

ECONOMIC GROWTH VERSUS ECONOMIC DEVELOPMENT

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Abstract

In this article the author calls the attention to two very important components of economic growth and development not frequently discussed yet: innovation and legal security. Although elements of the paper's approach can be found in international literature, moreover, there are theoretical arguments known in Hungary as well, importance of this view is rarely recognised. With the help of data from case studies, enterprise surveys, a simple regression model and a complicated macromodel, there is empirical evidence presented to support that a stable legal framework and innovation-friendly policies can have a substantial positive impact on Hungarian development and growth.

Keywords: economic growth, economic development, innovation, legal security.

1. Subject and Methods of Analysis

Economic growth and development has traditionally been subject of economics since Adam Smith and it is still focused by theoretical, methodological practical experts as well. Despite our increasing knowledge, today both the OECD and the EU emphasise and point to the importance of research into this field.¹ Apparently, analysis of national expenditures is also very important for Hungary fighting to dissolve the setback of its economy.

Mainstream theories of the 20th century often do not distinguish 'growth' (the increase of the GDP) and 'development': the two words are used as synonyms. However, according to other authors (e.g. THIRLWALL (2000)), economic development is more complex than mere growth. As far as development is concerned, the quantitative view is completed with qualitative requirements of progress and national enrichment sustainable for a longer period. To accomplish the aims of my studies, I also have to apply the term 'development' in my analysis.

¹For example, in 1999 ministers of the OECD countries initiated a research to reveal economic policies and other factors that help economic growth (OECD, 2000). One of the four 'key-actions' of the EU's fifth framework program launched in the same year focused on sustainable growth, another one on competitive growth. Moreover, sustainable development was the name of one of the three project priorities (EU5, 2000).

In this article I would like to reveal the ‘factors’ that are likely to accelerate development of the Hungarian economy in the following years. It is obvious that employment as a source of growth cannot be increased due to the slowly shrinking population. Considering the dramatically low share prices of the Budapest Stock Exchange I can neither be optimistic about the capability of Hungary to attract substantial capital in the near future. We may not expect that foreign direct investment – the main source of growth in the past period – will be the catalyst of Hungarian development in the following years. Therefore, it is quite reasonable to search for new sources of development.

With the help of the study I would like to draw three conclusions. First, I remind the reader that *success of certain Hungarian development efforts requires severe preconditions* and in their absence our efforts remain fruitless. I also point out that *factors that are not considered in growth-statistics might be accelerating development*. Finally, I argue that *successful economic policy should support development rather than growth*.

The above-mentioned statements are based on statistics and data from the traditional enterprise surveys of GKI Economic Research Co.² When it was possible, computations of the DUNA macroeconomic model³ were also used, and sometimes expert evaluations were taken into account.

2. Innovation: the Most Important Component of Development in Modern Economies

In the 20th century the main factors of development radically changed. Resources of extensive growth have contributed less and less to development whereby ‘knowledge’ has gained more importance and technological progress has become the principal driving force of economic development.⁴ Electricity, the belt-system of production, nuclear energy, etc. have changed the world. Even more radical changes are expected in the 21st century (among others thanks to the evolution of the ‘new’ information society). Nevertheless, nobody can claim that these altering trends and especially their causes as well as their effects are properly described and predictable. Apparently, modernisation of industry and services, as well as opportunities, promoters and perspectives of technical progress are in the centre of interest all over the world. The OECD and the EU both initiated large-scale international researches in order to establish information-base for researches in the topic.

During the 1980s the OECD concentrated a lot of efforts on developing a uniform set of concepts for the terms used in innovation research and a common research methodology for R&D (Research and Development) was recommended. The

²About the methods of these surveys see e.g. NÉMETHNÉ – PAPANÉK – PETZ (2001).

³About the description of the model PAPANÉK – PETZ – POVIALITIS – RÉVÉSZ (2001) gives information for example.

⁴SCHUMPETER (1934); HARROD (1973); DOMAR (1957); SOLOW (1956)

Frascati and Oslo Manuals summarise the results of efforts and these publications are widely referred to (the hereby presented study respects these recommendations).

Though empirical investigation of innovative processes has only few decades of experience, many studies have been published in the developed countries.⁵ Some Hungarian researches have also been completed. For example the significant and *increasing technological lag* of the Hungarian producing sector – which contrasts with the widely acknowledged good performance of Hungarian scientists – has been known for years (among others thanks to RAY's (1991) international comparison). Empirical surveys from the first half of the 1990s (see TAMÁS (1995), [3]) showed persistent lack of competitiveness of Hungarian firms. The study prepared in 1995 under Annamária Inzelt's co-ordination (OECD (1995), (1996)) highlighted modification of R&D and S&T policy after the political change in 1989/90, inflation of national R&D expenditures, profound crisis of the Hungarian R&D institutions etc. Notwithstanding, there are many questions to be answered. In the following I will analyse the technological catching up possibilities of Hungarian companies, which often lag behind as compared with the world standard. I would like to support the statement (which – with regard to its consequences – is not adequately accepted in Hungary) that *the most favourable development path is based on the creation of a knowledge based economy by improving 'knowledge flow' in particular*.

A GKI Co. research had a similar conclusion on the situation as the one described above, although we found that during the second half of the 1990s some changes could be seen in certain industrial and service (especially financial) sectors. Technology transfer – which had been exceptional before – became frequent, and it was a general practice in foreign-owned companies. About one third of the enterprises started to fabricate products that were unknown in Hungary before (and 10% launched these products successfully on national markets). More or less half of them adopted new technologies and more than 10% of them were successful. Even more enterprises modernised their management, especially their sales and marketing work. However, until now the favourable trends were not enough to put an end to the centuries-old traditional technological setback of some Hungarian sectors. As it is shown by the table below, *international competitiveness of many Hungarian products is still questionable*.

Now foreign-owned enterprises say that only 17% of their products cannot be exported, and we must bear in mind that the same figure for state-owned companies is 59%, and 55% for domestic private firms. The low efficacy of distribution channels and the inadequate level of marketing represent severe problems for even more enterprises, for almost every second domestic company [3].

Even nowadays *the necessary tasks of modernising the Hungarian economy are permanently debated*, despite the coinciding experts' opinion to move on. Many experts expect faster diffusion of innovations as a consequence of raising the R&D expenditure to the level before (Gross Domestic Expenditure on R&D as a percent of GDP reduced to its one-third during the past decade). According to GKI Co.

⁵See e.g. ABRAMOWITZ (1989); LINK-TASSEY (1989); OECD (1996); ETZKOWITZ-LEYDES-DORFF (1997). For the EU efforts CRESSON-BANGEMANN (1995), EU5 (2000).

Table 1. Share of business sales by international competitiveness of products and services, %

Competitiveness of products/services	1973*		2000**		Total
	Total	State-owned	Domestic private enterprise	Foreign-owned	
Competitive on global markets	18	41 (34)	45 (48)	83 (85)	51 (44)
Can be competitive after some development	42	28 (20)	30 (27)	11 (11)	26 (21)
Has no chance in international competition	40	31 (46)	25 (25)	6 (4)	23 (35)
Total	100	100	100	100	100

*Unweighted averages of industry. Source: ROMÁN (1973)

**Data cover all three principal economic sectors. Numbers in parentheses are averages weighted with the number of responders, those without parentheses are unweighted averages. Source: GKI Co.'s survey. Spring 2000.

surveys, most enterprises – who have to adopt the new technology – think that it is necessary to resolve the financial problems of development and to improve return on modernisation expenditures. Nonetheless, other researches, like the 1999 case studies prepared by GKI Co. and the Department of Economics (BUTE), revealed further necessary preconditions to the faster diffusion of innovations in Hungary (PAPANÉK–BORSI (2000)).

Starting point of this latter research was the world-wide accepted opinion⁶ that *today the development of economies* – so the diffusion of innovations – *depends mainly on the quantity of “knowledge” used in the production*. At the same time periphery of the world economy – so Central Europe including Hungary – saw only some initial steps taken in creating a knowledge-based economy. As a conclusion of our study we could show that there is a gap evolved during the past decade and it concerns research and enterprises destined for using research.

Performance of the Hungarian R&D sphere has good reputation world-wide (for example the number of Nobel prize winners, who started their career in Hungary, is quite high in international comparison). According to our case studies, several enterprises can also reveal unquestionable scientific success.⁷ However, impact of good research performance can hardly be observed in the Hungarian economy. Its principal reason is that enterprises barely rely on domestic research in

⁶See e.g. ARNOLD–RUSH–BESSANT–HOBDA (1998).

⁷Evaluation of the work of the studied research institutions was not – and could not be – the aim of our investigation. The analysed research activities were chosen by the research institutions themselves and the majority proposed a successful research topic. Therefore, we cannot say that unsuccessful projects are less frequent at Hungarian research units.

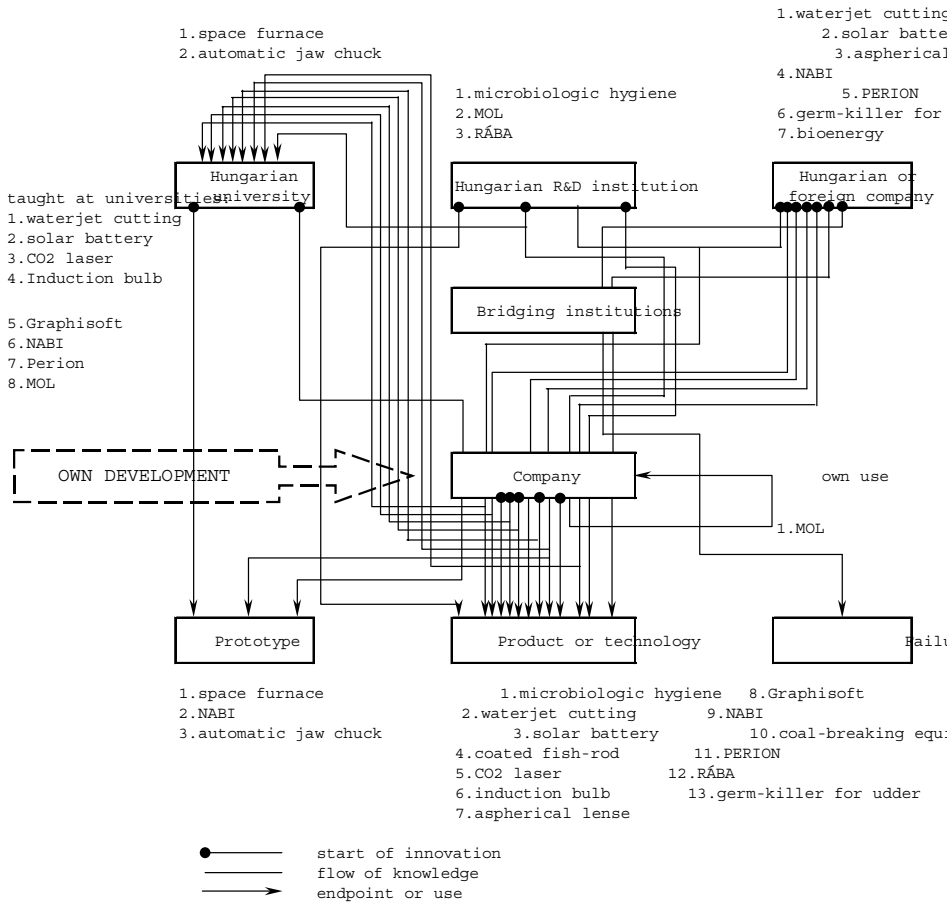


Fig. 1. Knowledge flow in the studied innovations (Source: PAPANEK-BORSI (2000))

their innovation. Despite increasing competitiveness the *knowledge flow between research and companies is traditionally⁸ poor in Hungary*. As it is also shown by the figure above, which depicts the channels of knowledge flow in 17 case studies, innovative knowledge of enterprises is usually generated in their own research capacities or it is obtained from other enterprises (for example from the foreign parent company).

The conclusion above is also confirmed by representative surveys prepared by GKI Co. They indicate that *Hungarian enterprises and especially small firms seldom receive information for their innovation efforts from organisations in charge of transferring knowledge*. On the other hand, importance of foreign relations (shown

⁸For previous examples see: TÖRÖK (1996); PAPANEK (1997), etc.

below) is not surprising if we consider the substantial technology transfer in Hungary during the past years. Practice of the exchange of experience between national enterprises cannot be criticised either. However, the often very successful technology advice from higher education institutions is limited to a very few companies and promotion activities of the national institutional network, whose task is the transmission of 'knowledge', are poor in impact.

Table 2. Share of enterprises that expect considerable help for innovation efforts from the given institutions (%)

Institutions	Enterprises employing			Total
	-50	51-300	300- people	
University, College				
in the region	12	9	15	11
elsewhere	8	10	15	10
National R&D institution	10	12	13	11
National information institution	18	20	24	20
Patent Office	4	3	4	4
Other national enterprise	27	29	19	26
Foreign parent company	12	17	19	15
Other foreign organisation	8	10	10	9

Source: GKI Co. survey, Spring 2001

Now it is hardly questionable that intensification of knowledge flow can accelerate development of the Hungarian economy. This objective can be achieved with the following measures:

- Elimination of obstacles to asserting intellectual property rights (IPR) is unavoidable for faster knowledge flow. Organisations that teach and give advice about IPR should be supported, because both the nature of IPR and the concerned organisations are still unknown to certain companies (especially small enterprises) and institutions. Capability of judicial and crime investigator organisations, which have the right to sanction infringements of IPR, should improve and their capacities ought to be increased as well.⁹
- Bridging institutions should play a much more effective role in the dissemination of innovations. Institutions, which are given financial means for supporting dissemination, must be requested to gather and transmit business-wise useful information on technical development trends, know-hows, patents, free research capacities of R&D institutions and they should also be able to provide information on research demand by users, calls for tenders, etc.

⁹Similar measures were taken in the US recently, in order to improve competitiveness of the industry.

A market conform system of innovation financing – which is based either on national R&D results or on technology transfer – *has to be created*. Opportunities to accumulate capital must expand (with special attention to small enterprises). Creation and activity of the so-called ‘business angels’ and venture capital firms are also to be encouraged.

Despite the above mentioned conclusions and great international traditions of similar researches it is still very difficult to estimate the pace of economic development as a consequence of faster diffusion of innovations in Hungary. Current economic policy lays great emphasis on increasing R&D expenditures and on the extension of R&D tax-allowances, which is definitely an incentive to innovate. There might be measures taken to improve performance of innovative knowledge transfer institutions, too.

These efforts can only be successful if some other preconditions are also met. For example our investigations have shown that in the Hungarian economy many national R&D institutions and enterprises lack the will to be innovative and to obtain ‘knowledge’ and/or use the obtained knowledge economically. They simply try to avoid real business risks. Therefore *I am convinced that promoting the enterprises’ will to innovate is also necessary to accelerate the diffusion of innovations*.

3. Reliability of the Legal System also Supports Faster Development

Capital import, acceleration of scientific and technological development, harmonisation of rights and the fulfilment of Maastricht criteria, etc. are frequent subjects of analysing the catching up of Central and Eastern Europe. Nonetheless, in this chapter I approach the opportunities of faster development of Hungary from an unusual direction based on the above. I will also quote results from press analyses, business surveys and case studies.

First of all I would like to underline that after the political change of 1989/1990 Hungarian governments made considerable efforts – unquestionably, these efforts are outstanding in this region – for creating the institutional framework of free market. Important reform measures were taken in the field of consumer protection, copyright protection, finance and competition law, taxation, customs law, penal law, etc. A new institutional network, which asserts new legal regulations, was set up (these factors are exceptionally mentioned in growth theories). Nonetheless, local enterprises have more serious problems with respect to the functioning of the Hungarian market than they usually have in the developed countries.¹⁰ Everyday

¹⁰Of course, by showing today’s problems I do not say that weakness in the enterprises’ legal framework was not a hampering factor of development before the political change. KORNAI (1980), for instance, has already criticised the ‘paternalistic’ relations on a similar ground and among others, FARKAS (1984) also condemned excessive centralisation. ANTAL et al.’s (1987) forecast about the collapse of the political system also based partially on arguments linked with the problems discussed here.

business practice and the related press information¹¹ showed that already in the first transformation period businesses violating the law ('violation' interpreted as a general term for unfair competition¹²; such as behaviour violating proprietary and contractual rights) caused severe problems in many segments of economy. Many enterprises were forced to take an excessive risk or to suffer great losses because of corrupting the administration 'to get the contract'. Evasion of taxes often implied the breach of contracts, default or non-payments, fraudulent practices and liquidations on purpose; moreover, some market actors used these indecent means to quote dumping prices harming other competitors, etc.

Table 3. Main obstacles to growing production/services
(Percentage of enterprises indicating the given obstacle as one of the most important)

Obstacles	Spring 1992	Spring 1995	Spring 1997	Spring 1999	Spring 2000	Autumn 2000
Lack of demand						
– on the export markets	20*	16	11	19	19	17
– on domestic markets	61	48	55	71	66	64
Poor competitiveness of the firm	6	4	3	6	7	8
Capital shortage	32	32	27	40	44	43
Fierce competition	20*	25	25	38	43	42
Unfair competition	15	25	32	36	35	30
Default or non-payment of customers	43	25	23	31	34	33
Unpredictability of government behaviour	19*	33	41	31	30	32

Source: Surveys of the GKI Co. *Data of the autumn survey

Semi-annual surveys of GKI Co. also confirmed that damage caused by poor business ethics and the limited possibilities of law enforcement is substantial (some Hungarian views¹³ stress it is 'only' medium-sized in international comparison and it is not higher than in other countries of the region; and it is even smaller in some cases). As it is also shown by the table above, *for a long time many of the surveyed*

¹¹ According to our press analysis of 1998, every day there was at least one article reporting infringements of business life. In 12% of the cases the violator was a state organisation, in 38% a large company, in 31% a small enterprise and in 19% an actor of the underground economy. In 22% of the cases interests of the whole business sphere were violated, in 8% interests of large companies, in 34% interest of small and medium sized enterprises or of some segments of SMEs, in 19% interests of only one enterprise and in 17% interests of the state. PAPANÉK (1999/b).

¹² Hungarian competition law classifies certain market behaviour of enterprises unfair (deception of buyer, use of the dominant power, etc.). In our research – in accordance with the general Hungarian terminology – we called unfair not only the business behaviour violating the competition law but also behaviour violating other business norms.

¹³ I have not seen a comprehensive international research in the topic of business ethics yet.

enterprises have indicated unfair competition as one of the most important factors that hamper their development.

Facts show that strengthening legal security could really accelerate development in the Hungarian economy. The rate of additional acceleration is hard to estimate due to obvious methodological concerns. Measurement, more precise definition of legal security and quantification of the relationship between law infringements and growth dynamics raise substantial methodological difficulties. Later, I have tried to solve the methodological problems with the help of a correlation calculus.¹⁴

In the calculations I described legal security by the level of corruption existing in the different countries. I quantified the degree of corruption with the Transparency International's corruption-perception indices elaborated for 90 countries. The level of the GDP was given from the World Bank's latest available data. I found that correlation between GDP calculated at the official exchange rate and corruption was surprisingly strong (0.83). Correlation calculated with GDP at purchasing power parity rates was even stronger, **0.87**. This latter relationship is also depicted below.

A least square method regression equation was also computed from the data:

$$y_i = -5412 + 3082x_i$$

$$(t) \quad (-5, 33)(16, 33),$$

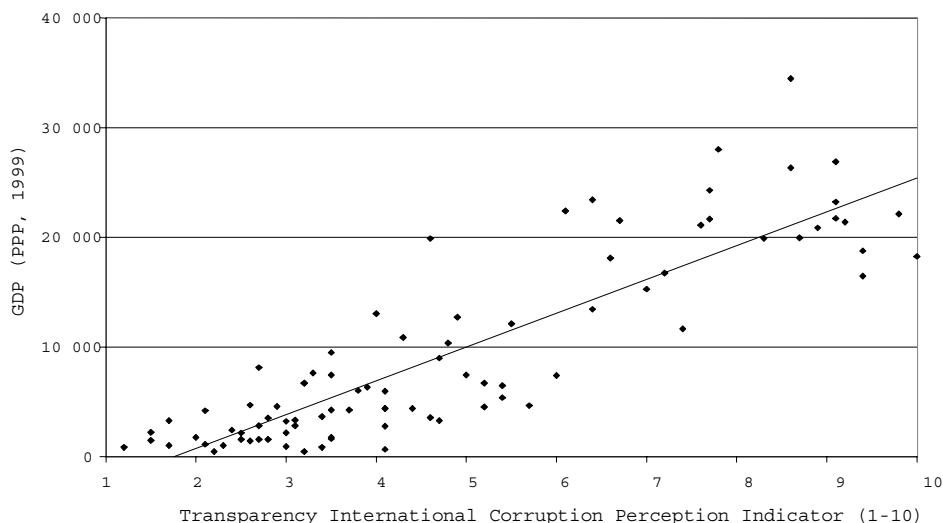
where x_i is the corruption index of the i^{th} country, and y_i is the PPP GDP for the given country.

T-statistics of the parameters are also high (at very low levels of significance). The determinant coefficient of the estimated regression is 0.758 (that is to say the corruption index explains more than 75% of the variance in the GDP data). This is a very good fit; especially for cross-sectional data.

On the basis of rough calculations presented, I can only give rough estimations concerning the volume of predictable macroeconomic effects implied by the improvement of business moral.

Let us for example consider the expected acceleration of growth according to the regression equation in case of decreasing corruption! As a control, we should take into account the damages caused by business crimes, which are worth several hundred billions every year. Consequently, we can presume that in the next years *growth of the Hungarian economy could be accelerated by one or two tenths of a percent year by year if the enforcement of rights improves (ceteris paribus, i.e. no change anticipated in other circumstances)*. However, it is likely that this sequence of ideas underestimates the actual total impact as it is certainly not an exaggeration that improvement of legal security would be accompanied by other positive efforts influencing growth – like the increasing will to innovate, as it was highlighted in the

¹⁴SCULLY (1988) has published a similar study. He examined cross-sectional data with the help of correlation computed for the growth of national income of 115 countries between 1960-1980 and the Freedom House index. He concluded that legal security was weaker than the average in the poor countries and that *development was faster where the freedom of enterprising was not limited*.



*From the list containing 90 countries we omitted Yugoslavia, Tanzania and Taiwan, because we should have used their GDP data from a different source than the one we used in case of the other countries.

Source: *Transparency* (2000), *World* (1999).

Fig. 2. Relationship between the corruption perception index and GDP (at purchasing power parity) based on data from 87 countries*

previous chapter. Apparently the social effects of improving business ethics would also help stabilising a higher pace of the development. So there is a hope that most sectors of the Hungarian economy can develop relatively fast; at a faster pace than those of the developed countries. It follows that in a few decades the standard of the Hungarian economy may approach the level of Western Europe.

4. Closing Remarks

How can governments support economic development in Central-Eastern European countries? I would like to point out that *Hungarian economic policy has significant reserves of economic development for the beginning of the 21st century.*¹⁵ I would confirm this statement by using GKI Co. simulations of the DUNA-1 macromodel.

The reason for choosing the subject of this paper was that there is no common view in economic theories or economic policy practice about how to identify (to forecast, to evaluate, to select) the possible course of developing an economy. Generally, forecast of possible growth or development can be given in several ways.

¹⁵For the theoretical basis of this point of view see for example HALL–JONES (1999).

Sometimes correct results can be obtained by using a simple trend-extrapolation (see JÁNOSSY (1975)). However, in the case of economic-political decisions the use of relatively complicated methods, which contain quite a few relationships of national economies, is usually unavoidable. Sometimes – for example in the case of the forecasts prepared in Central and Eastern European countries at the beginning of the 1990s – even forecasts that included many variables were completely wrong (KOLODKO (2001)).

The DUNA-1 model was constructed in co-operation of professors of the University of Maryland and GKI Co. In the past decades, professors of the university developed a whole INFORUM model-family used in 25 countries of the world (e.g. Austria, China, South Korea, Germany, Japan, Poland, see ALMON (1999)). The Keynesian type models are demand-orientated and they enable modelling of different economic development courses. We were very delighted when the University of Maryland provided us their model called DUNA (ALMON–MAHMEED (1999)) for studying the chances of its adaptation. About our work – as well as about the mathematical characteristics of the model that now contains about 500 equations – see: PAPANEK–PETZ–POVIALITIS–RÉVÉSZ (2001).

Computations of the DUNA-1 model depend on demand factors determining the growth opportunities of the Hungarian economy. The future domestic consumption is estimated with the help of different regression equations and the income distribution is also taken into account. Export opportunities are estimated by taking into consideration domestic and world market prices of economic branches (there are obviously necessary simplifications). To have investment forecasts, the regression equations were elaborated so that depreciation and the possible capacity-expansion are also used. The model runs determine the expenditures necessary for the production of marketable goods and services by using the input-output tables, then longer-term forecasts come out for GDP, taxes, real wages, trade balance, etc.

The most important result of our model runs was that the calculations forecasted more dynamic growth when governmental development programs were also simulated. The government can support innovation (and can also build highways, support real estate development, promote telecommunication, etc.). According to the calculations, *Hungarian economic growth could be added an annual 0.5–1% if well-targeted government actions are implemented.* Our main conclusion is that economic regulation can indeed accelerate development as well.

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