

## **I. Main duties of the research unit in 2010**

In 2010 IEHAS focused its research activities on those tasks needed to achieve the objectives set out in the research strategies formulated by it for 2008-2012. IEHAS has successfully accomplished the assignments as specified by its research contracts and agreements. The main tasks for the period were the publication of the 2010 volumes of the yearbooks *Competition and Regulation* and *The Hungarian Labour Market*; the completion of the targets set out for 2010 in the research projects supported by the European Commission's 6th and 7th Framework Programmes; the first steps in the implementation of the labour market supply and demand forecast model; and the setting up of a Game Theory research unit and the launch of its research activity in the framework of the Hungarian Academy of Sciences "Momentum" programme.

## **II. Outstanding research and other results in 2010**

### **a) Outstanding research and other results**

#### *MACROECONOMICS AND GROWTH*

The project entitled *Competition, regulation and innovation* reveals that the study of the relationship between competition and innovation has had its effects felt in competition laws; considerations of dynamic efficiency appear, in practice, with increasing frequency. The inverted U-shaped relationship between competition and innovation could even suggest that an overaggressive competition policy may decrease economic growth. The indeterminateness of the precise shape of the function and the possibilities residing in the innovative regulation of copyright issues, however, cast doubt on the necessity of these considerations having special significance in competition regulation. The research results may have a stronger impact on issues directly related to the project – R&D collaboration and innovation markets – and on competition policies related to peak technology companies.

The project *The role of firm heterogeneity in efficiency and foreign trade performance* used firm level data of the period between 1992 and 2006 to explore the relationship between firm dynamics and productivity increase in the private sector. Theories emphasising firm heterogeneity point out that in addition to improved efficiency at individual companies, a sectoral increase in productivity may also be a result of creative destruction, i.e., the restructuring of the relative contributions of the companies. Relying on the methods known from the international literature, the project has revealed that while in Hungary, sectoral increases in productivity can primarily attributed to improved efficiency at companies operating continuously, creative destruction also played a substantial role during the period under analysis.

The project entitled *The competitiveness of firms, regions and industries in the knowledge based economy: What room for job rich growth in Europe?* looked into the relationship between R&D, innovation and government support based on an analysis of firm-level data. The data show that individual firms received government subsidies for a relatively extended period of time. Companies receiving relatively more support tend to pursue R&D activities for a shorter length of time and allocate fewer resources for this task. Subsidies boost both R&D and innovation. Subsidised firms are characterised by lower productivity. One reason they were selected for support may be that their productivity could potentially be raised to a greater extent by, for instance, the use of more advanced technology.

The project entitled *European firms in a global economy: Internal policies for external competitiveness* relied on data from 170 countries to investigate the effects of customs clearance and other administrative practices on international trade. Countries with longer import administration procedures receive fewer but larger shipments. The welfare burdens of administrative constraints are shown through a simple model.

The project entitled *Science, innovation, firms and markets in a globalised world* analysed within-qualification job flows in a sample selection model with special emphasis on the differences between innovative vs. non-innovative firms. The model was constructed in two steps: the selection equation of the first stage explains the presence of job-creation or job-destruction at a particular firm while the separate dynamic equations of the second stage of the model explain the intensity of job-creation or job-destruction. Within the analysis period of 1998-2006, the estimation is broken down to three sub-periods: 1998-2000, 2001-2003 and 2004-2006. The results for the three sub-periods show statistically significant differences; the role of the economic variables in corporate employment decisions decreased in parallel with the intensification of the government's labour market interventions. Innovative firms do not differ significantly from non-innovative companies: they do not create more jobs and the pace of change in employment structure does not depend on qualifications. With company attributes taken into consideration, firms in industries using high technologies overall create even fewer jobs for higher education graduates than do firms in other industries. This is clearly related to the low level of innovation activities characterising industries using high technologies in Hungary.

The project entitled *Historical Climate and economic development* looks at the old question of the effects of climate and, within that, temperatures on economic growth. A temperature database covering the past three centuries in 167 countries has been constructed. The main conclusion of the data analysis is that with historical temperatures taken into account, current temperatures do not have an effect on income per capita. This result suggests that effects of temperature on economic development are largely limited to indirect effects.

The theoretical literature pertinent to the project *Structural change and economic growth* has identified two major mechanisms generating structural change together with economic growth. One of these highlights the income effect: with an increase in income, demand shifts from agricultural products towards industrial products and services. The second mechanism relates to the relative price effect: structural change in this case is caused by a rise in the price of services relative to the price of industrial and agricultural products. The operation of each mechanism is contingent on specific assumptions related to technology and preferences. The project explores the question of which of the preference assumptions is congruous with the macroeconomic figures for the United States from 1948 to 2007. The most important finding of the analysis is that the preference specification is highly dependent on whether the estimation is based on the use side or on the production side of GDP.

In the project entitled *Oligopolistic pricing – price rigidity*, an agent-based oligopolistic pricing model was constructed in which price decisions developed over a long period of time through evolutionary adaptation. While the pricing strategies emerging from the model appear to be interpretable – the prices tend to stay within the range between the Nash equilibrium and the cooperative price – the results also reveal a non-negligible degree of price rigidity. The model thus has the potential of providing a new explanation for price rigidity differing from the usual explanations.

The project entitled *Tax evasion* developed a set of tax evasion models in which the flat-rate tax exclusively finances public goods. The starting assumptions were reformulated to allow the problem to be explored in an agent-based model. The model gave rise to path dependence and unusual Laffer curves, and social cohesion was found potentially to contribute to decreased tax evasion.

The project entitled *The housing market in an agent-based framework* transposed a classic housing market model into an agent-based environment. It was shown that an analysis of the learning process could play an important role in characterising market adjustments. A characteristic feature of the housing market is that each actor realises transactions with low frequency. As a result, learning based on individual-level information induces slow and persistent market adjustment. Using the entire body of information, however, leads to fast and oscillation-free dynamics.

The project entitled *Asymmetrical information and/or limited rationality: Why to protect consumers and what from?* starts with the assumption that with regard to consumer protection in the narrow sense, the recommendations of traditional economics were simple: consumers are to be kept informed as fully as possible, and since this is often in conflict with corporate interests, the process is to be regulated introducing the policy of obligatory free access to information. The regulatory body is responsible for deciding which pieces of information are “relevant.” Behavioural economics, however, considers not only poorly informed but also moderately rational consumers. This allows an act of misleading consumers to be interpretable in economics. For this approach, in fact, the concept of misleading covers not only lies or misinformation but also the deliberate exploitation of consumers’ cognitive and decision errors or their “irrational” preferences. Also, the new approach raises new issues in connection with regulatory failures compared to the old theory, in which regulatory failures could only be explained by the regulators’ information deficiency. Limited rationality applies both to regulators and law enforcers.

Prompted by the crisis of 2007-2009, the project entitled *Bubbles and legends: Financial crises and their explanations* looks at the development of financial bubbles and its explanations, and the development of narratives emerging in the early modern period and their modern reinterpretations to find an answer to the question of whether the bubble is nothing more than a metaphor *in lieu* of an explanation or else a useful tool in the economic analysis of the actual behaviour of market agents. The project entitled *The history of the invisible hand* traces the concept of the invisible hand as used in the 18th century, specifically by Adam Smith, the “reinvention” of the metaphor in the 19th century and its evolution into a cornerstone of the “neoliberal” economic and political discourse in the 20th century.

#### **EMPIRICAL INDUSTRIAL ORGANISATION**

Volume 3 of the yearbook *Competition and regulation* addresses the questions of how the phenomena of network effects and externalities became “hot” topics in the economic and legal literature; to what extent the review of formal decisions is constrained by the concept of business secret; and what role is played by “experts” in the process of reviewing public administration decisions. In addition to discussing legal issues, the latest research results are also used to describe theoretical and empirical methods of economic analysis applicable to regulation and competition policy. Hungarian network industries are first analysed in the context of OECD data, which is followed by a detailed discussion of the market position of postal services, telecommunications and electricity and gas supply services.

*Competition in excise tax rates on gasoline among EU countries* was explored in a model of small versus large countries with price elasticity of consumer demand. The analysis of gasoline excise tax rates in 16 European countries between 1978 and 2005 reveals that larger countries respond more sensitively to tax changes in neighbouring countries than do smaller states. It has also been shown that strategic interactions between member states intensified starting with the mid-1990s, which, in combination with the former finding, provides an explanation for the observations that, from this time onwards, the smaller countries kept introducing lower tax rates than their larger neighbours and that the European Union failed to create a better harmonised excise tax system by specifying a minimum tax rate.

The analysis of *network industries in the converging European markets* has shown that the Commission's initiatives concerning a European level of regulation are only partially implemented due to a frequent lack of political consensus. The system of regulations is more and more frequently "assisted" by measures supplied by competition authorities. In preparing decisions and formulating policies affecting individual industries it is important to be acquainted with the actual extent of market opening. The research project looked at OECD indicators and analysed their information content and the limitations of their practical validity. They were found to be a useful source of information for initial orientation and to provide a rough indication of the relative positions of countries and industries. The analysis has concluded however that deeper, and most of all more detailed, studies are needed for the evaluation of the actual market opening taking place in the area of network industries.

The research project concerned with *the recent literature on vertical restraints* explores the issues of tie-in sales and product bundling. The economic analyses reviewed during the project suggest that in this area, economic analyses are almost entirely limited to market models in which market competition is heavily restrained. Given the assumption of strategic behaviour, little effort has been made to analyse considerations of cost reduction or efficiency.

The international project entitled *Advancing knowledge-intensive entrepreneurship and innovation for economic growth and social well-being in Europe* has revealed that although the quality of the Hungarian regulations is deemed satisfactory, the policy alone is insufficient for boosting competition. Businesses do not see market competition as a driving force of innovation. The main message of the analysis of the conditions affecting *the innovation activities of enterprises* is that just a few well-chosen innovation policies are not enough to achieve a fast and radical improvement in the Hungarian Innovation System. Major changes are needed both in the development and the execution of strategies and policies taking into account all the factors affecting innovation.

The results of the project analysing the *problems in using venture capital to finance innovation-oriented enterprises in Hungary* suggest that a boom is expected in the near future in classic venture capital investments in Hungary, which is a country losing some of its attraction in the eyes of regional private equity funds preparing for major takeovers but which had a leading position until autumn 2010 in setting up the JEREMIE fund and in the liberal regulation of private pension plan investments. In the midst of the crisis-induced credit fund decline, this boom may improve small and medium-sized firms' opportunities of external financing and accelerate the development of these businesses. The "nationalisation" of private pension funds may, however, put an end to this process.

The project on the *Privatisation process in Romania* analysed the driving forces of privatisation decisions: Did the decision makers intend to achieve higher efficiency, to preserve jobs or to maintain wage levels? As a first step, the effects of privatisation are

determined as a function of the pre-privatisation values of the above mentioned variables, which constituted the information pool at the time of decision making on which firms to privatise. Next, the estimated effects are used to simulate the effects of privatisation on staff size, efficiency and wages for the group of firms open to privatisation and the group of firms not open. The results suggest that policy makers' foremost objective was to maintain staff size even if this could only be achieved at the expense of productivity growth.

#### *GLOBALISATION, EU-INTEGRATION AND CONVERGENCE*

A study of the relative macroeconomic performance and international competitiveness of different countries calls for the involvement of a broad range of varied factors and methods of analysis. Two studies looking at *international competitiveness in Hungary* in the context of economic performance over the past 15 years accordingly took a variety of factors into consideration: external performance at current and average prices, the export growth, the import penetration, the net effect of the latter two factors and, finally, Hungary's export performance in various geographical regions. The results reveal that in the 2000s, especially in the second half of the decade, the Hungarian economy shows two distinct pictures considering the gross domestic product versus the relative export outcomes. While the former shows a definite decline, in the latter stagnation and slowdown are mixed with several signs of improvement. Although these signs are open to a number of interpretations, it is clear that a general decline in the competitiveness of the Hungarian economy was not the case when looking at the past decade. During the second half of the 1990s, the competitiveness of the Hungarian economy displayed far greater improvement than the competitiveness of any other country in the region. During the following decade, however, its competitors in Eastern and Central Europe not only caught up with Hungary but in several respects surpassed it. Even so, looking at the indicators of Hungarian international trade in the context, for instance, of the whole of the European Union or focusing on changes in volume, no relative decline may be observed. While the economic policies of the 2000s may not, as a whole, have encouraged improvement in the international competitiveness of the Hungarian corporate sector, it seems reasonable to assume that the group of firms already geared towards export proved to be more resistant to swings in economic policy than the corporate sector as a whole, and were able to maintain or even improve their position in the face of governmental policy influences.

The advances in technology and the liberalisation of commerce have recently made it possible for business services – with their fragmented structure – to participate in international trade especially through *foreign direct investment* and, within that, as part of multinational corporate chains. Recent case studies are available on *Hungarian firms forming a part of multinational chains*, the analysis of which have shed light on the local attractions motivating the setting up of such activities in Eastern European countries and, specifically, in Hungary. Investor firms group the Visegrád countries together in terms of the *benefits of their local business environments* taken into consideration in making a decision on the location of company units providing international services. The firms finally deciding on Hungary list the following typical reasons for preferring the Hungarian economy: while Hungary on the whole lags behind other countries in terms of foreign language skills, the firms have no problems finding employees with excellent language skills among new graduates and Hungarian speaking workers coming from neighbouring countries; it is a general experience that Hungary offers a better price-quality ratio in human resources than do the rest of the Visegrád countries; other Hungary-based subsidiaries of the investor firm have accumulated positive experiences of the country; and, finally, the local conditions necessary for the re-integration of

the fragmented segments of services, e.g., the info-communication infrastructure, are considered to be good in Hungary.

An important and special scene of Hungarian firms' adjustment to the global market crisis is *the Hungarian automotive industry*. It is important because of the role it plays in manufacturing production and export and is a special case because it had to face an excess capacity and the cost pressures of saturation even before the worldwide recession, and it never lacked government subsidies stabilising its position. The analysis of the effects of the crisis on this Hungarian industry reveals that some of the suppliers made efforts to relieve competition pressures and strengthen their market position even before the onset of the crisis. The crisis had the effect of accelerating this process: successful enterprises now provide extra services for their customers and work to establish a closer relationship and cooperation with them. These businesses typically take up more complex activities in which the geographical distance prevents their Chinese or Indian competitors from competing with them. A further means of adjustment is the forming of a strategic partnership between relatively small suppliers, which increases their capacity and allows them to make a larger offer to their partner. The promising "escape routes" mentioned here are not accessible, however, to every Hungarian supplier. Firms unable to offer extra services and relying purely on cheap labour are therefore likely to be excluded from the automotive industry's supplier market at an accelerated rate. In an effort to prevent this process, economic policy may introduce tools suitable for guiding threatened companies towards appropriate adjustment strategies.

#### *ECONOMICS OF EDUCATION*

*The relationship between the fiscal position of local governments and education quality* was analysed based on data from the National Assessment of Basic Competencies. The results reveal that among urban areas, higher local tax revenues are associated not only with higher school spending but also with better education quality: On average, students perform better in towns and cities with higher tax revenues. The differences between the urban settlements are of a non-negligible size. Among villages, in contrast, there is no clear correlation between local tax revenues and the quality of education. The differences associated with local tax revenues constitute a problem of equity in themselves and are likely to play a role in the development of the low level of equality of opportunity since there are more disadvantaged students living and attending schools in poorer settlements. If the gap in education quality between relatively poor and relatively rich settlements is indeed explained by the fiscal position of their local governments, the problem may be redressed by revising the support system, providing additional support targeted at poor local governments and redistributing subsidies among local governments.

The project entitled *Teacher effects in the development of student competencies in Hungary* looked at teacher outcomes in a series of value added models using longitudinal data on 7th and 8th grade students and individually linked teacher data. The results reveal that there are substantial differences between teachers in terms of outcomes but these differences are somewhat smaller than those observed on American and British data. The estimated variance in teacher quality accounts for roughly ten per cent of the variance in student test performance. These results indicate that an improvement in teacher quality could significantly enhance education outcomes. The variance in teacher quality is at least as high within schools as it is across schools, which suggests that there is no extreme segregation of good and less good teachers across schools.

The research project analysing *the role of lower-secondary schools in educational selection* has found that the appearance of lower-secondary schools was accompanied by an increase in educational inequality. Lower-secondary schools inflate 8th to 10th grade test score differentials across school types. The data further reveal that social status has a stronger effect on test scores in micro-regions with lower-secondary schools, i.e., the education systems of these micro-regions are characterised by a higher level of inequality than the systems of other micro-regions. Students attending lower-secondary schools tend to have higher social status and, on average, higher test scores. Although applications to lower-secondary schools are evaluated on the basis of ability, as there is a strong correlation between ability and social status among young children, applicants having higher status are more likely to be admitted. Students attending lower-secondary schools also profit more from the education programme offered to them than students at other types of school.

The project exploring *secondary education and dropouts* analysed new datasets to describe the position of Roma youths in secondary education during the post-millennium period. The dataset under analysis follows individual students from eighth grade to the first semester of twelfth, their final, grade. The students' ethnicity was determined with reference to their parents' ethnic identity. A new feature of the Hungarian Life Course Survey was that the question on ethnicity allowed respondents to specify double identities. Looking at parents' self-reports of ethnicity, almost 8 per cent of the youths in the sample turn out to be of Roma ethnicity. The research reveals that three and a half years after completing 8th grade, about 90 per cent of all youths are found attending school full time and about 75 per cent are in 12th grade, i.e., have moved up without grade repetition. The corresponding figures among the Roma youths are only 60 and 40 per cent. Dropping out and grade repetition occur with especially high frequency among vocational school students and those studying part-time. Switching between school types is also a frequent phenomenon and for those moving to part-time education or dropping out there is virtually no way back. Although 8th grade competency test scores are a good predictor of further education or dropping out at a later stage, the relationship shows a different pattern among students with low educational attainment and among Roma students, which suggests that there are other mechanisms at play. Dropping out and the disadvantages observed at secondary school are to a large extent a legacy of the disadvantages accumulated before starting secondary school but among the most disadvantaged groups other factors may also play a significant role. For these reasons, interventions targeting secondary school students may have lower than expected efficacy. Carefully targeted interventions can nevertheless help the most disadvantaged students complete their secondary education.

The research project analysing *test score differentials between Roma and non-Roma students* discusses the average test score gap measured in 2006 between Roma and non-Roma eighth grade students in Hungary and isolates purely ethnic factors from other explanatory factors. The ethnicity-based comparison was made possible by linking the data of the National Assessment of Basic Competencies and the data of the Hungarian Life Course Survey. The average difference between Roma and non-Roma 8th graders was found to be about one standard deviation for both mathematics and reading comprehension tests. This discrepancy is very similar to the gap observed in the early eighties in the United States among black versus white students of about the same age. With health, parenting variables, school fixed effects and parents' educational attainment and income position controlled for, the gap between the Roma and the non-Roma students completely disappears in reading comprehension and shrinks to 0.15 standard deviation in mathematics. The ethnicity gap in test scores is in a great

part accounted for by health, parenting style and school. The substantial ethnicity-related differences in health and parenting style are in turn virtually totally explained by differences in parents' educational attainment and family income.

### *LABOUR MARKET RESEARCH*

The effects of regular supervision among the unemployed on the *duration of unemployment* were analysed asking the question of whether supervision ensured active job seeking. Although the absence of job seeking activity was not sanctioned by the withholding of benefit payment, the participants were not necessarily aware of this fact. The study concludes that the programme had an effect on the duration of unemployment among women over the age of 30.

The project exploring the relationships between *the hidden economy, undeclared employment and the economic crisis* has come to the conclusion that the economic crisis is expected to increase the incidence of undeclared employment or employment disguised as business activity, as well as the incidence of cash payment under the table and payment by invoicing (employment disguised as subcontracting). Looking at the phenomenon from the perspective of workers, there are a number of casual chains leading from the fact or increased risk of unemployment to the growing probability and rising incidence of the acceptance of undeclared employment. The probability of employment for cash under the table decreases with an increase in educational attainment while the risk of unemployment increases with a decrease in educational attainment. There is a positive association, however, between the likelihood of payments by invoicing and level of education. Previous empirical studies have shown that the unemployed (and casual labourers) are substantially more likely to accept cash under the table or job offers with payment by invoicing than workers in employment. The growth of unemployment therefore ups the likelihood of pay packages involving cash under the table or invoicing and increases undeclared unemployment.

The project looking at *Roma employment* during the transition period analyses the most reliable datasets available on the low level of employment among the Roma between 1993 and 2007 and discusses its major causes. Roma employment collapsed in the wake of the regime change; the gap in the employment rate among the Roma versus the non-Roma populations grew to 40 percentage points both for men and women, and this difference has not changed since. The analysis showed that the most important factor behind the employment gap is the level of educational attainment; for women the number of children also has a major contribution. Geographical location, however, does not seem to play a major role once the effects of educational attainment have been controlled for. A wage gap of 30 per cent is observed among the Roma versus the non-Roma employees, at least half of which is accounted for by differences in educational attainment.

In connection with *the labour market effects of the crisis*, the incidence of soft adjustment strategies such as working time reduction and wage cuts at companies during the first year of the crisis was explored. The corporate and individual panel data covering May 2008 and May 2009 reveals that there was little change in the distribution of wages – except for the effects of the rise in the minimum wage – and working time cuts did not appear to spread beyond the group of firms receiving job preservation support. In the business sector, the burden of adjustment was essentially borne by employment; cross-company variation is analysed with reference to changes in workforce composition. The heavy reliance on extensive adjustment strategies may be related to the lack of programmes encouraging soft solutions, to the

minimum wage regulations and to the fact that several firms were able to reduce their staff size through restrained labour hiring.

The issues of *population ageing and pension reform* were studied through the development of a new model, which is sufficiently complex to analyse the multiple relationships between population ageing and the pension system and to separate the effects of various reforms. The model is at the same time simple enough to be reproduced allowing the replication or testing of the results. The majority of previous models could not meet all these criteria at the same time: They were either too simple to analyse the minimally necessary number of combinations or they were too complicated to include all the equations.

A project looked into possible distortions in the data concerning *the wage premium of higher education graduates* in response to the observation that the wage premium of graduates relative to workers with lower educational attainment is exceptionally high in Hungary compared to other countries. Actual incomes were compared with the income levels measured by questionnaire surveys based on the responses to questions on subjective well-being. The rationale behind the method is that since life satisfaction is positively correlated with income, it can be inferred from the information on satisfaction whether there is an unexplained component of satisfaction that may indicate the presence of latent income. With the effects of income, economic activity, gender and age controlled for, higher educational attainment is accompanied by a higher level of satisfaction. The satisfaction gap between those with primary education and skilled workers is a result of better health among the latter. The satisfaction gap between those with secondary education and skilled workers is a result of the stronger degree of social embedment of the former population. With all of these factors taken into consideration, graduates are still far more satisfied with their lives than any other people.

*The wage gap between the public and the private sector* was analysed for the period between 2002 and 2008 in Hungary. The wage gap between the two sectors was decomposed using a method that takes the change in the total wage distribution into account in measuring the portion of the gap explained by worker, company and workplace characteristics, and any remaining wage differentials. The results of the project reveal that at the various points of the wage distribution, there are significant differences both in level and in direction between wages in the public and the private sectors and the portion of the gap explained by the various characteristics.

#### *PUBLIC ECONOMICS AND PUBLIC POLICIES*

*Changes in the tax paying behaviour* of actors in the Budapest courier market were studied through interview data in connection with the “whitening” initiative of one of the dominant actors. The results of the new field work launched in 2010 reveal that the “whitened” actor could successfully maintain, or even increase, its market share; its customers accepted the cost increase transferred to them, which was associated with a shift from non-declared employment to declared employment. A number of other market actors also decided to “whiten their ways.”

The project analysing *corporate staff size management* looked into the question of whether and to what extent an enterprise’s intentions can predict their actual behaviour concerning staff size management. Discrepancies between the intentions and the practices were analysed to identify the internal causal factors related to corporate spending, organisation and the company management as well as the firm-external market and macro factors. The interviews with corporate HR managers indicate substantial variation across Hungarian firms in terms of

the presence and depth of market and strategic planning. This suggests that the validity of their statements may significantly differ from their intended labour market behaviour. The explanation is likely to lie in industry-specific factors related to ownership structure and long-term profitability.

The research project exploring the role of *multinational firms with strong effects on labour relationships* in Hungary and other EU countries undertook to shed light on the ways a company carrying a distinct corporate culture and coming from a dissimilar system can transpose its labour and management practices to the new environment of the host country, and on the ways the host country responds to that. The interviews and case studies conducted at the parent companies and their subsidiaries indicate an erosion process in group-level “corporate social models,” showing the presence of international (mostly Anglo-American) features in the ‘Hungarian model’ and the ‘internationalisation’ of the social models advocated by the parent companies. Under, or in spite of, the circumstances created by the crisis, increasingly greater emphasis is given to the approach of “human resources management” choosing its tools from among the globalised tool set of corporate management, which strengthens unmediated employer-employee relationships. The relatively small number of international studies alternately show the dominance of the “principles” of the country of origin and of those of the host country in the contest between the local rules and traditions of labour relationships and the company pressing for the “new” norms.

#### *AGRICULTURAL ECONOMICS AND RURAL DEVELOPMENT*

*The investment effects of non-farm incomes* were analysed in the agriculture of Hungary and Slovenia. The results show that agricultural incomes are more important in Slovenia than in Hungary. Investment activities are positively affected by non-farm incomes and negatively affected by subsidies in both countries. The effects of non-farm incomes on *technical efficiency* were analysed in the agriculture of Slovenia between 2004 and 2008. The results reveal that non-farm incomes play a significant role in Slovenian agriculture. During the period under analysis there was an increase in technical efficiency in farming regardless of the availability of non-farm incomes. While non-farm incomes and plant size had a statistically significant positive effect on technical efficiency, subsidies did not display such a clear effect.

Concerning the enforcement of *certain below cost rules specified by agricultural and trade laws*, the regulations on sales at prices below the procurement price and the practical experiences of several OECD countries were explored in the international literature. The project has found no uniformity in regulation policies. The regulations vary by product even within an economic region or country and as a function of industry. Another crucial lesson learnt from the review of theoretical and empirical studies is that the positive effects of a ban on sales at prices below the procurement price are at best questionable.

Looking at *the horizontal integration of the milk markets of Hungary and Poland*, two distinct regimes were identified in terms of the long-term relationship between milk market prices, the reality of which is evidenced by international trade data. A fall in the forint/zloty exchange rate was accompanied by a rise in Polish milk export to Hungary and *vice versa*.

#### *GAME THEORY*

*The generalisation of weighted voting games* contributes to a fine-grain, realistic evaluation of power relationships in representation-based decision making bodies. The introduction of the concept of non-strategic absence allows a majority coalition to become a minority at times,

and thus the attainment of simple or qualified majority is no longer equivalent to the possession of unlimited rights granted by a majority position. Applying the model to the real-life parliamentary balance of power reveals that the two-thirds majority of the current government coalition is less secure than that of the coalition in 1994-98, and its position is substantially more vulnerable to representatives' withdrawal decisions.

The analysis of *the balance of power in the European Union's Council of Ministers* is a popular target of weighted voting games. The Lisbon Treaty ratified in 2009 has substantial short and long-term effects on the leverage of individual countries. While the new decision mechanism substantially reduced the EU's powerlessness, the changes primarily benefit the countries with large populations and, interestingly, the smallest countries while the relative influence of other states, including Hungary, decreases. The new decision mechanism focuses on population size as the factor determining the countries' voting weights starting in 2014, which means that the unfavourable demographic processes will further reduce Hungary's share of decision making and thus its leverage.

*The quality ranking of science journals* relying on citation frequencies is an important issue for the measurement of science and scientific activity and can be linked to a method of evaluation widely studied in the theory of social decision making. The resulting approach is more objective than either the well-known impact factor measure or the invariant method also used by web search engines since it is less open to manipulation. Furthermore, the results are less sensitive to the field of science in which the journals specialise or to the size of a given field. The method is therefore suitable for interdisciplinary comparison. Applied to economics journals, the approach reinforces the position of leading journals but offers a few surprises in the centre of the range. Journals typically publishing long articles, for instance, come out lower in the ranking than usual while those publishing brief papers appear higher up.

The **Databank** of the Institute was updated with the 2009 wave of the Wage Survey, the 2008 wave of T-Star and the data for Quarters 1-4 2009 of the Hungarian Central Statistical Office Labour Force Survey. Household-level indicators were developed, which were linked to individuals observed since 1993 in the Labour Force Survey. This allows family size and each member's labour market and transfer status to be included with individual-level data in analyses of labour market behaviour. Similarly to their *labour market* status, for each quarterly wave since 1993, respondents' *transfer status* observed in the wave following the reference quarter was linked to their records for the wave of the reference quarter. This permits the multivariate analyses of transitions between various labour market and transfer status.

## **b) Relationship between science and society**

During this year, the research portfolio of IEHAS included issues in current economic policy, well-being and national themes in addition to its basic research. Special emphasis is placed on disseminating IEHAS's research results of public utility through the appropriate forums, on presenting publications at public events and making them accessible to the general public on the IEHAS web pages.

For the past 11 years, *the Hungarian Labour Market* series supported by the Hungarian Public Employment Foundation has provided information for labour market decision makers, enlightened those eager to learn about the labour market and educated students at higher education institutions. The introductory chapters of the yearly volumes published in

Hungarian and English with parallel structures provide an overview of labour market processes in Hungary. The current volume understandably places special emphasis on the analysis and discussion of the labour market consequences of the economic crisis.

The publication entitled *Competition and Regulation* supported by the Hungarian Competition Authority undertakes to boost the interaction between scientific evidence and policy making by providing economic analyses to be used in competition and industrial regulation. The target audience of the volumes includes higher education institutions specialising in this field, regulative bodies formulating competition and industrial laws, the government administration, the members of the judiciary specialising in legal issues in competition regulation, consultant firms, consumer organisations and enterprises subject to industrial regulations and competition authority procedures. A joint seminar series is organised in collaboration with the Competition Authority's Centre for Competition Culture on the themes of market analysis, competition policy and regulation.

IEHAS maintains a public *Databank* in observance with the pertinent legal regulations in an effort to support empirical research, especially studies using microdata. Several datasets have been gathered allowing the analysis and tracking of personal decisions on labour supply, consumption and education. The data have been reorganised and consolidated to save researchers long months or possibly years of data preparation before they can start their analyses. Besides assisting professional researchers, the Databank also endeavours to make the results of the highly detailed and fine-grain data studies accessible to those who are prevented by time constraints from embarking on a sophisticated analysis process. A variety of interfaces of on-line access have been developed for this group (<http://adatbank.mtakti.hu/pages/lang/en/>).

The on-line Hungarian **Regional Database** developed with the support of the Hungarian Employment and Social Office is a unique resource available in Hungarian and English language versions listing the figures of almost 500 social and economic indicators for every settlement in Hungary on its website at <http://eroforrasterkep.hu/>. Users can download their selected data in a tabulated format or display them in a graph or on a map. Version 1.0 of the Regional Database can display 325 thousand different maps and is freely available on the Internet.

In 2010, IEHAS launched its *science blog* as a forum for debating the results of its completed research or work in progress, views on research strategies and current economic, public and social policy issues. The IEHAS research staff regularly publishes views and reports here thereby creating an opportunity for public interaction ([http://blog.mtakti.hu/blog\\_cikkek/index.php](http://blog.mtakti.hu/blog_cikkek/index.php)).

Media events involving the IEHAS staff are collected and made available to interested parties under *Media Watch*. The English and Hungarian language versions of the IEHAS website provide up-to-date information on the research profiles of its research teams, on publications, conferences and workshops organised by the IEHAS and on major research projects. An important component of its communication strategies is the tracking of website traffic statistics.

### **III. A presentation of national and international relations**

The IEHAS research staff teaches courses at almost every Hungarian higher education institute offering undergraduate or postgraduate degrees in economics (among others, the Central European University and major universities in Budapest and other cities). As part of a

collaboration agreement, IEHAS regularly contributes to the PhD programmes at the Pannon University of Veszprém and at the University of Szeged. Its researchers also teach at universities abroad and have external research positions at renowned research centres in other countries. IEHAS continues its close co-operation in labour market research with the Human Resources Department of the Corvinus University of Budapest. Ten new studies appeared in their jointly published Budapest Papers in Labour Economics. The IEHAS series of Working Papers presented 32 new works.

The IEHAS's annual labour economics conference was organised with the title of 'Crisis in the labour market – and afterwards'. The IEHAS's tenth Summer Workshop provided a forum for young economists studying or pursuing their careers abroad. The international event entitled "Transition in Agriculture – Agricultural Economics in Transition" was organised for the seventh time in the framework of the collaborative research projects supported by the Research Trips programme of the Hungarian Academy of Sciences.

The IEHAS has signed collaboration agreements with the Institute of Economics of the University of Kyoto and the SNU-KIEP EU Center of Korea. In the framework of the previously agreed collaboration with the School of Economics and Business Administration (SEBA) of Beijing Normal University, a labour economics conference was held in Beijing. In Budapest, a high ranking delegation with representatives of the Central Commission of the Communist Party, the Chinese Academy of Sciences and notable Chinese universities was received at a Chinese-Hungarian round table discussion on the Hungarian effects of the global financial and economic crisis and the lessons learnt from them. In a meeting with Danish government officials, the future of the EU's coordinated policies and the effects of the crisis were discussed. A conference was organised jointly with the World Bank and the Centre for European Regional and Local Studies (EUROREG) of the University of Warsaw. The conference was held in Budapest with the title of *Adaptability and Change – the National and Regional Dimensions in Central and Eastern Europe*. One of IEHAS's researchers prepared labour market analyses for the expert network of the EU Employment Observatory. Another researcher has been invited to the Quality Assurance Committee supervising the quality of studies prepared for the Hungary - RTD Technological Audit announced by the Information Society and Media Directorate General of the European Commission.

IEHAS's researchers had visiting research positions at the Department of Economics of the University of Washington in Seattle, at the Department of Economics of UCSD in San Diego and at the Center for the History of Political Economy at Duke University in North Carolina.

IEHAS's researchers were invited by the Hungarian Statistical Office to comment on the indicator system for social services, participated in the mid-term evaluation of the New Hungarian Rural Development Programme and wrote and evaluated market analysis reports as members of the Hungarian Marketing Association. They were further invited by the Hungarian Venture Capital Association to collaborate with the European Private Equity and Venture Capital Association in a survey of the accessibility of resources in the Hungarian venture capital and private equity market in 2009, of investments in, and withdrawals from, firms based in Hungary. They also participated in the evaluation of the integrated flagship initiatives of the Europe 2020 programme. One of IEHAS's researchers was invited by the president of the Hungarian Office for Research and Technology to take part in the work of the Social Science Work Group of the National Research Infrastructure Development Plan project involved in preparing a Hungarian research infrastructure survey and development strategies. As a member of the Advisory Board of the Europrosperitas 2010 Foundation, a researcher

contributes to the organisation and evaluation of co-operation involving cross-border Euroregions.

Several of IEHAS's researchers are among the founders or board members of the Hungarian Society of Economics and participate in the work of the Hungarian Economic Association as board members. The Macroeconomics and growth research unit has signed a collaboration agreement with the Department of Economics at the Central European University. Joint research has been conducted with a commercial bank.

#### **IV. Brief summary of national and international research proposals, winning in 2010**

28 projects funded by the Hungarian Scientific Research Fund were ongoing during the year, three of which were new. Within the IEHAS's research grant activities it is of special importance that researchers began the implementation phase of the special project on Labour market forecasts and the forecasting of restructuring processes supported by the Social Renewal Operational Programme No. 2.3.2-09/1. IEHAS won a Momentum grant awarded by the Academy of Sciences to set up a new Game theory research unit. The projects undertaking to develop teaching materials in co-operation with the Faculty of Social Sciences at ELTE University of Budapest and the Balassi publishing company are also funded by the Social Renewal Operational Programme. A further research grant was awarded by The Competition Authority's Centre for Competition Culture to support the publication of next year's volume of Competition and Regulation and the work on four research projects. The publication of the Hungarian Labour Market yearbook continued to be funded by the Hungarian Public Employment Foundation.

The large-scale international research projects funded by EU Framework Programmes were continued – *The Competitiveness of Firms, Regions and Industries in a Knowledge-Based Economy: What Room for Job-Rich Growth in Europe?* (MICRO-DYN); *Science, Innovation, Firms and Markets in a Globalized World* (SCIFI-GLOW); and *European Firms in a Global Economy: Internal Policies for External Competitiveness* (EFIGE) – and a number of new projects were launched. The impact of security and defence policies on the European research area are analysed through the development of predictive models. The objective of the second new project (ERA-NET) is to coordinate current and future research efforts at a European, national or regional level exploring the relationship between agriculture and rural development, and analysing the new challenges of sustainability.

A junior researcher won a research award announced by the World Bank for her research project entitled Wage inequality and firm characteristics in Hungary: Evidence from linked Employer-Employee Data, 1986-2008.

#### **V. List of important publications in 2010**

Bakucs LZ, Fertő I, Hockmann H, Perekhozhuk O

Estimating oligopsony power in the Hungarian market for slaughter hogs.

EASTERN EUROPEAN ECONOMICS 48:(1) pp. 64-78. (2010)

Bakucs LZ, Latruffe L, Fertő I, Fogarasi J

The impact of EU accession on farms' technical efficiency in Hungary.

POST-COMMUNIST ECONOMIES 22:(2) pp. 165-175. (2010)

Bojnec S, Fertő I

Southeastern European agrofood trade specialization.

EASTERN EUROPEAN ECONOMICS 48:(3) pp. 23-51. (2010)

Brown JD, Earle JS, Telegdy Á

Employment and wage effects of privatisation.: Evidence from Hungary, Romania, Russia and Ukraine.

ECONOMIC JOURNAL 120:(545) pp. 683-708. (2010)

Fazekas K, Molnár Gy (szerk.)

Munkaerőpiaci tükör, 2010.: Közelkép: A válság munkapiaci hatásai. (The Hungarian Labour Market, 2010.: In focus: Labour market effects of the crisis)

Budapest: MTA Közgazdaságtudományi Intézet; Országos Foglalkoztatási Közalapítvány, 2010. 350 p. <http://econ.core.hu/kiadvany/mt.html> (in Hungarian)

Fertő I, Soós KA

Marginal intra-industry trade and adjustment costs in the first phase of transition.: A Hungarian-Polish comparison.

JOURNAL OF ECONOMIC STUDIES 37:(5) pp. 495-504. (2010)

Havas A, Schartinger D, Weber M

The impact of foresight on innovation policy-making. Recent experiences and future perspectives.

RESEARCH EVALUATION 19:(2) pp. 91-104. (2010)

Karsai J

Private equity in CEE.: The development of venture capital and private equity industry in Central and Eastern Europe. Saarbrücken: VDM Verlag Dr. Müller, 2010. 60 p.

(ISBN:978-3-639-22247-0)

Köllő J

Vállalati reakciók a gazdasági válságra, 2008-2009. (Firm level responses to the economic crisis 2008-2009)

KÖZGAZDASÁGI SZEMLE 57:(12) pp. 1045-1064. (2010)

[www.kszemle.hu/tartalom/cikk.php?id=1206](http://www.kszemle.hu/tartalom/cikk.php?id=1206) (in Hungarian)

Lackó M

A magyarországi rossz egészségi állapot lehetséges magyarázó tényezői.: Összehasonlító makroelemzés magyar és osztrák adatok alapján, 1960-2004. (The poor health status of Hungarians: a comparative macro-analysis of likely explanatory factors using Hungarian and Austrian data, 1960-2004)

KÖZGAZDASÁGI SZEMLE 57:(9) pp. 753-778. (2010)

[www.kszemle.hu/tartalom/cikk.php?id=1190](http://www.kszemle.hu/tartalom/cikk.php?id=1190) (in Hungarian)

Laki M

The Evolution of the Market of the Hungarian Printing Industry after 1989: The End of a Success Story?

EUROPE-ASIA STUDIES 62:(6) pp. 933-957. (2010)

Oblath G

Magyarország versenyképessége nemzetközi összehasonlításban - a makrogazdasági mutatók jelzései. (Competitiveness of Hungary in international comparison – macroeconomic

indicators)

KÜLGAZDASÁG 54:(9-10) pp. 3-53. (2010) (*in Hungarian*)

Szentpéteri Á, Telegdy Á

Political selection of firms into privatization programs.: Evidence from Romanian comprehensive data.

ECONOMICS & POLITICS 22:(3) pp. 298-328. (2010)

Valentiny P, Kiss FL, Nagy CsI (szerk.)

Verseny és szabályozás, 2009. (Competition and regulation, 2009)

Budapest: MTA Közgazdaságtudományi Intézet, 2010. 375 p.

(ISBN:978-615-5024-02-3)

<http://econ.core.hu/kiadvany/vesz.html> (*in Hungarian*)

Vincze J

Makroökonómia és a gyakorlat. (Macroeconomics and practice)

Budapest: Typotex Kiadó, 2010. 172 p.

(ISBN:978-963-2792-56-9)

[www.interkonyv.hu/konyvek/en/Makroökonómia és a gyakorlat](http://www.interkonyv.hu/konyvek/en/Makroökonómia%20és%20a%20gyakorlat) (*in Hungarian*)