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Investment Rate in the Visegrád Group

SUMMARY: The region's post-crisis investment rates of 18 to 22 per cent are made sustainable by a higher level of savings. Where the rate is lower, three major factors are at play: development in the energy industry is on a smaller scale (Hungary), public investment is low (Slovakia), and industry-specific investment rates have fallen (Poland). Despite their high levels of gross profit, the investment rate of foreign companies does not exceed that of their national counterparts. In the years of the crisis, public investments had a stabilising effect, in which EU funds also played a role.

KEYWORDS: investment, government expenditures, Central and Eastern Europe

JEL CODES: H5, E2, O52

With investments falling in the aftermath of the crisis, the question arises whether countries and regions with a lower investment activity will be left at a major competitive disadvantage. This paper seeks to answer the following questions:

▶ Can the level of investment achieved during the recovery from the crisis be considered sufficiently stable?

▶ What role does foreign capital play in investments and during the cycle, and what is the nature of its behaviour?

▶ Is there a difference between the investment rates of companies in foreign and national ownership?

▶ What are the factors underlying the differences between individual countries?

The fall in investments during the crisis was arguably natural, since declining demand created redundant capacities, while reduced credit supply curbed development initiatives from the financing side. One of the main findings of the literature on Central and Eastern European economies is that in the years fol-

lowing their accession, a high level of investment and rapid growth were enabled by the inflow of external funds.¹ This raises the question of what the characteristics of investment are when external funds become scarce. After a theoretical introduction, this paper describes the investment rate of the three sectors, addressing the business sector in greater detail. It then discusses the characteristics of investments by foreign-controlled companies.

THEORETICAL BACKGROUND

The numerator of the investment rate is comprised of the value of investments and renovations, and purchases for transport equipment.² The denominator is the added value of the area concerned, or GDP at national level (equivalent to the gross amount of added value plus value added taxes). The benefit of this indicator is that it can also be used as a cyclical indicator, because with participants of the private economy, the fact of investment at (or following) times of crisis is also a sign of optimism.

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The role of the investment rate is of prime importance for two reasons.

① According to growth theories, investments must reach a critical level (according to Rostow, an investment rate of 18–20 per cent) in order to set in motion economic growth, a key institution of modernity. Developments enable growth in capital stock which, as capital goods, may increase the potential GDP level in the next period.

② In economic cycles, it is important to address the balance of savings and investments. Any imbalance may mean trouble, whether investments are overweight or underweight.

To start with, three factors should be noted:

- at times of crisis, a reduction in GDP (the denominator) also influences the value of the indicator by increasing it;³
- comparisons should be made by considering whether or not the infrastructure of the economy concerned has already been developed, and housing stock meets reasonable needs. In countries where these have been accomplished, a smaller investment volume will be sufficient for the given period;
- on the supply side, investment only provides for a lopsided upturn in the region. Three-quarters of machinery and transport equipment is acquired from external imports. Consequently, most of the excess investments in the business sector generate extra demand for other countries. Moreover, a part of that extra demand remains “in-house”.⁴

METHOD

I have carried out a comparative analysis for five countries (the Visegrád 4 and Slovenia), relying primarily on the Eurostat website, and partly on data available in studies by the central banks of the region. It should be noted

that in the database on foreign companies, data are only available for 2008–2011 (which prevents a comparison of characteristics before and after the crisis), while longer time series are not broken down by ownership.

Aiming to explain the factors influencing investments, I have dispensed with a literature review on grounds that an analysis of critical views on the insufficiency of the rate is only appropriate where such views are based on detailed assessment, or concern the relationship of resources and investments. *Martonosi* (2013) is an example for the former, and *Dombi* (2013) for the latter.

This paper does not address the following: the impact of deleveraging (its role in deepening the crisis is widely published);⁵

- the relationship of amortisation and investment. This should be undertaken when the value of fixed assets is known to be maintained in inflationary periods as well;⁶
- the relationship between capacity utilisation and investments. In my view, this is relevant to short-term cyclical analysis;
- the relationship of investment and sustainability.⁷

The manuscript of this paper was written in November 2013. At that time, available data were limited to those produced according to the ESA 95 system of national accounts. Since then, a transition has been made to ESA 2010, and certain data (on GDP and investments), although still on a fairly limited scale, are now available under the new methodology as well. However, an analysis of the transition was beyond my means.

INVESTMENTS IN THE REGION FOLLOWING THE CRISIS

After the crisis, investment rates in the 5 countries are settling at around 18–22 per cent (2 per cent below the previous levels).

Stabilisation is assisted by public developments.⁸ Although the investment rate of the business sector remains below pre-crisis levels, current trends suggest that it will not fall below the levels seen around 2013 and 2014. As a percentage of GDP, it is 14–15 per cent in the Czech Republic and Slovakia, and 10–11 per cent in the other three countries. This is somewhat higher than Western European levels, but still insufficient to provide a basis for a high growth rate. As the countries are grouped around the above two values, emphasis is laid in this paper on showing the investment activity characteristic of each prospective model group (*see Chart 1*).

Data for 2014–2016 are projections based on the GDP and investment forecasts of central banks' inflation reports for summer and autumn 2013 (taking 2013 as the base year).

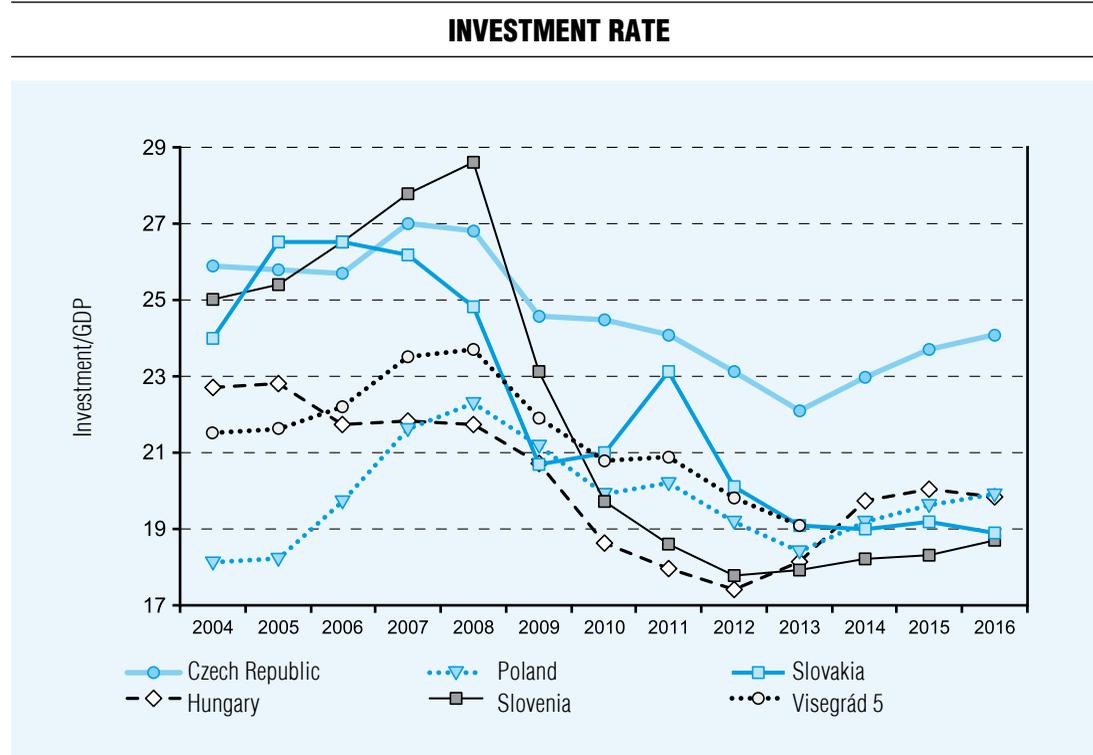
After the crisis, the investment rate fell by 2 percentage points in the EU as well. Whenever a major decline was observed, housing investments were at outstanding level in the previous 4 to 6 years, falling radically afterwards. Looking at the EU without such countries, the investment rate is only 1 percentage point below the pre-crisis level. With core economies⁹, there has been virtually no decline in the rate.

Composition by assets

In the region, construction accounts for one half of the total amount of investments, and machinery for the other half. In particular:

- transport equipment had a share of 10 per cent,

Chart 1



Data for 2014–2016 are projections based on the GDP and investment forecasts of central banks' inflation reports for summer and autumn 2013 (taking 2013 as the base year).

Source: Eurostat database, 2004–2013

- other machinery and equipment 30 per cent,
- housing 15 per cent,
- industrial, office, commercial, etc. buildings combined with structures (roads, bridges, railway tracks, pipelines) 40 per cent (2004–2011).

Although residential construction has slowed in recent years, the rate of this was marked only in two countries (Hungary and Slovenia). The relative value of purchases for transport equipment is down by one-fifth. With machinery investments (which are attributable to enterprises for the most part), the decline has been moderate. This is understandable because given the fall in demand, the business sector has focused on the upgrade of its machinery rather than on building new capacities, which also involves construction. As a percentage of GDP, non-residential construction accounted for 5–8 per cent over the past 4 years. This latter is dominated by non-residential investments in the real estate sector, the construction of structures, and plant development.¹⁰

Sector-specific ratios

The weight of each sector within investments is generally characterised by the ratio of investments in the given sector as a percentage GDP. *Charts 2–5* show the changes in this regard over time.

Public sector

Data for 2014–2016 are projections based on information published on central banks' websites.¹¹

Public investments show a slightly accelerating trend. In the most critical years of the crisis (2009–2011), their share of GDP generally increased. At the same time, the indicator varied considerably from one year to the next

(see *Chart 5*). The proportion of EU funding increased. Remarkably, in specific terms the countries of the regions spend one and a half to twice the investments of countries in Western Europe. This is understandable as more developed countries are already past the infrastructure development (cf. motorway construction) on which countries in the region ("fellow sufferers"¹²) are now forced to spend extensively.

Households

Table 1 shows the ratio of investments in the household sector to GDP in the region. With households, the indicator has fallen, which is primarily explained by a decline in housing investments. [In addition to private individuals, statistics also classify sole proprietors and small-scale producers in the household sector. Consequently, the fixed assets of the sector also include the assets of sole proprietors (machinery, smaller lorries, agricultural equipment, plantations). As a result, their investments include the development and renovation of such assets in addition to housing investments.]

The economic weight and investment rate of the household sector is greatly influenced by the following factors.

The weight of sole proprietors in the areas of commerce, construction and carriage?

The role agriculture (still) plays in the economy?

The volume and value of residential construction¹⁴ and renovations?

In each country, in respect of the industries characterised by a higher weight of sole proprietors:

- their respective weight
- whether they are capital intensive (the two industries that may be considered in this regard are agriculture and carriage).

Table 1 shows the weight of households in the various countries. In terms of its invest-

Chart 2

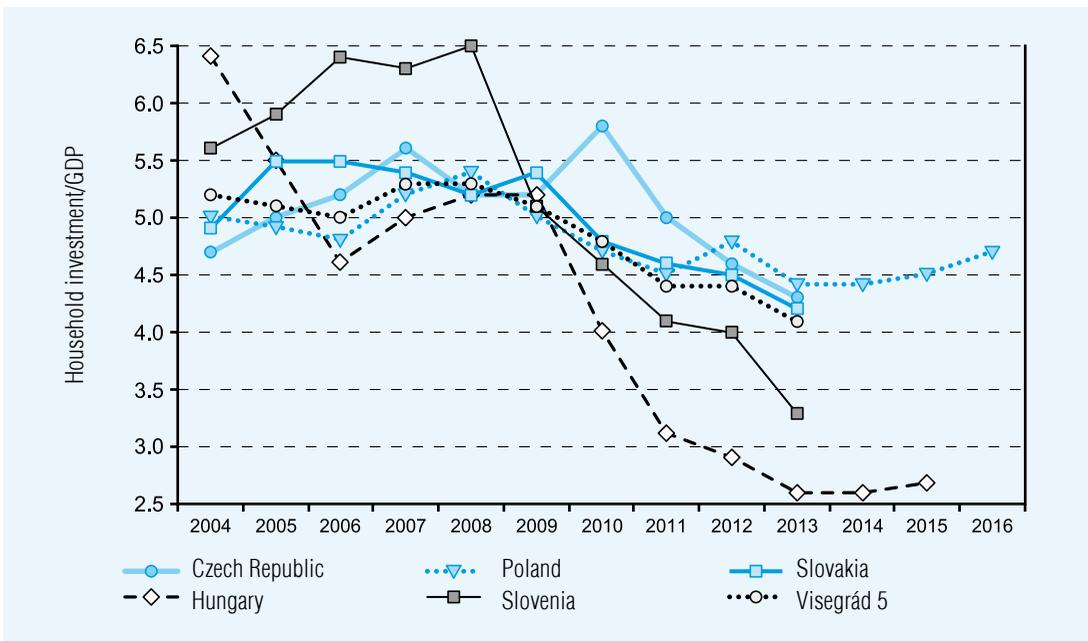
PUBLIC INVESTMENTS/GDP



Data for 2014–2016 are projections based on information published on central banks' websites.¹¹
 Source: Eurostat database, 2004–2013

Chart 3

HOUSEHOLD INVESTMENTS/GDP



Data for 2014–2016 are projections based on information published on central banks' websites.¹³
 Source: Eurostat database, 2004–2013

Table 1

SPECIFIC INDICATORS OF THE HOUSEHOLD SECTOR, 2011					
	Czech Republic	Hungary	Poland	Slovakia	Slovenia
Household sector			%		
Percentage of GDP	14	15	27	30	18
Investment to GDP	4.9	3.1	4.5	4.6	4.2
Investment rate	34	21	17	15	23

Source: Statistics from the National Accounts of each country

ment rate, the Czech Republic stands out, primarily due to higher residential construction and carriage.

As regards the ratio of the sector to GDP, the values of Poland and Slovakia are nearly double those of the rest of the countries. With Poland, the higher ratio is due to the avoidance of agricultural collectivisation and the traditionally greater weight of sole proprietors in services. The country's relatively modest investment value can be explained by capital savings through the employment of more labour intensive processes, and the acquisition of used machinery on a large scale. In Slovakia, the weight of the household sector is greater for two main reasons. On one hand, in construction, an industry of relatively great weight there (7–8 per cent of GDP) which is otherwise not capital intensive, sole proprietors have a highly prominent share (47 per cent in terms of employment, for example, which is only a half or a third of that in the rest of the countries). On the other hand, the economic weight of commerce and carriage is higher in terms of added value; these industries typically have a ratio of households above the average in each of the countries. As the volume of residential construction in the country is not higher than the average, the overall result is again that relative to its high ratio in terms of added value, the household sector carries a moderate weight within investments.

Business sector

Chart 4 indicates that the ratio of investments by enterprises to total GDP has fallen from 2008 onwards. This deepened the crisis. In respect of the investment rate of the region's business sector, it is important to evaluate three factors: industry structure, foreign investments, and the ratio of the business and household sectors within each industry. Below the first two factors are addressed in detail, however, an in-depth analysis of investments in the household sector is beyond the scope of this paper.

The Eurostat database (FATS) used for the analysis presents non-financial enterprises, which include neither sole proprietors nor financial undertakings, but do include state-owned undertakings such as postal services. In the rest of this paper, non-financial enterprises are generally referred to as *business sector*.¹⁶

My analysis of investment intensity is based on Eurostat's FATS database. Relative to 2008, *Chart 5* shows a meaningful decline in virtually all of the countries.

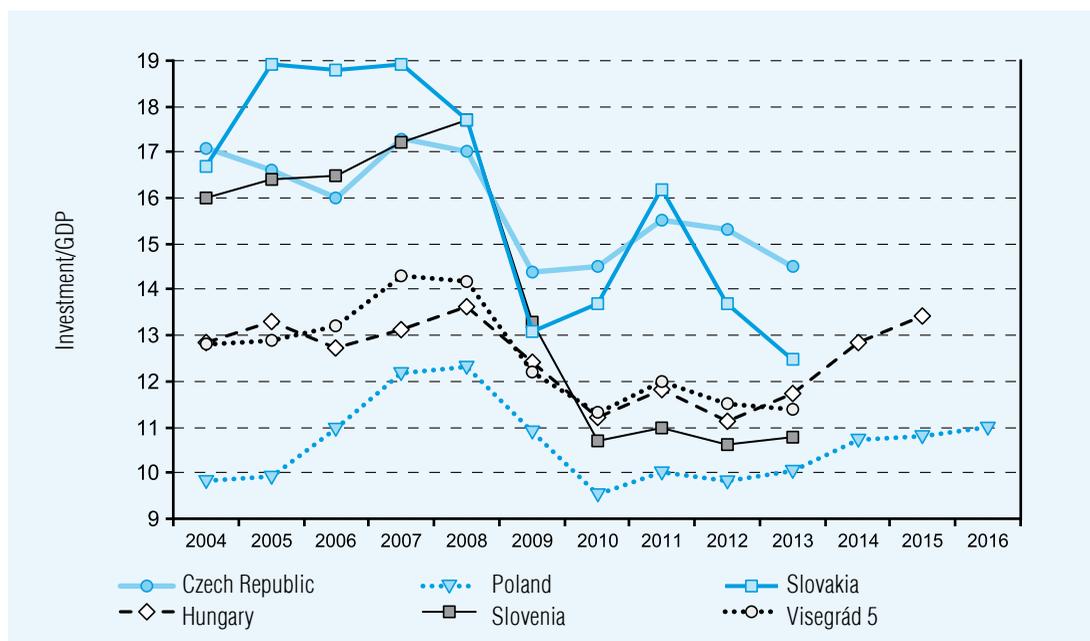
For a more detailed analysis, I have highlighted the three most capital intensive industries. These are the following:

- mining and energy combined,
- heavy industry,
- the more capital intensive areas within services.

In aggregate, based on the data analysed,

Chart 4

BUSINESS SECTOR INVESTMENTS/GDP

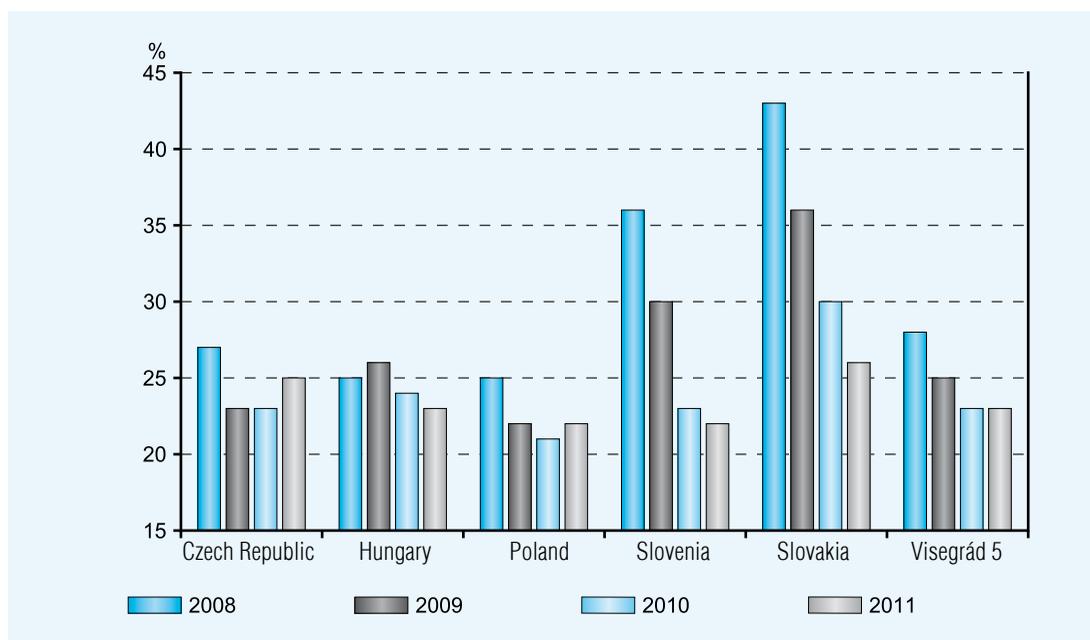


Data for 2014–2016 are projections based on information published on central banks' websites.¹⁵

Source: Eurostat database, 2004–2013

Chart 5

INVESTMENT RATE OF THE BUSINESS SECTOR



Source: Eurostat database, 2004–2013

these areas accounted for 31 per cent of the value added by the non-financial business sector (2008–2011), while their weight within investments was 43 per cent¹⁷. They had an average investment rate of 34 per cent. The three capital intensive industries have the following characteristics.

With mining, energy and water supply, the investment rate is one and a half to twice the average. Capacities are built for 20 to 30 years.

The weight of business property varies by country. Its share of added value is the lowest in Poland and the highest in the Czech Republic and in Hungary. In information technology, the investment rate is below average, and somewhat higher in countries where developments have been implemented for transition to newer technologies.

As regards the heavy industry, the three northern countries of the Visegrád Group spend little on investments in energy intensive industries despite the significant economic weight of those industries. (Developments in metallurgy and the paper industry presumably fall short of the value required to keep up production. The past decade has only seen significant developments in the production of building materials and the rubber industry.)

In 2008–2011, these three capital intensive industries significantly increased the Slovakian investment rate primarily due to the high rates of the industries concerned.

The remaining areas are characterised as follows.

Within the processing industry, which is not capital intensive, a common feature of the Visegrád 4 is the development of transport equipment manufacturing. The level of investment required is around the average for keeping up production, but significant for starting it up (as in Hungary and Slovakia). Poland is more moderate in this respect, while Slovenia had no significant growth in production in this area.

In a large part of service industries which are

not capital intensive, the volume of business investments depends on the weight of sole proprietors in the area concerned. In some countries, they provide one-third to a half of the added value in transport and construction, but their share is also significant in commerce and administrative services (such as accounting).

Commerce has a low investment rate in Hungary, but a high rate in Slovakia. At this point, it is informative to present the three European investment models of the industry (*see Table 2*). In 2008–2011, commercial investments provided 8–10 per cent of added value in continental “core economies”, while the same ratio was 20 per cent in the southern periphery and in the Visegrád Group. Presumably, a major part of the developments do not serve to supply previously unsupplied consumers, but to give more ground to larger shopping centres at the expense of smaller commercial units.

Within the business sector, Poland and Hungary have low rates within the area of transport¹⁸. Conversely, the Czech sector spends more on the continuous upgrade of its vehicle fleet.

The evaluation of industry ratios may be challenged by changes in industry classifications (e.g. in 2008). Another possible challenge to comparison is outsourcing. (For example, if a purchasing unit is sold by its owner in the property industry to a commercial company, developments to that unit will qualify as commercial investments. Or, a leased vehicle will appear as an investment of the financial institution and not that of the carrier company.)

In respect of some industries, certain countries may be paired up against the rest of the countries.

The first aspect is the volume and structure of public investments. While the Czech Republic and Hungary have been intensively engaged in motorway construction for 10 to 15 years, its value is far lower in Slovakia, and Poland has stepped up its activity in this respect only as of 2008.

Table 2

INVESTMENT RATE IN COMMERCE* (excluding vehicle trade)	
	2008–2011 (%)
Core Europe	10.4
3 southern Euro area members	17.6
Visegrád 4	20.2
Other new EU Members (fellow sufferers)	34.2

*Business sector

Source: Author's own calculation using the database of the Eurostat website

A common feature of the Czech Republic, Slovakia and Poland (in contrast with Hungary) is that their industry is energy intensive, and their electricity production is aligned accordingly. This requires the development of nuclear or coal power plants (see Slovakia and Poland). By contrast, the weight of energy investments in Hungary has been insignificant over the past 10 years, and the energy consumption of industry is low by European standards. This leads to excess imports to the country: instead of importing coal, ores, etc., the demand of the economy for metal is satisfied in the form of metals and machine parts against much higher foreign exchange expenditures.

THE ROLE OF FOREIGN COMPANIES IN FUNDING INVESTMENTS

The Eurostat FATS database used for this analysis distinguishes non-financial enterprises by foreign or national control. For the sake of brevity, in this paper these are referred to as foreign and national companies, respectively.

In the business sector, Hungary is the only country with a ratio of investments by foreign companies above 50 per cent.

Table 3 shows the investment rate for the entire business sector by ownership. Taking

the region as a whole, the investment rate of national companies is higher (24 per cent) than that of foreign-owned companies (22 per cent). The opposite is found only in Hungary and Slovakia.

Charts 6 and 7 indicate that companies in the two ownership groups behaved differently after the breakout of the crisis: the investment rate of foreign companies fell sharply, while that of national companies dropped only to a smaller extent (in fact, the rate of this latter group actually increased in the Czech Republic).

Charts 8–12 show industry-specific characteristics in the business sector. On the one hand, they show the investment rate (i.e. investments over added value) for the industry as a whole. On the other hand, they show the share of the industry within total investments in the business sector, and the weight of investments by foreign companies within that share. The investment rate in commerce, information technology and the processing industry is balanced across countries. However, it varies considerably in business property and transport.

The share of investments funded by foreign companies is low in transport companies, high in the processing industry and information technology, and medium in commerce. Major differences across countries only exist in two areas:

Table 3

	2008–2011 (%)	
	Foreign	National
Czech Republic	37.6	62.4
Hungary	50.5	49.5
Poland	30.8	69.2
Slovenia	15.1	84.9
Slovakia	40.4	59.6
Visegrád 5	35.7	64.3

* non-financial enterprises

Source: Author's own calculations based on the FATS database of the Eurostat website

- business property – in Poland and Slovakia, national investors dominate, while they carry only medium weight in the Czech Republic and Hungary;
- Slovenia – investments by nationally owned companies dominate all industries.

The weight of foreign companies is smaller in more capital intensive industries such as mining, energy, water supply, tourism and transport networks. By contrast, their quick capital penetration is typical in less investment intensive areas, such as in more labour intensive branches of the processing industry, and primarily in commerce.¹⁹

In 2009–2011, foreign companies accounted for EUR 25 billion of the annual average EUR 70 billion worth of investments in the business sector within the region. Four-fifths of that was implemented in the five industries shown in Charts 8–12. Among these, there was a meaningful difference between the investment rates of foreign and nationally owned companies in only one industry (in transport, foreign investors had an investment rate of 26 per cent against 40 per cent of their national counterparts). Arguably, the difference in the investment rate (a lower rate for foreign investors) is primarily due to dissimilar industry structures.²⁰

Greenfield investments have the highest percentage of GDP in Slovakia, followed by Hungary (see Table 4). In general, the indicator dropped to half its value of the previous 5 years.

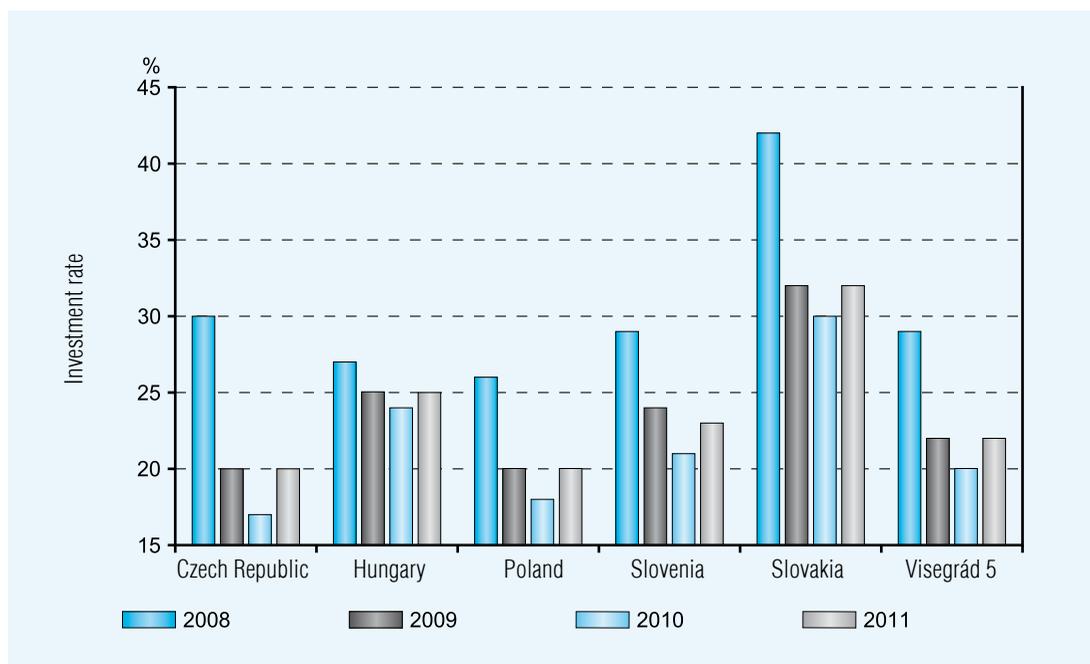
Table 5 shows the volume of individual FDI categories in each country.²¹ Acquisitions remained significant only in Poland. The rest of the countries were less attractive due to falling internal demand, but the effect of saturation was probably also felt.

Comparing pre-crisis and post-crisis values, Table 6 shows that the profits earned by foreign companies fell in the five countries, but not sharply. What are profits spent on? Reinvested earnings fell as a percentage of total working capital (see Table 7). Less reinvestment means that the level of dividends in the region is similar to pre-crisis levels.²²

Arguably, the globalising world prevents even the self-healing mechanisms of the crisis from making a sufficient impact on the region. In less open economies with less foreign direct investment, the reduced demand resulting from the fall causes the business sector to cut prices, even at the expense of lower profits, in order to maintain the level of sales. Lower prices result in a faster absorption of excess inventories, allowing capacity utilisation to increase gradually. By contrast, the de-

Chart 6

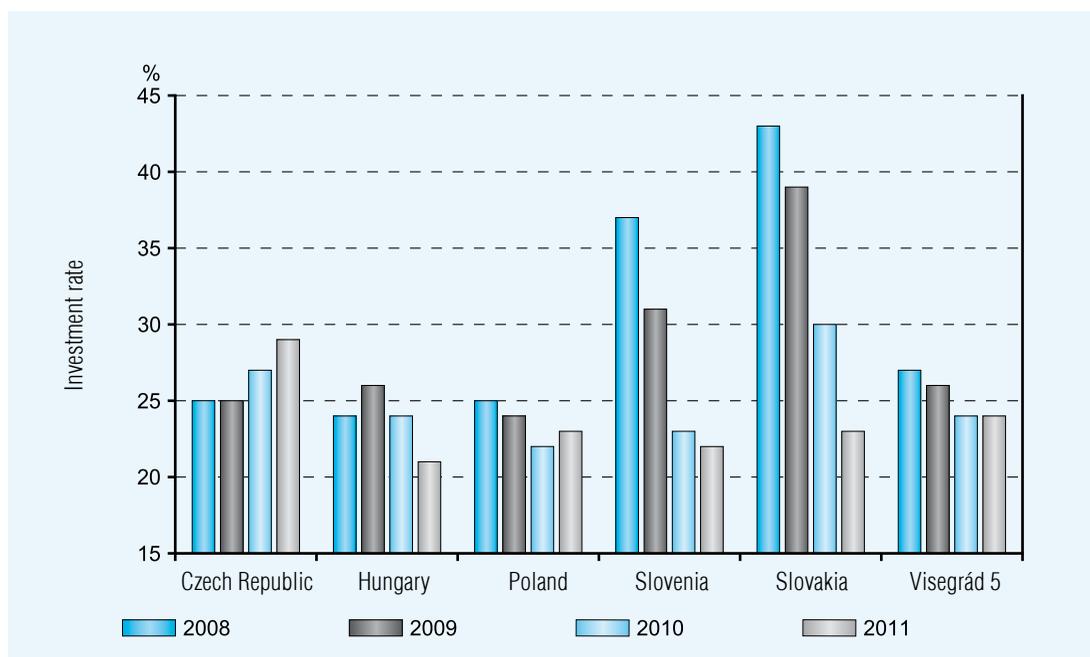
INVESTMENT RATE OF FOREIGN-OWNED COMPANIES



Source: Author's own calculations based on the FATS database of the Eurostat website

Chart 7

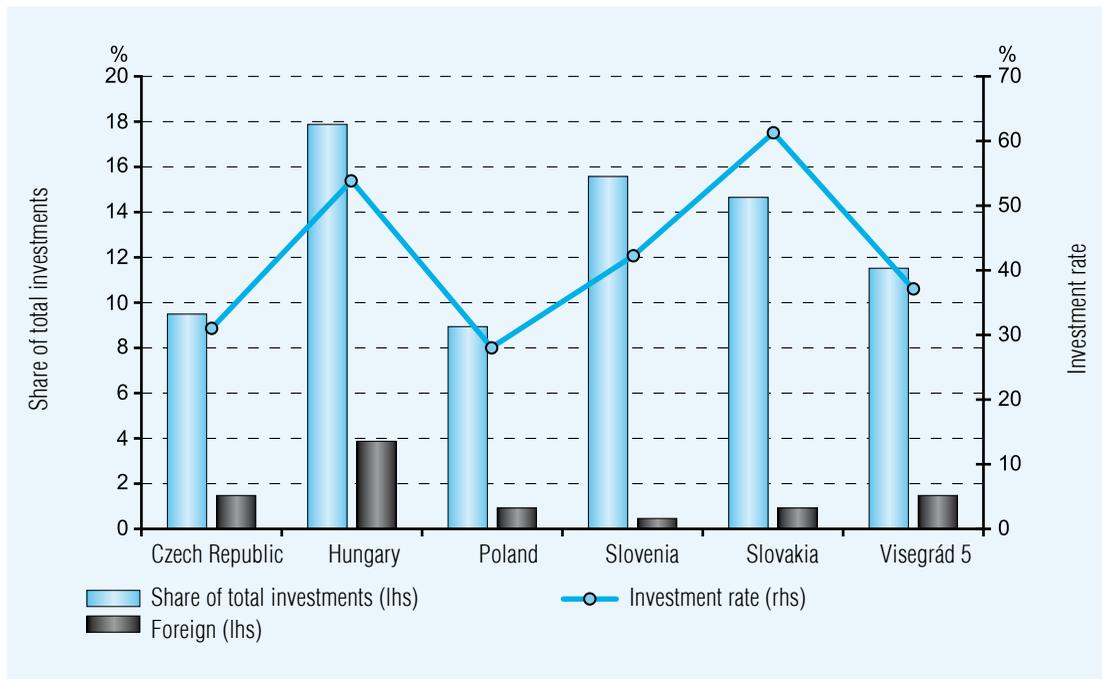
INVESTMENT RATE OF NATIONALLY OWNED COMPANIES



Source: Author's own calculations based on the FATS database of the Eurostat website

Chart 8

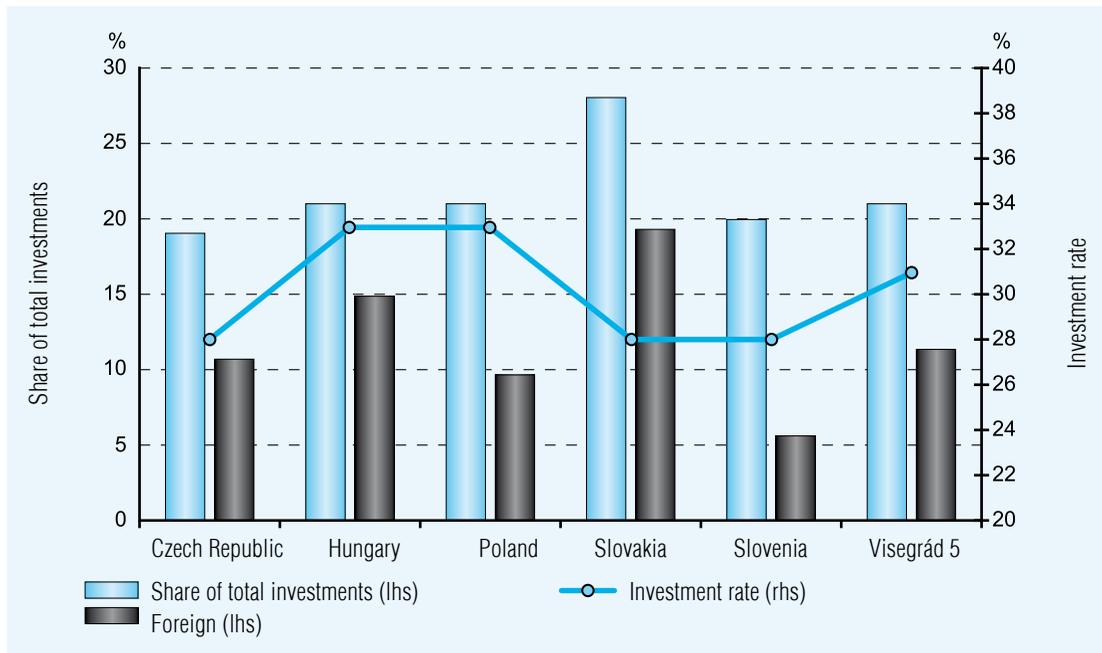
INVESTMENTS IN THE BUSINESS SECTOR BY INDUSTRY, 2009–2011



Source: Author's own calculations based on the FATS database of the Eurostat website

Chart 9

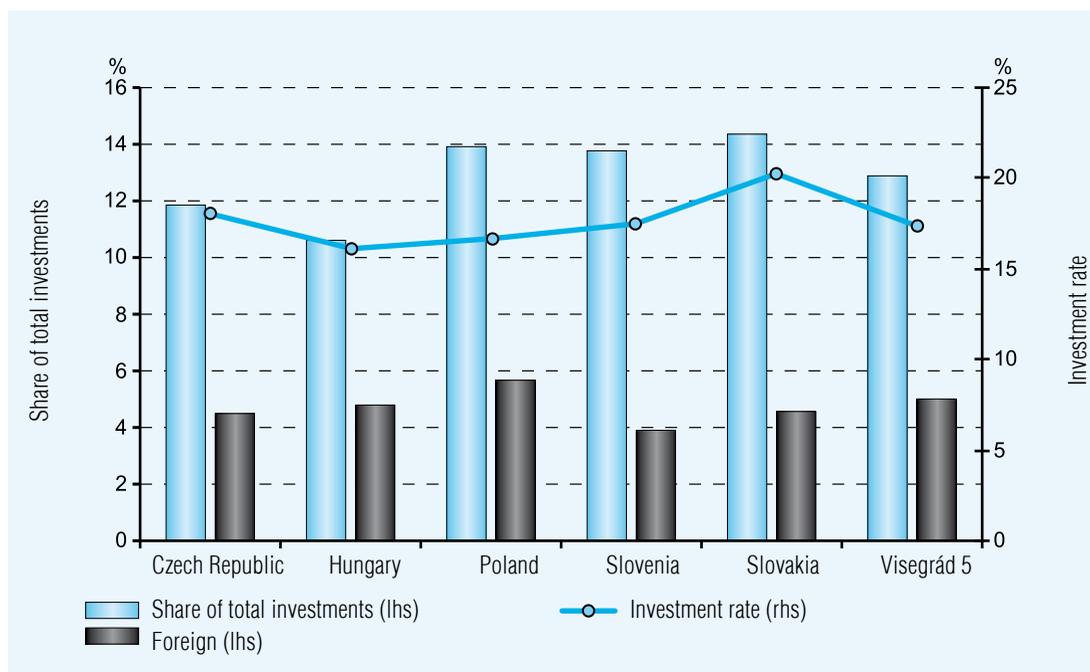
PROCESSING INDUSTRY, 2009–2011



Source: Author's own calculations based on the FATS database of the Eurostat website

Chart 10

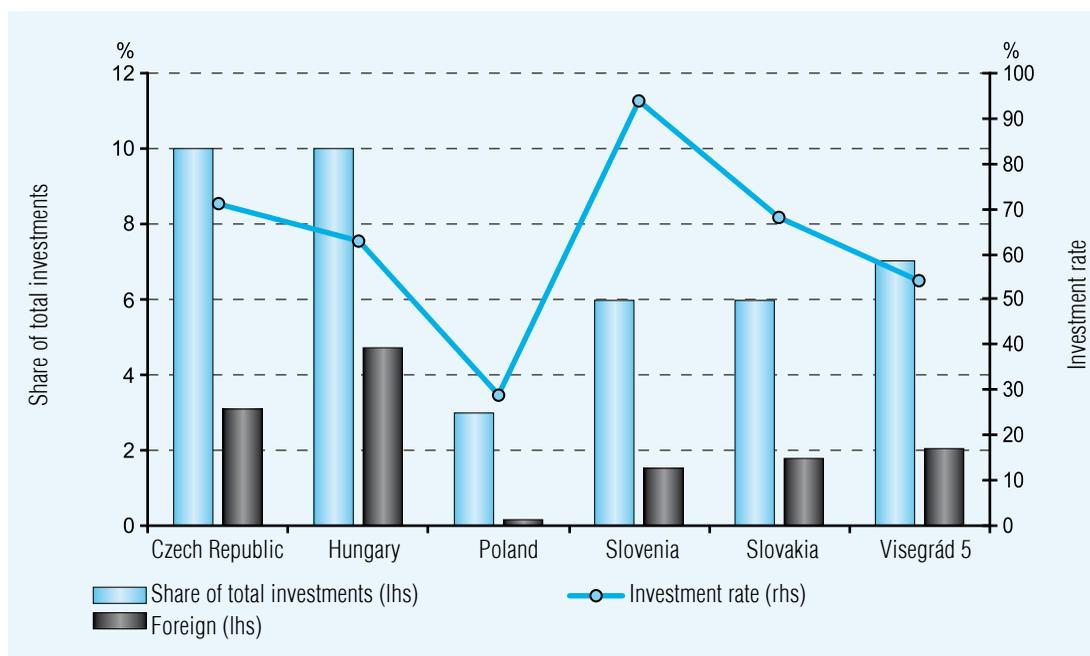
COMMERCE, 2009–2011



Source: Author's own calculations based on the FATS database of the Eurostat website

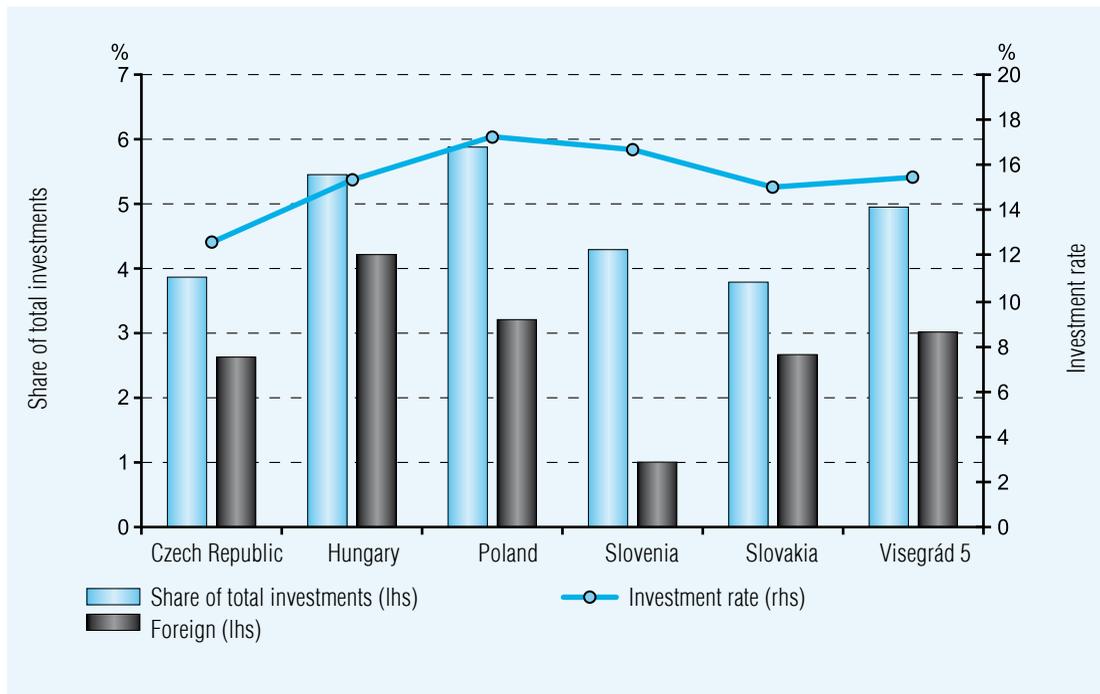
Chart 11

BUSINESS PROPERTY, 2009–2011



Source: Author's own calculations based on the FATS database of the Eurostat website

INFORMATION TECHNOLOGY, 2009–2011



Source: Author's own calculations based on the FATS database of the Eurostat website

crease in reinvestment and dividends approximating previous levels in the region indicate that foreign companies (controlling a majority of exports) are not reducing their prices. Repatriated dividends are removed from the economic circulation of the host country, causing internal demand to decrease, which in turn will reinforce the effect of the fall in the host country. [This effect is the strongest in the Czech Republic, despite the fact that it has been the industrial workshop of the region for about 200 years. At the same time, it is also true that it specialises in the machine industry, the recovery of which from the crisis is objectively slower.]

Table 7 shows the annual value of reinvested earnings as a percentage of total net working capital. Apparently, the indicator was reduced everywhere in the most severe period of the crisis, but (except in Slovenia) after 2011

it generally returned to 40–65 per cent of the value measured in the 3 years preceding the crisis.²³

PRICES AND SOURCES OF INVESTMENT

The amount of machinery investments in the region is increased due to the fact that 70 per cent of such investments are imports from countries with higher price levels. On the other hand, statistics show a smaller weight of construction investments due to the level of wages falling short of that in more developed EU Member States. Whether the two effects will balance out depends on the ratio of machinery and construction investments.

The investment rate is influenced by the relative price level of investments. This is directly manifested in purchases for machinery

Table 4

GREENFIELD FOREIGN DIRECT INVESTMENT/GDP, 2009–2011

	Annual average (%)	
	2004–2008	2009–2013
Czech Republic	4.2	2.3
Hungary	6.6	3.0
Poland	5.1	2.5
Slovakia	16.1	6.7
Slovenia	1.8	0.5
Visegrád 5	5.5	2.5

Source: Unctad

Table 5

FOREIGN DIRECT INVESTMENT, 2009–2011

	Annual average net value. USD million)		
	Acquisitions	Reinvested earnings	Greenfield
Czech Republic	241	3839	4981
Hungary	767	701	4249
Poland	2108	6109	12386
Slovenia	131	1161	548
Slovakia	19	-216	4176

Source: Unctad, Eurostat

and transport equipment, where exchange rate movements directly affect investment value. For example, the approximately 10 per cent real appreciation of regional currencies between 2002–2005 alone reduced the investment rate by 1 percentage point, and the appreciation in 2007–2008 had a similar effect. On the contrary, the 10 per cent depreciation during and after the crisis in recent years has reduced the rate by about 0.5–0.7 percentage point.

Similarly to the general price level, the price level of non-residential construction in the region is 70–75 per cent of the average EU value.²⁴ More specifically, however, the

price level of structures is very close to that of the EU, falling short by only 5–10 per cent. This means that the public investment rate in the region is higher partly because implementation is at a relatively high price to begin with.

Investment and savings

The savings of the region’s countries were insufficient for the high level of investment before the crisis, creating a need to raise external funds. Savings were up to 3–5 percentage points lower than the value of investments.

Table 6

RETURN ON FOREIGN DIRECT INVESTMENT/CAPITAL STOCK, NET (ANNUAL AVERAGE)			
	2004–2007	2008–2010	2011–2013
		%	
Czech Republic	12.0	9.5	10.6
Hungary	8.3	6.7	4.5
Poland	11.0	9.0	6.7
Slovenia	5.3	5.6	3.0
Slovakia	11.6	10.3	6.9
Visegrád 5	10.5	8.7	7.0

Source: Calculation using data from the Eurostat website

Table 7

REINVESTED EARNINGS AS A PERCENTAGE OF TOTAL WORKING CAPITAL			
	2004–2007	2008–2010	2011–2013
		%	
Czech Republic	5.9	2.6	2.8
Hungary	3.2	0.3	1.5
Poland	5.0	2.4	2.0
Slovenia	2.3	-0.9	-1.9
Slovakia	3.2	1.8	2.1
Visegrád 5	4.9	2.1	2.8

Source: Author's own calculations based on balance of payment statistics of the Eurostat website

Following the crisis, a turnaround begins to emerge. *Table 8* shows that by 2011–2012, in Slovenia and Hungary savings were higher than investments, and in Slovakia the two items were balanced out. In 2013, the value of investments was also only 1 percentage point higher in the Czech Republic and in Poland. The deficit was mostly absorbed by a fall in investments rather than an increase in savings. In countries more strictly adhering to the Keynesian model, the investment rate decreased with a lag. Dombi²⁵ points out that in the Visegrád countries, the level of savings

must be raised in order to ensure a sufficient volume of investments.

The savings rate at the national economy level reflects the changes affecting the three key players. Households have become more cautious with debt, as a result of which their net savings position has returned to the level preceding EU accession. Enterprises have cut back on their dynamic borrowing of 2006–2008, which is attributable partly to their own decisions, and partly to the operations of foreign-owned banks imposing restrictions on lending.²⁶ Although the state has not assumed

Table 8

INVESTMENT AND SAVINGS AS A PERCENTAGE OF GDP								
	Gross savings (%)				Excess savings* (%)			
	2006–2008	2009–2010	2011–2012	2013	2006–2008	2009–2010	2011–2012	2013
Czech Republic	25.3	20.2	20.9	21.1	–1.2	–4.4	–2.8	–1.4
Hungary	16.1	18.8	19.2		–5.7	–0.9	1.6	
Poland	17.9	17.0	17.5	18.0	–3.3	–3.6	–2.2	–0.4
Slovenia	26.6	21.1	20.5	22.4	–1.1	–0.4	2.3	4.5
Slovakia	21.1	18.0	21.2	20.7	–4.7	–2.9	–0.4	1.6

* Savings less investment (a negative value indicates external fundraising)

Source: Author's own calculation using data from the Eurostat website

a net savings position, its net borrowing has decreased since the end of the crisis. On the back of EU requirements for structural deficit²⁷, governments' need for credit is expected to fall further in coming years, as a result of which the macro-level balances of savings and investment will be maintained even despite a meaningful increase of net borrowing in the business sector. The chances of financing from internal funds are also increased by the fact that four out of the five countries already have positive current account balances, and Poland's deficit has also decreased meaningfully.

Otherwise investments in the business sector as a whole are not prevented by an insufficient level of income. Table 9 shows that in 2009–2011, 46 per cent of the gross operating

profit²⁸ earned in the business sector was spent on investments. This marks a fall in comparison with the previous rate, the extent of which was greater with foreign-owned companies. They spent only 39 per cent of their gross operating profits on investment (a decrease of 10 percentage points from 2007–2008). With nationally owned companies, the decrease was only 4 percentage points. In the case of foreign-owned companies, the indicator also varies across countries and is lower in Poland. For example, Poland's indicator in 2011 was 33 per cent, while in the remaining four countries it was 46 per cent.

Gross operating profits minus investments result in an annual gross profit of EUR 45–50 billion for foreign companies in the region, which corresponds to a substantial return of

Table 9

INVESTMENT/OPERATING PROFIT		
Visegrád 5	2007–2008	2009–2011
Foreign-owned	49	39
Nationally owned	56	52
Aggregate	53	47

Note: non-financial enterprises

Source: Author's own calculations based on the FATS database of the Eurostat website

around 10 per cent relative to the net value of total working capital (EUR 450 billion). The high level of profits above the amount of investments indicates that following a “period of developments” aimed at increasing market share, foreign-owned companies today give priority to profit realisation.

EU funds

Table 10 shows the volume of EU cohesion funds as a percentage of GDP used by each country between 2007–2013 to finance investments.

A significant increase is seen from 2010 to 1–2 per cent GDP, and in Hungary even above that in 2014 (3.1 per cent). The values for Slovenia (and partly the Czech Republic) are lower as these countries receive less EU funds due to their higher level of development. The above data are my estimates, since EU statistics do not provide a breakdown into utilisation for investment and non-investment.

I have ventured to make the estimates because chart data were available for the two countries representing two-thirds of utilisation (Poland and Hungary) on the actual or estimated value of utilisation for investment

and non-investment in key years.²⁹ Such data made it possible to establish that over time, the investment rate is steady at around 75 per cent. This rate was assumed for the rest of the countries, and was projected to data on annual financial drawdowns on structural, social and cohesion funds.³⁰

The above data must be complemented by investments financed from rural development assistance. The value of this is estimated at 0.3 per cent of GDP in Hungary and 0.1 per cent in the rest of the countries annually.³¹ [In the case of rural development, the rate of investments can only be inferred approximately based on the 25 to 30 sub-objectives. My estimate is therefore a high investment rate of 60 per cent for Hungary (due to the prominent weight of modernisation developments), and a low 30 per cent for Poland (where a large amount of funds are also used for the pensions of the agricultural population). Values for the rest of the countries were closer to that of Poland at 33–40 per cent. (The average value for the Visegrád 5 is 36 per cent.)]

It is to be noted that payments by the EU do not reflect the timeframe of development. They follow the implementation of investments with a significant lag of up to 5–7 or even 10 months.

Table 10

INVESTMENTS FINANCED FROM EU COHESION FUNDS/GDP				
	Annual average value			Year
	2007–2009	2010–2011	2012–2013	2014
Czech Republic	0.8	0.9	1.7	1.5
Hungary	1.2	2.1	2.2	3.1
Poland	0.7	1.9	2.1	1.9
Slovakia	0.9	1.2	1.5	0.9
Slovenia	0.5	1.0	1.1	1.7
Visegrád 5	0.8	1.6	1.9	1.9

Source: Author's own estimate

Data indicate a significant degree of volatility, the main reason for which is that the specific value of EU funds was lower in the 2004–2006 funding cycle, allowing a relatively small proportion of such funds to be “deferred” until 2007–2009 (these are included in Table 10). At the outset of the current cycle, it is readily apparent that in the first two years there are virtually no new disbursements, while high amounts are paid on investments under programmes of the previous period. In systemic terms, only the third year can be considered low.³² This was also the case in 2007–2013, when in the entire region 9 per cent of the full cohesion budget was drawn down in the third year, followed by 9 per cent in 2010 and 12 per cent in 2011, this latter approximating the pro-rated level.

In the 2013–2020 period, the role of EU funds is decreasing in the region in respect of investments.³³ On the one hand, there is a significant increase in the weight of funds available for human resources (labour market preparation, fight against exclusion, etc.) and innovation, while on the other hand, new Member States receive definitely less funds for their transport, water and sewerage development projects.

The role of EU funds is the greatest in public developments. In the case of the Visegrád countries, *Nyikos* (2013) estimates the share of public investments financed from EU funds to be at around 1 per cent.³⁴ In Poland, the value of investments financed from EU funds amounted to 1.5 per cent of GDP with public investments and roughly a third of that in the private sector.³⁵ (*Nyikos* refers to a study by the Polish Ministry of Infrastructure and Development, according to which an estimated one half of the EUR 150 billion worth of cohesion funds used in Poland in 2007–2013 were channelled directly or indirectly to the revenues of companies from more developed EU Member States.³⁶)

CYCLICALITY, POTENTIAL GROWTH

Anti-cyclical economic policy played a prominent role across the region. Poland significantly increased its public investments during the crisis. The rest of the countries were hit by a decline, but despite the contraction of their revenues in the first 2 or 3 years, they made attempts to maintain the level of public expenditures, and particularly investments, to prevent demand from falling further.³⁷ Hungary afforded such a policy for only one year, in 2011. Public expenditures not covered by revenues were mostly financed from loans, but two countries (Poland and Hungary in the year mentioned previously) also resorted to the nationalisation of the assets in private pension funds.

The significant volatility in investments is likely to increase the price level. Consequently, capacities in machinery manufacturing and in construction must be aligned to the demand expected at the peak of the cycle rather than to its lower average level.

A detailed analysis on the cyclicity of investments can promise to deliver more than the analysis in this paper if it covers the cyclical effect of another two factors in addition to the normal economic cycle. One is the particular rhythm of the utilisation of EU funds, described in the foregoing with some general data. The other is the long cycle of residential home construction over 15–20 years.³⁸ This paper does not undertake to address the latter because a more profound analysis would require a comprehensive presentation of each country’s system of housing maintenance and financing; however, I am not aware of such a presentation for the past 6–8 years.

In Poland, investment activity has increased the rate of potential growth. Of the country’s 3.5 per cent potential growth forecast for 2015–2016, about 1.5 percentage points are attributable to the increase in total capital.³⁹

In Hungary, of the 1.7 per cent potential growth for 2014, approximately 1.1 percentage points could be attributed to the increase in total capital.⁴⁰ In Poland, the indicator is favourable partly because of a relatively low ratio of fixed assets to national income (1.77 in 2011 compared to an average 2.2 of the other four countries⁴¹).

SUMMARY, CONCLUSIONS

Due to an increase in the savings rate, the resources generated internally can, in principle, provide coverage to finance the region's current investment rate of 18–22 per cent. For this, foreign exchange resources may also be provided by means of an improved position of the current account balance and EU funds available for some developments.

With the exception of Hungary, nationally owned companies account for a majority of investments in the business sector.

The investment rate of companies in foreign ownership is on average lower than that of nationally owned companies. When this

finding is refined through adjustments for industry structure, the investment rates of the two ownership groups are virtually identical. Investments by the foreign-owned sector can be considered pro-cyclical. They dominate industries which are sensitive to cycles and banking (building materials, transport equipment manufacturing)⁴². Due to the increased level of dividends in the region, a significant volume of income is removed from the economic circulation of host countries.

The indicator is higher in countries where significant energy and transport developments are implemented. During the crisis, public investments had a stabilising effect across the region due to their weight trending upwards. At the same time, the value of public investments varied considerably between the countries each year. In industries and countries where family businesses are more prominent, the investment rate is lower. The value of the investment rate is influenced by prices and industry structure; consequently, when comparisons are made in time or between countries, an analysis of these factors is also recommended.

NOTES

¹ See Farkas (2012, p. 64) and Giday (2013, p. 285).

² Coupled with two smaller items: purchases for intangible assets and investments in cultivated areas.

³ This also underlines the basic requirement that conclusions should be drawn from the analysis of the rate over several years, as the overall value of investments may vary greatly from one year to the next due to single large investments.

⁴ For example, in transport equipment manufacturing, the vast majority of machinery investments are for

special equipment produced by another subsidiary of the parent company at special prices.

⁵ See Gém (2011).

⁶ Caution is also warranted because individual companies may arbitrarily adjust amortisation keys from one year to the next by amending their amortisation policies.

⁷ I assume that the level of investment in the globalised world is increased by at least 1 percentage point by investments required for extra production arising as a result of faster-wearing Asian import

goods, impulsive consumption (cf. the 33rd pair of shoes), and the ‘planned obsolescence’ of durable goods.

- ⁸ Due to the opportunities provided by EU funding and to infrastructural development needs, I expect them to keep this role for another 7 to 10 years.
- ⁹ For the purposes of this analysis, this group includes Germany, Sweden, Austria and Finland.
- ¹⁰ To a large extent, composition by assets is determined by the sector. 80 to 85 per cent of public investments are constructions, more specifically comprising other structures (i.e. other than buildings, including structures such as bridges, roads, railway tracks, etc.) Households have a high ratio of residential construction, complemented by purchases for transport equipment (self-employed carriers) and machinery (agriculture and small businesses). In the private sector, the ratio of construction to machinery and equipment is typically one-third to two-thirds. The following deviations are observed. In the energy sector and commerce, the ratio is 50% to 50 per cent. Within transport, warehousing is dominated by investments in construction, while carriage is dominated by transport equipment purchases. In the real estate industry, construction has the predominant role.
- ¹¹ NBP Inflation Report, July 2014, p. 62 and MNB Inflation Report, September 2014, p. 15
- ¹² The apt expression is borrowed from a prize-winning Hungarian writer and refers to the fact that in Yalta, the Western world completely surrendered the area stretching from Greece to the Baltic states, with a population of 120 million, to the “duo” represented by the personalities of Stalin and Tito, the economic consequences of which are, unfortunately, strongly felt to this day.
- ¹³ Particularly NBP Inflation Report, July 2014, p. 62 and MNB Inflation Report, September 2014, p. 15
- ¹⁴ Ever since the privatisation of housing, well over 90% of residential construction is linked to households.
- ¹⁵ Particularly NBP Inflation Report, July 2014, p. 62 and MNB Inflation Report, September 2014, p. 15.
- ¹⁶ The statistics use the term business sector generally, indicating in footnotes whether or not this includes the financial sector (most often not).
- ¹⁷ This ratio was the highest in Hungary at 48 per cent.
- ¹⁸ This area includes enterprises providing transport services, whether privately or state-owned. However, it does not include the maintenance and development of infrastructure (construction of railway tracks, the maintenance and repair of public roads, etc.).
- ¹⁹ Occasionally, their activity is also significant in capital intensive industries, mostly where market structure is oligopolistic.
- ²⁰ Capital intensive mining, energy and water management alone add 2 percentage points to the investment rate of national investors.
- ²¹ There may be overlaps between the categories of greenfield investments and reinvested earnings.
- ²² The “value” of this can be assessed in an international outlook. In the western financial world, the second phase of the crisis rebalanced the levels of interest and dividends, with both falling perceptibly. (This enabled equity prices to return to approximately pre-crisis levels after the great fall.)
- ²³ It is to be noted that the value of total investment is a better indicator than reinvestment. For instance, where redundant capacities are created in an industry, reinvestment is unviable. Where a company has built a cement plant of a sufficient size to satisfy market demand, the company will not reinvest in the same country, as a new cement plant would only produce excess which cannot be sold.

- ²⁴ An exception to this is Poland in the 5 years after the crisis, where the price level of construction is 25 per cent higher than the average price level measured as GDP deflator.
- ²⁵ Dombi (2013, p. 477)
- ²⁶ In two countries (Slovenia and Hungary), the corporate sector was a net saver for several years.
- ²⁷ This allows a deficit of around 1–1.5 per cent for budgets of the region's countries, which is even lower than the often-quoted 3 per cent Maastricht rate.
- ²⁸ This is known to include amortisation and gross profits.
- ²⁹ Martonosi (2013, p. 45), and NBP Inflation Report November 2011 (p. 69) and NBP Inflation Report March 2012 (p. 72)
- ³⁰ cohesiondata.ec.europa.eu (see Eurostat website), and The Objective of Economic and Social Cohesion (p. 83)
- ³¹ I have not added these values to the figures in Table 10 because I have not found annual payment data by country for each year.
- ³² At this point, there are no substantive payments deferred from the previous cycle, while assistance can only be requested for a small proportion of larger projects under the new cycle.
- ³³ According to ESA 95
- ³⁴ Nyikos (2013, p. 168)
- ³⁵ Inflation projection, NBP (p. 34)
- ³⁶ Nyikos (2013, p. 177)
- ³⁷ Kovács – Halmosi (2012, p. 16)
- ³⁸ The upswing in this cycle from 2002–2003 onwards coincided with the boost in housing loans and residential construction.
- ³⁹ Inflation projection, NBP (p. 60)
- ⁴⁰ MNB Inflation Report, September 2014 (p. 42)
- ⁴¹ Dombi (2013, p. 471)
- ⁴² When purchasing the products and services of these industries, households and enterprises also rely on loans, which causes a great degree of volatility in activity depending on borrowing options and willingness (see residential construction and purchases for passenger vehicles and lorries).

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