether parallel importation or compulsory licensing may be used strongly depends on the previous points. Only those countries can impose compulsory licensing which have their own production capacity and are able to produce pharmaceuticals. Among others, South Africa, Thailand, India, Brazil, China and Argentina belong to them, as these countries have relatively developed pharmaceutical capacities (Fink 2006). However, in the previous years, Malaysia, Mozambique and Zambia issued the compulsory licensing to handle the HIV/AIDS crisis (Feldman 2009, Fink 2006). Feldman (2009) argues that high-income developed countries (such as the United States[19] or Germany and Italy) also issued compulsory licenses.[20]

Chien (2003) and Feldman (2009) argue that only a few compulsory licenses were given during the TRIPS-era, because of the fear of decreasing research and innovation. Furthermore, Correa (2004) emphasizes that not general capacity and knowledge is needed, but specialized knowledge is required for producing a certain pharmaceutical product which is needed under compulsory licensing. It makes the situation more complicated. Special skills, knowledge, and experience do have an important role, and if they are missed – even in a country with company producing generic drugs – the needs will not be satisfied. Analysing the heterogeneity of

[19] It happened after the September 2001 terrorist attack. The agreement was between the US government and Bayer German pharmaceutical company to provide access to treatment for anthrax (Feldman 2009).

[20] For more health-related compulsory licensing examples, see: http://www.cptech.org/ip/health/cl/recent-examples.html.

developing countries, these facts have to be taken into consideration. As a result of this, the underdeveloped African countries will be unable to use compulsory licensing because beside the infrastructure, the skilled labour is missing.

As for the parallel importation, the epidemics a county face have a great importance. This point connects to the question of compulsory licensing: at first, the country without any producing capacity but with a huge epidemic has to find a company producing generic drugs which are relevant to the epidemic of the country. Another question is whether the generic drugs would really be cheaper enough for people living on only a few dollars to afford them. For instance, Malaysia and Indonesia could import generic drugs from India to handle the HIV/AIDS epidemic (Feldman 2009).

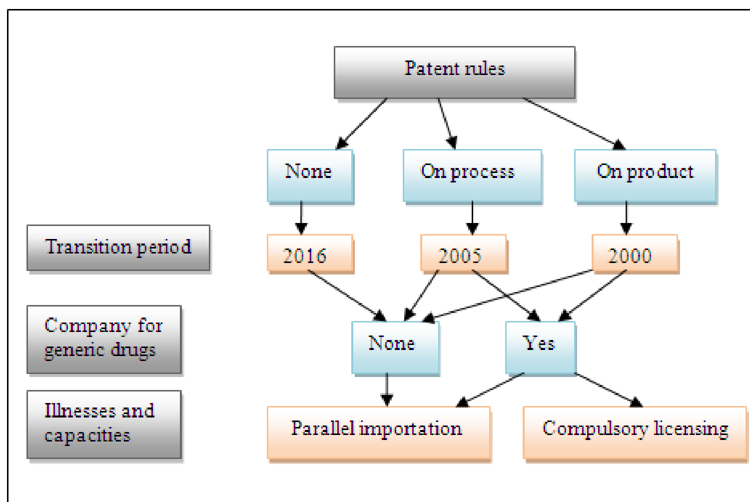
But there is also misuse of compulsory licensing when some developing countries use it as bargaining power as Feldman (2009) points out. As examples, he mentions Thailand and Brazil. The Thai government issued a compulsory license for heart disease medication, or Brazil, instead of accepting the lower prices offered by the pharmaceutical company Merck, issued compulsory licenses on AIDS-drugs. These examples show that several middle-income developing countries issue compulsory licensing, and the developing countries tend to recognize the negotiation potentials of this opportunity.

4.6. Linkages between the different points

Although we investigated the heterogeneity of the developing countries according to these points separately, summarising them we can give a general picture. Looking through the differentiating points, we could see the linkages between them, as well: problems in one field caused problems in other field. Consequently, we can determine in general, how the TRIPS Agreement affected the different developing countries and we can determine the relatively homogeneous country blocks. This may mean a basis for analysing the TRIPS Agreement further.

In principle, the type of the patent law the county had before the TRIPS Agreement influences the effects and consequences of the Agreement in the largest extent (Figure 2). Therefore, we can determine the so called *"countries in a cumulative underprivileged situation"*, where everything is missing: both the patent law and generic drug companies, therefore the possibility for using compulsory licensing is rejected. Consequently, countries where there is no opportunity for producing generic drugs by their own capacities belong to the least developed countries. In these states, providing parallel importation is not enough, as people here cannot purchase the generic drugs, either, and the supplying infrastructure is also in bad circumstances. Although there are some developing countries with productive capacities for generic drugs, it could arise that they cannot produce the required medicines because of the lack special knowledge – so, they need to use parallel importation, as well. This means that illnesses and epidemics also have an influential power.

Figure 2. Linkages between the differentiating points



Source: own construction

The facts mentioned above show that the developing countries – independent from the starting conditions – became losers. However, the starting conditions determine the areas where the damaging effects appear and the extent of the loss, as well. The least developed countries (or countries in cumulative underprivileged situation) must face the greatest loss as no opportunity seems to be there for them for access to essential medicines. On the other hand, the relatively developed developing countries – such as India or Brazil – feel that the TRIPS Agreement hinders their own development. These countries possess their own generic drug producers based on a small research base and are able to supply generic drugs to their domestic markets. Their opportunities decreased after the implementation of the TRIPS Agreement, and the country and economy themselves may suffer from its bad consequences.

It must be emphasized that the problems of the least developed countries cannot be solved by providing them medicines. Should the essential medicines be available in the country to prevent and treat certain epidemics, there would be still unsolved questions remaining because the human and physical infrastructure (hospitals, doctors, roads, equipments, etc.) are missing for using the medicines effectively. To produce generic drugs with compulsory licensing, a suitable system for quality assurance is also required. Analysing the economics of AIDS, Canning (2006) argues that prevention is a better solution than treatment, therefore more assistance should be spent on prevention than, for instance, access to medicines.

In the developed countries – as it was mentioned earlier – there is a relatively low level of research on medicines for diseases which are typical illnesses in developing countries. Because of the unfavourable purchasing power potentials, the

pharmaceutical companies cannot be inspired to continue research in these fields (Fink 2006). The appropriate consequence of this situation would be if researches in the more developed developing countries with pharmaceutical producing capacities were specialized in these diseases. However, if they developed a new drug, would not it be their own interest to patent these products? Would they be more human(itarian)? The situation seems to be a vicious circle where somebody must lose.

5. Conclusions

The World Trade Organization has intervened into the pharmaceutical competition and into the international pharmaceutical markets since the TRIPS Agreement came into effect. Although the multilateral trading system should ensure higher welfare and development in all member countries of the WTO, the TRIPS Agreement has different impact on the members. Beside the pharmaceutical companies, some countries can gain or lose while complying with the obligations of the agreement: the developed countries can follow their own interests, but access to medicines as a human right is hurt in the developing countries.

As the TRIPS Agreement made obligatory and general the overall patenting and protecting intellectual property rights, many countries are faced with several problems. Most of the developing countries could not finance the original pharmaceuticals, since, as yet, the poorest people in these countries cannot afford them. Consequently, the public health situation in the least developed countries seems to become worse. It is not only a health and ethical problem: as the lack access to medicines has negative economic effects, as well, so the TRIPS Agreement is opposite to the WTO-principle of economic development.

This study argues that the losses of the developing countries are not the same. Somewhere public health is the greatest loser, because complying with the TRIPS-rules, the country cannot afford and finance the essential medicines. However, there are countries with companies producing and selling generic drugs: they have losses because of the minimal length of the patent protection. Furthermore, when there was a patent law in a country, it could comply with the new rules more easily. On the other hand, countries which did not provide any patent protection at national level before the TRIPS Agreement are faced with huge costs of building the appropriate human and physical infrastructure for providing the provisions of the TRIPS. This means a great resource loss for the least developed countries from other areas, therefore the TRIPS Agreement eventually influences their own development possibilities. In addition, their public health problems still remain. This study also reflected that the TRIPS Agreement does have effects on the access to medicines, and although poverty may be one reason, the situation is worsened by this binding agreement. Not only the access to medicines is hindered, but some countries may

lose, as well, because the important generic drug companies have to stay in the background.

Consequently, if we try to analyze (especially with empirical methods) and handle the negative effects of the TRIPS Agreement, it is important to make differences between the developing countries – it is not worth using the same approach for India and Chad. Distinguishing the developing countries is not sufficient according to their income level (e.g. GDP per capita), and the factors analysed in this study (e.g. type of patent law, their own capacity for pharmaceutical production, illnesses) need to be also considered. Whether the solutions of this problem start either from the supply side (developed countries, international organizations, aid organizations), or from the demand side (developing countries), we have to take them into consideration.

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The relationship between international accounting standards and environmental accounting

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As a result of globalisation processes, accounting standards concerning international financial reports and audits have assumed more and more importance. Environmental pollution represents an increasingly dominant economic, social and political problem all over the world. Measures have been taken both on the national and international levels in order to protect the environment and reduce and prevent the effects of pollution. Due to these tendencies, companies are expected to develop and publish their environmental policy, commit themselves to environmental goals and programmes and disclose the environmental risks that accompany their activities.

Analysing the connection between environmental protection and accounting may raise the following question: to what extent do international accounting standards deal with environmental issues? The goal of the present paper is to analyse the environmental aspects of accounting standards and look into the question of whether there is a need at all for particular standards that handle environmental issues. The first part of the paper reviews the areas of international accounting regulations, then, after clarifying the concept of environmental accounting, the main focus falls on analysing the International Accounting Standards relevant to the present subject matter.

Key words: accounting, international accounting standards, environmental accounting,
JEL: M 41

1. Introduction

The role of accounting standards and environmental protection is important more and more. Currentlyt the Accounting Standards handel the environmental issues at minimum level. Through the gradiation fo problem, it would be important to work out a stronger regulation. Environmental accounting, as the subpart of accounting can be the solution. In this paper, the main focus falls on analysing the relationship between International Accounting Standards and environmental accounting.

2. The areas of international accounting regulation

International accounting has been influenced by the effects of three major systems. One of them is the accounting regulation defined by the European Union; the second

one is the United States' generally accepted accounting principles (US GAAP); while international accounting standards (IASs, IFRSs) constitute the third large group. Approaches differ basically in the nature of regulation: the EU's accounting system is ("continental") comprehensive and theoretical in type, while the international accounting standards and the US GAAP ("Anglo-Saxon") are rather solution-focused and technical in nature (Kapásiné–Pankucsi 2003).

The EU's main goal lies in developing a unified reporting system as well as collecting data to be analysed, while in the US GAAP system, the authorized professional organisations draw up regulation that is treated as stipulation, and court decisions also assume a great role.

The EU's regulation is basically built on regulations and directives that also occur in the area of accounting. In the EU, two directives must be emphasised concerning enterprises' responsibility to prepare reports: one of them is the fourth directive (Directive 78/660/EEC on the annual accounts of companies), the other one being the seventh directive (Directive 83/349/EEC on consolidated accounts) (Kapásiné–Pankucsi 2003, Fekete 2005).

Commission Recommendation 2001/453/EC on the disclosure of environmental issues in the annual accounts and annual reports of companies, which will be reviewed later on, must be mentioned with relevance to our subject.

The original objective of the international accounting standards was to harmonise national accounting practices within the Union, but today, companies that wish to prepare their accounts and reports in accordance with IASs must meet serious criteria (Kapásiné–Pankucsi 2003). The preparation of IASs began in 1973[1]; however, a complete system was set up no earlier than the 90s. It also happened in this period that the reporting method following the US GAAP emerged and became accepted throughout the world (Fekete 2005).

In 1995, a harmonisation process began in which the Union took a stand in favour of introducing IASs (COM(95)508), while in 2002 the IAS regulation (1606/2002/EC) was created, that made the use of IASs and IFRSs obligatory in the consolidated accounts of public companies from 2005. Beyond these, the US's accounting system also underwent a process of harmonisation with international standards (Hungarian Banking Association 2006). The harmonisation of the two global systems is also demonstrated by the Norwalk Agreement, in which significant progress was reached (IASB 2002, IASB 2006). After clarifying the international accounting systems, let us review the concept and guidelines of environmental accounting.

[1] The International Accounting Standards Committee (IASC) was founded in 1973 with the task of drawing up IASs. The International Accounting Standards Board (IASB) was established in 2001, whose responsibility lay in adopting the standards accepted by IASC (which meant that the name IAS was kept) and creating standards with a new name. The standards issued after the establishment of the Board are called the International Financial Reporting Standards (IFRSs) (Epstein–Mirza 2003).

3. Environmental accounting

The increasing difficulties deriving from environmental problems must (or should) trigger answers in all walks of life, also including accounting. Environmental accounting occurred in the 80s and 90s when companies' environmental responsibility came to the foreground and focus shifted from environmental damages caused by large companies and combating pollution to prevention – all of these factors contributing to the development of environmental accounting (Csutora 2001).

"Environmental accounting may be defined as a sub-branch of accounting that includes the activities, methods and systems that register, analyse and disclose the environmental problems of a defined economic system or the economic effects of an environmental activity" (Csutora 2001, p. 7.).

Similarly to traditional accounting, environmental accounting also consists of two branches: one of them is environmental financial accounting that informs interested outsiders, while the branch of environmental management accounting supports decision making (Gray 2001).

The first legal obligations related to environmental reporting were introduced in Denmark. In 1996, approximately 3000 companies with significant environmental impact were required to publish their so-called green account. In Holland, 300 companies were required to prepare an environmental report in 1999 (KPMG 1999).

The existence of environmental accounting is justified by the fact that in many cases more optimal waste management carries a cost reducing impact, and environmental costs often remain hidden in total costs, and furthermore, it supports the introduction of environmental management systems winning more and more emphasis. In the area of environmental accounting, the following issues must receive special emphasis:

– identifying the area of environmental costs, analysing environment related costs (Gray 2001),
– introducing the financial aspects of environmental issues, and investigating what promotes adequate decision making,
– identifying areas that cause environmental risks,
– preparation for criteria prescribed by law, and generating numerical data on penalties and benefits,
– separation of environmental costs from total costs (Gray 2001),
– considering environmental liabilities, and the system of contingent liabilities and provisions,

- promoting more comprehensive information content and comparability of reports.

After reviewing the main aspects of environmental accounting, let us look at how this approach occurs in the IAS/IFRS system heading towards harmonisation.

4. The relationship between environmental accounting and IASs

Neither effective IASs nor new IFRSs include any standard dealing fundamentally with environmental issues. The basic question lies in whether independent environmental standards are needed. The fact that environmental liabilities and damages are not unique cases, these occur only as precedents and the existing standards are not enough to handle the increasing problems, supports their creation. An argument against it states that increasing environmental problems do not fall in the scope of International Accounting Standards. In the following, pros and cons will be listed relating to both approaches.

It is necessary to amend accounting reports concerning environmental issues because the players in the national economy need information on environmental issues as well, since all this may influence the decisions of those who use the data provided by the reporter.

The players in the national economy must take into account the published environmental information, which, however, may not be reliable or relevant. Investors may often need information about a company's relationship with the environment, while a controlling authority may need to check on the implementation of an environmental regulation or keep track of associated costs. The disclosure of environmental data in reports is at a rather low level, and often times it only focuses on preventing pollution and clean up costs. Furthermore, most of the time, only companies with great environmental load prepare such reports. Without harmonised guidelines, such comparison of companies proves difficult. The goal would be to provide affected parties with comparable data about the environmental involvement of companies. The IASs include various standards that may be linked to environmental issues although there exists no one that concerns environmental matters directly.

Before the detailed discussion of IASs, Commission Recommendation 2001/453/EC that deals with the disclosure of environmental issues in the annual accounts and annual reports of companies must be underlined. According to its aim, taking environmental costs and risks into account may increase companies' awareness of environmental issues (EC 2001).

Basically, standards IAS 1, IAS 16, IAS 36, IAS 37 and IAS 38 have environmental relevance, which will be discussed in detail after the introduction of the Framework.

The Framework already points out that in the course of drawing up the report, environmental risks must also be considered since even something relatively small may influence a company's reputation considerably (IASCF 2006).

A company's environmental problem may influence the entire society or a small part of it; however, most often, these social groups bear the emerging costs, and therefore, the disclosure of environmental issues in reports is well founded. The importance of an issue with environmental impact is influenced by its size, nature as well as the accompanying conditions; consequently, it is not enough to define its importance but it is also necessary to identify its nature and volume, for example, which events contribute to its growth, how sensitive it is and what potential consequences it involves. Besides all this, environmental clean up costs, fees and penalties also require special consideration. An insignificant company matter with relatively low costs may prove important in the context of the company's environment, for example, a relatively low fine may carry serious consequences for the company's reputation and image, while it influences environmental costs only to a slight extent.

4.1. IAS 1: Presentation of financial reports

The standard basically includes the comprehensive prescriptions on the presentation of financial reports, provides guidelines concerning its structure and defines minimum criteria (IASCF 2006).

From the aspect of the present subject, the shortcomings of the standard may be defined as follows:

In relation to environmental accounting, the separate disclosure of environmental costs and liabilities[2] should be required, especially in the case where it affects the financial situation and performance and influences the decision makers who rely on the information content of the financial statements considerably (Langford 1998). IAS 1 does not include any criterion concerning the presentation of environmental costs and liabilities; therefore, it is not obligatory to handle environmental costs separate from other costs. This raises the question of how much actual information analyses and reports include. Where environmental costs are separately disclosed, the accounting policies should state what these costs represent, the accounting treatment adopted and whether the amount concerned is derived from an allocation of total costs, or is restricted to those costs that relate wholly to environmental liabilities. Harmonisation is needed also in this area in order to make accounts and reports comparable.

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[2] Environmental costs: include those costs that target the prevention, reduction and recovery of environmental harm. (Fees and fines due to not observing environmental legislation and compensations paid to third parties because of damages and losses are excluded from this definition.)
Environmental liabilities are obligations related to environmental costs that are incurred by an enterprise and meet the criteria for recognition as a liability. (ICAEW 1995).

The measurement of environmental liabilities and costs may raise problems in the fields of timing and measurement in the case of accounting records not reliable and precise enough, which also justifies the importance of environmental accounting. Environmental costs cannot include total costs, but only those that target the prevention, reduction and recovery of environmental damages wholly and exclusively. Fees and fines occurring due to not observing legislation on environmental pollution cannot be added to environmental costs (e.g. compensations paid to third parties) (ICAEW 1995). Reports are prepared based on the principle of continued company operations, which supposes continuous operations within a reasonable time frame. In an extreme situation it is possible that this principle is damaged due to modification in environmental legislation (e.g. company operations fail substantially because of legal modifications). The standard also lacks any guidelines concerning such cases.

4.2. IAS 16: Property, plant and equipment

The standard aims at the presentation of accounting for property, plant and equipment.

The shortcomings of the standard may be defined as follows:
First of all, it should clarify whether an increase in expected economic benefits, rather than continued benefits, is required. According to the principle of the enterprise's continued operations, the standard makes a stand for the latter one, since although the environmental investment may not increase economic benefits considerably, the activity could not be continued without it.

A smaller or larger part of the plant machinery and equipment are purchased due to environmental reasons. These investments may not directly increase economic benefits, although according to the basic requirement it is capitalised in the assets if it will produce economic benefit for the company in the future. IAS 16 allows such investments to be recognised as tangible assets, since later on economic benefits may exceed what could have been realised without the environmental investment (IASCF 2006).

The reduction of environmental damages may represent a form of future benefits, since it can help avoid potential suspension of operations. This does not increase benefits directly, but ensures future operations and allows for maintaining further benefits.

4.3. IAS 36: Impairment of assets

The standard defines the processes applied "to ensure that assets are carried at no more than their recoverable amount. An asset is carried at a higher amount than its recoverable amount if its balance-sheet amount is in excess of its value in use or net selling price. In such cases impairment must be accounted for the asset." (IASCF 2006, p. 1502.)

This standard raises the problems of measuring impairment of assets due to environmental factors, the difficulties of determining the recoverable amount and the uncertainties as regards the timing involved.

IAS 36 includes indications of impairment and states that "the economic organisation may also identify other indications of potential impairment" (IASCF 2006, p. 1507.). For example, such an environmental factor may be a polluting unit within the company. The recommendation should be improved in this area because, for example, the impact of environmental factors on assets is not defined.

The measurement of environmentally impaired assets may be affected by uncertainties deriving from the possibility of improvement in related technology or changes in legislation. The stigma effect must also be mentioned here (Langford 1998). This effect may deter potential purchasing power or limit market opportunities in other ways. Stigma is an aspect of asset contamination, in the case of which the impairment of the asset may be regarded as the extent to which diminution in value of an asset attributable to the existence of contamination exceeds the costs attributable to remediation of the asset, the prevention of future contamination, and any fees, penalties or insurance. In practice, the "stigma effect" occurs if a further discount is applied to the values of an asset after allowing for all expected remediation costs. The standard does not include any rules concerning this, which means that wherever the effect cannot be measured reliably and there have been no disposals of comparable contaminated sites, the problem cannot be handled adequately.

4.4. IAS 37: Provisions, contingent liabilities and contingent assets

The objective of the standard is to ensure that "the right criteria of representation and principles of evaluation are applied for provisions[3], contingent liabilities[4] and contingent assets[5]" (IASCF 2006, p. 1654.). These property items constitute the main areas in which environmental issues are likely to have an impact on financial reporting.

The standard requires that a provision should be recognised only when there is a present obligation as a result of a past event, if an outflow of resources embodying economic benefits will be required to settle the obligation and its amount can be reliably estimated (IASCF 2006). Concerning environmental issues, it is outstanding that the standard defines that future events include legal and technological changes if there is adequate evidence to prove that these will occur (IASCF 2006).

[3] Provision: a liability of uncertain timing or amount (IASCF 2006).
[4] Contingent liability: an obligation deriving from a past event that will be confirmed by the occurrence or non occurrence of a future event, or an obligation that derives from a past event but has not been recognised since it is not likely to bring along an outflow of economic benefits or because it cannot be measured reliably enough (IASCF 2006).
[5] Contingent asset: an asset deriving from past events that will be confirmed by the occurrence or non-occurrence of a future event (IASCF 2006).

The shortcomings related to the standard include the fact that it provides a rather narrow interpretation of environmental considerations. More special guidelines should be provided that recognise the growth of environmental liabilities depending on a future event and explore the presence and amount of liabilities wherever it is impossible to estimate these.

Environmental issues raise the following questions:

– Whether there is a present obligation. Its definition is not clear, and often an expert opinion must be used to be able to make a decision. It would be necessary to define all related criteria, which would help minimise the impact of differing interpretations.
– Whether a proposed change in the law gives rise to an obligation. An event that does not give rise to an obligation immediately may do so at a later date because of changes in the law; therefore, attention must be paid that the precedent of the new law should expire as soon as the new legislation is enacted.
– Contingent liabilities imply the following problems in relation to environmental issues: problems of uncertainty, the timing of clean up or the best technology available, and the amount of the obligation measured with insufficient reliability.

Environmental provisions must be recognised if the clean up obligations are already defined. Due to uncertainties of future legislation, technological changes and the expansion of environmental criteria, it is difficult to estimate these costs. The situation is the same with provisions as well (ICAEW 1995).

4.5. IAS 38: Intangible assets

This comprises the regulations on handling intangible assets in accounting. In relation to IAS 38, the following can be said: concerning pollution permits and emission rights that are subject to increasing use in the environmental area, and increasing use in terms of accounting, these rights should be recognised according to the criteria of intangible assets (Langford 1998).

This subject area is quite popular and frequently discussed (Starkey–Anderson 2005, Skea 1999), therefore, it is not discussed in detail in the present paper.

5. Summary and conclusions

Based on the present review it can be stated that the IASs do not set the stipulation of environmental issues in standards as a basic requirement, since no such specific standard exists, and the present standards include minimal guidelines concerning environmental issues. This implies the problem of such comparison among the

reports, inadequate management of environmental costs, different calculating methods, and so on. The development of a comprehensive standard that would facilitate unified interpretation, the consideration of the aspects of environmental costs that do not just increase costs, and help with the harmonisation of reports and the follow up of enterprises' sensitivity related to environmental issues would offer a solution to this problem. At the same time, this also requires the harmonisation of national accounting systems, which may prove more problematic. Furthermore, the standards introduced above concern big companies, while these regulations may be exaggerated for small and medium sized companies.

Beyond all this, however, environmental problems show an increasing tendency, which justifies the fact that accounting lends growing focus to this direction; whatever the platform may be, facing these issues is essential on the local, national and international levels. In my opinion, international regulation could ensure that recommendations are implemented more effectively, validate the existence of environmental accounting and also help reduce environmental problems in the long term.

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