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ECONOMIC ANALYSIS FROM EUROPEAN COMMISSION'S DIRECTORATE-GENERAL FOR ECONOMIC AND FINANCIAL AFFAIRS

HIGHLIGHTS IN THIS ISSUE:

- *The composition of capital inflows matters. FDI inflows had a positive effect on growth in the region. FDI inflows into construction and real estate, while fuelling GDP growth, contributed to a boom-bust episode in the region.*
- *Capital inflows to Poland have concentrated in the manufacturing and services sectors, supporting the development of the tradable sector.*
- *Looking forward, appropriate structural policies in the labour and product markets in the region are necessary to draw FDI into manufacturing and business services.*

Composition of capital inflows to Central and Eastern Europe (CEE) — is Poland different?

By Piotr Bogumil*

Summary

Since the fall of the "iron curtain" and their subsequent integration into the EU, Central and Eastern European (CEE) countries have received a significant amount of capital inflows, which has supported the catching-up process in the region. For some countries, this process resulted in capital misallocation, which led to an unsustainable boom and a subsequent financial bust. Other countries, in particular Poland, remained relatively stable from a financial point of view. This Country Focus takes a closer look at how capital inflows affected growth in CEE countries, the drivers of such inflows and the extent to which their composition can explain differences in growth patterns.

Our analysis reveals that Poland managed to avoid the boom-bust scenario since foreign capital went mainly into manufacturing and business services. This growth-nurturing composition of capital inflows was backed by structural factors, including proximity to large Western European markets and a sizeable domestic market, flexible labour market institutions and an appropriate monetary and micro-prudential policy mix. In the coming years, a more growth-friendly mix of capital inflows in the region should be supported by better structural and macroeconomic policies.

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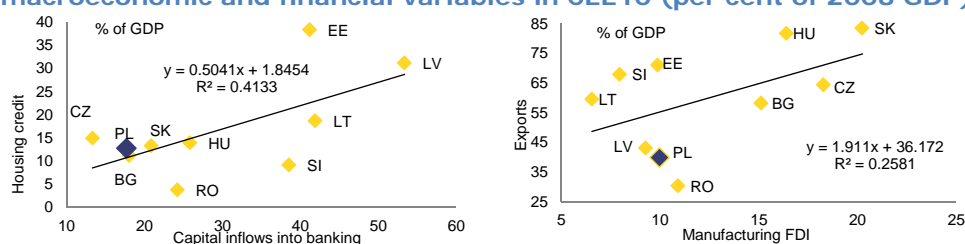
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■ *Capital flows into CEE supported the catching-up in the region but contributed to boom-bust dynamics*

Composition of capital inflows into CEE

From the late 1990s until the onset of the global financial crisis, capital inflows to the CEE¹ Member States were robust and supported catching-up. They were the consequence of a higher rate of return in undercapitalized liberalized economies, prospects of a better institutional framework and growing financial integration in the EU.

Graph 1: Correlation between capital stock in different sectors and macroeconomic and financial variables in CEE10 (per cent of 2008 GDP)

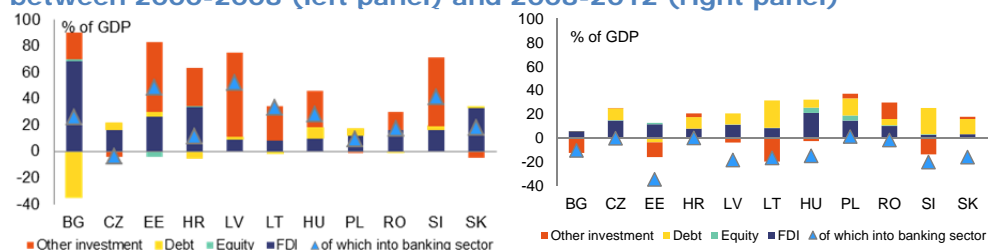


Source: Eurostat

Notes: Poland pictured as a blue diamond. Relatively limited share of FDI into manufacturing as a percentage of GDP in Poland reflects, inter alia, lower openness of the Polish economy to international capital flows.

Foreign capital inflows affected real GDP growth in CEE through different channels. First, a substantial part of capital classified as other investment and part of FDI inflows² were channelled into the banking sector, where it was used to finance mortgages and consumption credit (Graph 1, left panel), and ultimately boosted private consumption. Second, FDI inflows into real estate and the construction sector and part of the cross-border banking inflows were used as credit to construction industry supporting housing investment. Finally, FDI into manufacturing and business services together with inflows into the banking sector (for corporate credit) supported investment in equipment and strengthened the countries' export capacities (Graph 1, right panel).

Graph 2: Change in foreign liabilities as percentage of GDP in CEE11 between 2000-2008 (left panel) and 2008-2012 (right panel)

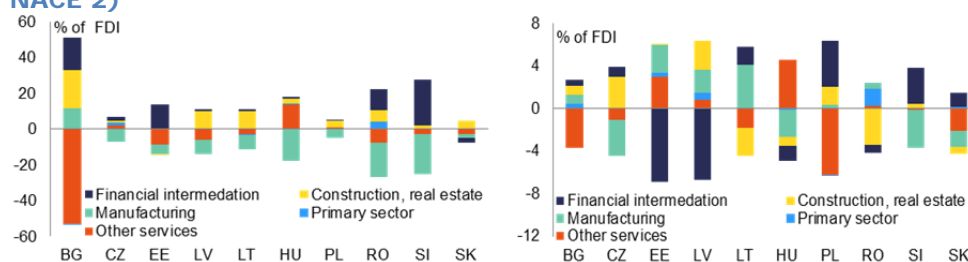


Source: Eurostat

While all CEE countries benefited from foreign capital inflows until 2008, its composition and use varied significantly across the region. In some CEE Member States the build-up of sizeable capital inflows into the non-tradable sector fuelled unsustainable consumption and (construction) investment booms. This was in particular the case in the Baltic's, Romania, Bulgaria and Slovenia (Graph 2). In Hungary, a surge in banking financing and debt inflows resulted in a private consumption boom and financed unsustainable public sector developments. On the other hand, inflows into the banking sector in Poland, the Czech Republic and Slovakia were limited and dwarfed by FDI inflows, though all three countries increased their foreign debt dependence. With the onset of the global financial crisis cross border interbank lending and FDI inflows into CEE declined substantially, while debt financing increased, not least due to increasing sovereign financing needs.

Turning to the sectoral disaggregation of FDI stocks, in the Baltics, Romania, Bulgaria and Slovenia, the share of FDI flowing into manufacturing and services shrank rapidly over 2003-2008 and was replaced by FDI inflows into construction and real estate. In Romania, Bulgaria, Estonia and Slovenia, FDI inflows into financial intermediation accelerated as well. In Hungary, the share of FDI inflows into manufacturing started to decline in 2006 and was increasingly replaced by FDI into trade and business services. Changes in the sectoral share of the FDI stock in Poland, Czech Republic and Slovakia were smaller and took the form of increased real estate FDI (Graph 3). Overall, in these three countries, FDI continued to flow mainly into the tradable sector, adding to export growth.

Graph 3: Change in the sectoral shares of FDI stock in the CEE10 between 2003-2008 (left panel, NACE1.1) and 2008-2010 (right panel, NACE 2)



Source: Eurostat

■ *The impact of capital flows on growth depends on the composition of such flows - it has been positive for FDI into services and, in the CEE in the last decade, also for FDI into construction and real estate*

Box. Impact of capital flows on growth

The effects of the composition of capital flows on growth have been subject of some empirical research. Aizenman and Sushko (2011) looked at the type of capital inflow and concluded that portfolio debt and equity inflows have at best a mixed association with growth in manufacturing industries and tend to result in negative growth effects after large surges, while FDI inflows are the most stable and seem to be correlated with growth in manufacturing. Fidrmuc and Martin (2011) support these findings for the CEE countries.

Several studies have covered the sectoral composition of FDI. High inflows to the services or primary sector seem to have negative effects on growth, contrary to FDI into manufacturing (Aykut and Sayek, 2007). For CEE10, capital inflows into real estate, both bank financing and real-estate-related FDI, appear to have a greater impact on surges and collapses of GDP than capital inflows into other sectors (Mitra, 2011). Not surprisingly, FDI in the tradable sector strengthens export performance and improves the trade balance (Kinoshita, 2011).

We run a dynamic panel model using Arellano-Bond difference generalised method of moments (GMM) estimator with period fixed effects to assess the impact of different types of capital inflows in the CEE countries. As the number of countries in our sample is small (CEE10 countries) and the time dimension is relatively limited (2000-2012), we use as instruments differenced exogenous variables and dynamic instruments for the lagged dependent variable in all specifications. In addition, in some specifications (2 to 9), we use dynamic instruments for the capital inflows variables. We use most commonly employed control variables in the growth literature comprising investment as a share of GDP, general government consumption as a share of GDP, real interest rate, and the share of population with upper secondary education.

We use Eurostat data for different types of capital inflows and FDI and complement these with national sources (central banks and statistical offices), OECD and UNCTAD, whenever available. For control variables we use Eurostat data and World Bank data for real interest rates and the share of population with upper secondary education.

Although the size of the panel is small (in both time and country dimensions) and the

results must be treated with caution, we find that total FDI inflows, FDI inflows into other services (mainly trade, transport, communications and other business services) and FDI into construction and real estate had a statistically significant impact on real GDP growth in the region over 2000-2012 (see Table). The first equation, which includes all possible capital inflows variables, shows that the impact of FDI inflows into construction and real estate on real GDP growth is statistically significant at 10% level. This is confirmed by equations 4 and 5, which however might suffer from omitted variable bias. Surprisingly, a similar impact is not evident for FDI inflows into manufacturing. This might be explained by the lack of direct incorporation into the model of the impact of capital flows on supply side, where the positive impact of FDI into tradables is likely to be significant. In particular, the model used here cannot include the positive spillover effects (technology transfer, superior managerial know-how) of the past FDI flows onto domestic firms. Therefore, this specification might underreport that true impact of FDI into manufacturing on growth. As expected, the impact of inflows into construction on growth in the region is strong given the dynamics of recent boom-bust episode.

Dependent variable: real GDP growth per capita									
(unbalanced panel, CEE10 countries, 2000-2012, GMM)									
	1	2	3	4	5	6	7	8	9
Lagged real GDP growth per capita	0.21 *	0.26 ***	0.28 ***	0.18 **	0.25 **	0.25 ***	0.21 **	0.21 **	0.22 **
Investment as a share of GDP	-0.14	-0.15	-0.12	-0.06	-0.10	-0.06	-0.07	-0.06	-0.07
GG consumption expenditure as share of GDP	-0.93 ***	-1.01 ***	-0.99 ***	-1.22 ***	-1.19 ***	-0.68 ***	-0.69 ***	-0.89 ***	-1.07 ***
Real interest rate	-0.35 ***	-0.36 ***	-0.37 ***	-0.41 ***	-0.35 ***	-0.39 ***	-0.39 ***	-0.39 ***	-0.37 ***
Share of population with upper secondary education (share of GDP in percent)	-0.03	0.40	0.06	0.24	0.02	0.20	0.30	0.30	0.55
FDI inflows		0.13 **							
FDI inflows in manufacturing	-0.15		-0.11						
FDI inflows in other services	0.17 *			0.31 ***					
FDI inflows in construction and real estate	1.60 **				1.86 *				
FDI inflows in financial services	-0.15					-0.16			
Portfolio equity inflows	-0.16						-0.01		
Portfolio debt inflows	-0.05							-0.16	
Other investment inflows	0.06								0.02
Number of observations	103	110	110	103	108	108	110	110	110
Number of groups	10	10	10	10	10	10	10	10	10
Arellano-Bond test for AR(2)	0.17	0.08	0.13	0.08	0.29	0.16	0.11	0.14	0.10

All regressions include a constant and control for cross-sectional and period fixed effects. ***, ** and * indicate 1,5,10 percent significance levels, respectively.

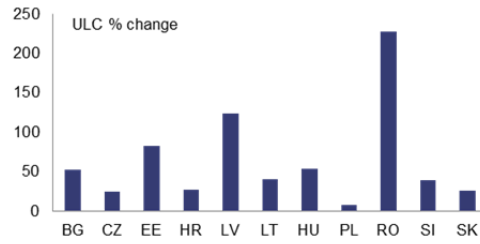
Determinants of capital inflows into different sectors

According to the literature, capital inflows have different structural drivers in each branch of activity. For manufacturing, low labour costs and labour market flexibility (Walsh and Yu, 2010), better institutional quality (Doytch and Eren, 2012) and, within the CEE countries, the proximity to 'EU15 clients' (Lefilleur and Mauler, 2010) is important. FDI into services is motivated by high relative wages and profits (market-seeking) (Kolstad and Villanger, 2008) and high human capital (Ramasamy and Yeung, 2010). FDI into the financial sector is positively affected by the capital intensity of the host economy, and negatively affected by inflation (Cazzavillan and Olszewski, 2012). Finally, other investment inflows into the CEE countries (mainly loans and deposits of parent banks into the subsidiary banks) were attracted by a stable macroeconomic framework, low inflation and the introduction of new products (mortgage loans). Credible exchange rate pegs may have added a further element of stimulus to credit growth (Backe and Wojcik, 2008).

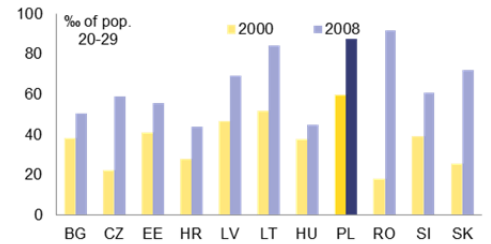
In Poland, the higher share of FDI into manufacturing in the total FDI stock, than among its peers, seem to be explained by the geographical proximity to the main manufacturers in Western Europe (mainly outsourcing activities for German exporters), subdued growth of labour costs (Graph 4a), a flexible labour market and relatively high quality of the labour force (Graph 4b). Moreover, such relatively robust FDI inflows into manufacturing, together with an appreciating currency and a large domestic market, attracted FDI into services.

■ *Stronger inflows of FDI into manufacturing and services in Poland are explained by proximity to main markets, lower labour costs, high quality of labour and a large domestic market*

Graph 4a: Change in nominal unit labour costs between 2000 and 2008



Graph 4b: Number of tertiary education graduates per 1000 of population aged 20-29

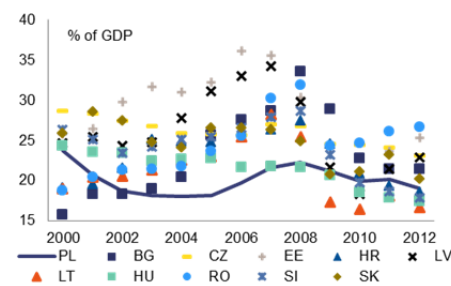


Source: Commission services (AMECO database), Eurostat

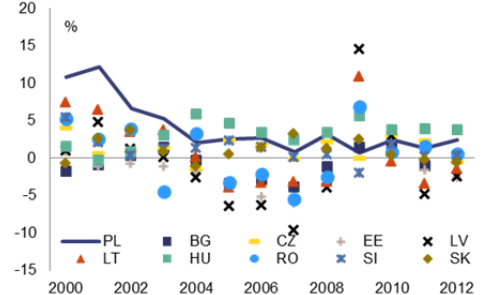
The inflows into the banking sector in Poland, classified as both FDI and other investment inflows, were for several reasons comparatively limited over 2002-2008. First, Poland had already recorded a period of high credit growth to the private sector during the second half of the 1990s, which gave way to a much more moderate expansion of lending at the turn of the decade when the economic situation worsened in 2000-2001. The slowdown led to high unemployment and subdued wage growth in subsequent years. It limited the demand for credit by households for consumption or housing. Second, the overall low capital intensity of the Polish economy (Graph 5a), exacerbated by the substitution of capital by cheap labour after the 2001-2002 slowdown, limited the demand for external funding. Third, real interest rates were high as a consequence of a tight monetary policy in 2000-2004 (Graph 5b) and dampened further the demand for credit from the corporate sector, which increasingly financed investments from retained earnings.

■ *A conservative monetary and micro-prudential policy mix, the low capital intensity of the economy, a flexible exchange rate, and the slowdown of 2000-2001 delayed and limited the scale of the surge in capital inflows into banking sector in Poland*

Graph 5a: Investment as a share of GDP

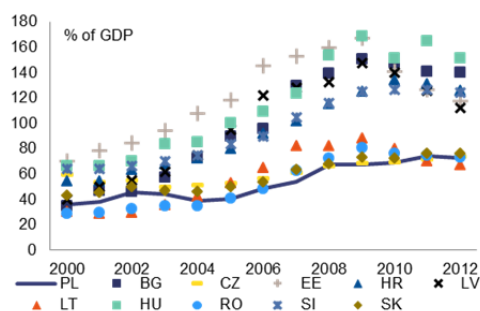


Graph 5b: Real short term interest rates (GDP deflator)

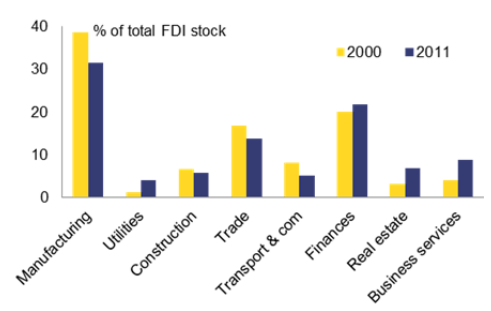


Source: Eurostat, Commission services (AMECO database)

Graph 6a: Credit to non-financial private sector as a share of GDP



Graph 6b: Composition of FDI stock in Poland in 2000 and 2011



Source: Eurostat

Fourth, non-performing loans were stringently classified in Poland before 2003, which limited the supply of credit. Only after a new classification was introduced in 2004,

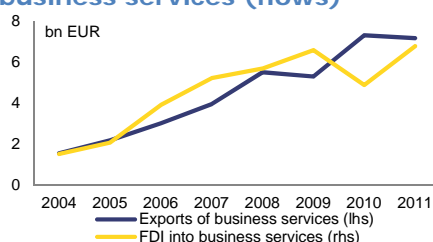
easing the burden of non-performing loans on banks, did credit supply start increasing (growth of credit to corporates increased from -0.2% year-on-year in 2004 to 7.1% in 2006)³. Fifth, the prudent policy of the financial regulator played some role. In March 2006, at the time of the pick-up in credit growth (mainly mortgages) (Graph 6a), the financial supervisor (KNB, Commission for Banking Supervision) issued recommendation S to address the problem of increasing mortgage-secured lending, particularly in foreign currency.⁴ Moreover, at the beginning of the downturn in 2008, the Polish banking supervisor (KNF, Financial Supervision Authority) recommended to banks to retain earnings and create an additional capital buffer (2%) above the regulatory 8% threshold to help protect them from the negative consequences of the slowdown, which limited liquidity outflows. Finally, the flexible exchange rate provided a buffer against capital inflows into the banking sector and portfolio capital inflows during the boom phase, as evidenced, inter alia, by a relatively limited share of foreign-currency-denominated lending (reaching 35% of total loans in the beginning of 2009).

Impact of capital inflows on the Polish economy

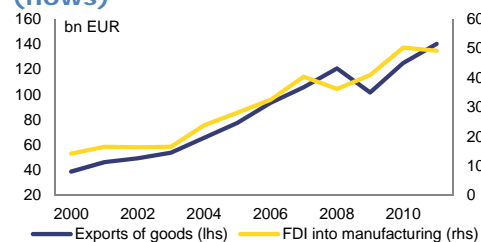
Inflows of FDI into Poland over 2000-2011 were mainly concentrated in manufacturing, though its share declined from 39% of total FDI inflows to 32% during this period (Graph 6b). FDI inflows into network industries increased as a result of the slow, but continued, liberalization of network industries and gradual privatization of the incumbent network companies (+3 pps.). Real estate (+4 pps.) benefited from an increase in real estate prices (both residential and commercial) and the development of a modern market for these services. FDI into financial intermediation increased by 2011 (+2 pps.) on the back of renewed interest in the Polish financial sector. Finally, the surge in FDI share into business services (+5 pps.) is a relatively recent phenomenon and reflects the development of business processing centres in Poland, providing administration, financial, customer care and information technology (software), but also R&D services to multinational companies. These investments supported the development of an export-oriented business services sector (Graph 7a), which accounted for 26% of total services' exports in 2012, up from just 14% in 2004. The inflow of FDI was, however, significantly reduced from 4% of GDP in 2011 to 1.2% of GDP in 2012, partly due to the global collapse in FDI flows, which fell by 18% in 2012. In particular, FDI inflows into construction and real estate and into services were strongly hit in Poland.

■ *The composition of capital inflows was beneficial for the Polish economy, contributing to the development of export-oriented business services and manufacturing sectors*

Graph 7a: FDI into business services (stock) and exports of business services (flows)



Graph 7b: FDI into manufacturing (stock) and exports of goods (flows)



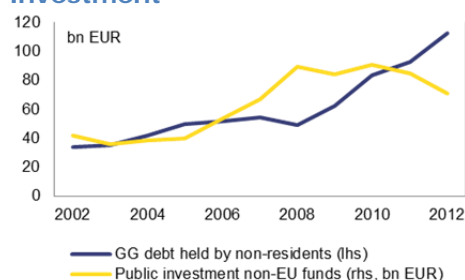
Source: Eurostat

However, during this period Poland continued to accumulate foreign debt liabilities, both portfolio debt, mainly through issuance of government securities, and private sector debt. The inflows of debt into the financial sector accelerated just before the global financial crisis. The stock of foreign capital in the banking sector increased from 9% of GDP in 2006 to 16% of GDP in 2009. These were mainly loans and deposits provided by parent companies to major banks in Poland with the objective of strengthening their liquidity in times of severe credit squeeze in wholesale markets. These additional funds supported the continued development of productive sectors and contributed to economic growth. However, it has also increased the dependence of the Polish banking sector on foreign capital and, despite some improvement in global markets over 2009-2012, foreign funding has only been replaced very slowly by domestic sources and amounted to 14.5%

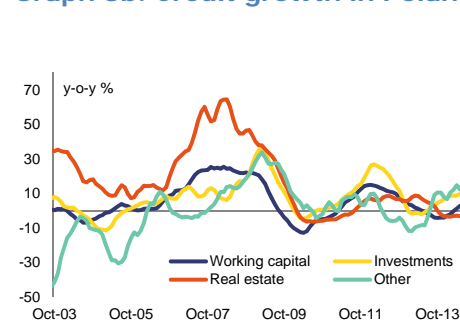
of GDP in 2012. Increased reliance on foreign capital in the banking sector, although still relatively limited compared to the peers, constitutes vulnerability. It could, however, be overcome if sufficient incentives were created to revive the market for long-term-domestic savings (by creating the incentives for banks to issue mortgage notes, long-term bank bonds and reviving securitization).

The rise in the sovereign external debt accelerated only after the 2008-2009 crises. The government's external debt grew by 13½% of GDP between Q2-2009 and Q2-2012, on the back of limited demand among domestic investors as well as ample liquidity provisioning in global markets. The ability of the government to sell long-term debt to non-residents helped contain the rise in yields and allowed for a diversification of financing sources. However, it made it easier for the government to postpone fiscal consolidation beyond 2010 and to delay structural reforms.

Graph 8a: Impact of debt inflows into government sector on public investment



Graph 8b: Credit growth in Poland



Source: Eurostat, NBP

The composition of FDI inflows in Poland seems to have supported the development of the export industry, laying the foundation for future growth (Graph 7b). While the increased inflows into sovereign debt seem to have had a negative impact on growth prospects, by delaying reforms and increasing short term external risks, part of the government debt was directed into infrastructure investments, thus increasing productivity and improving conditions for inflow of productive capital in the future (Graph 8a).

Debt inflows into the private sector, both direct corporate credit and cross-border bank financing, seem to have not only fuelled financial and construction sector development but also financed export expansion by Polish companies. As exporting firms in the region tend to be more credit dependent than non-exporters (Brown et al., 2012) the easy access to investment and trade credit (Graph 8b) allowed Polish companies to finance the expansion of production capacities and to increase their presence in foreign markets. Overall, the bias of capital inflows to Poland towards FDI into tradable sectors seems to have supported development of the export sector, while the comparatively limited debt and services' FDI inflows supported the development of the non-tradable sector, without creating severe imbalances.

Conclusions

The impact of capital inflows on growth in CEE countries before 2008 is linked to their sectoral composition. FDI into tradable services appears to have had a positive and sustained impact on real GDP growth. Moreover, FDI into construction and real estate had also a positive impact on growth, but this was not sustainable as it fuelled asset price bubbles in some countries in the region. The composition of capital inflows to Poland reflects this finding. They were (compared to the neighbours) mainly directed towards the tradable sector and supported strong export growth without fuelling credit and substantial asset price booms. However, the recent increase in the dependence of the domestic banking sector and the sovereign on foreign investors might be a risky strategy in times

of increased volatility of capital.

Looking forward, a more growth-friendly mix of capital inflows in the region should be supported by better structural and macroeconomic policies. In particular, labour market policies to increase the quality of labour force and limit wage growth, vigilant macroeconomic policies and structural policies to improve infrastructure and institutional quality are crucial to attract FDI into manufacturing and business services.

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¹ CEE10 refers to Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovenia, Slovakia, while CEE11 refers to CEE10 plus Croatia.

² Capital inflows in the balance of payments framework can be disaggregated into foreign direct investment (FDI), portfolio equity, portfolio debt (both sovereign and corporate) and other investment inflows. FDI covers all inflows (in the form of equity, reinvested earnings and intercompany transactions), which take place between direct investors (owning at least 10% of shares of the domestic enterprise) and direct investment enterprises and among affiliated enterprises. FDI might flow into different sectors of the economy (manufacturing, financial services, transport, construction etc.). On the contrary portfolio

equity (thereafter "equity") covers all equity instruments held by non-resident which are not classified as FDI or reserve assets. Other investment inflows mainly take the form of inflows into banking sector (loans and deposits) and trade credit to the corporate sector.

³ The new, more lenient regulation has caused some irregular loans to be reclassified as satisfactory. This applied to consumer loans with delinquency periods not longer than 6 months, and loans to corporates with suitable security defined in the law. Certain loans were also upgraded, due to the replacement of the evaluation of the debtor's economic standing with the evaluation of the collateral issuer's standing. From January 1, 2004, new principles regarding the classification and maintaining records of credit exposures as well as establishing provisions against the risk of banking operations came into force. The regulations concerning bank accounting were also amended. The most important changes included: a) Classification of loans according to repayment performance. The delinquency periods with regard to the payment of principal or interest, which constitute a criterion for claim classification, have been changed. Their assignment to claim categories is as follows: • up to 1 month for satisfactory, • from 1 to 3 months for special mention, • from 3 to 6 months for substandard, • from 6 to 12 months for doubtful, • over 12 months for loss. The classification of consumer loans has been limited to two categories; the delinquency periods are as follows: • up to 6 months for satisfactory, • over 6 months for loss. b) Classification according to economic and financial standing. For the part of credit exposure that has security meeting the applicable criteria, banks may substitute the valuation of the economic and financial standing of the collateral issuer for the evaluation of the borrower. c) Taking security into account at the classification stage. The former rules made it possible to take exposure security into account at the specific provision establishment stage only. Changes in regulations have made highest-quality security (e.g. cash, government or central bank securities) eligible for recognition already at the classification stage. d) Limits for loan security deductions. As the delinquency period increases, the value of the security taken into account when calculating the amount of specific provisions is reduced. The value of eligible security is reduced to 75% of the original value after 27 months of delinquency, to 50% after 30 months and 0% after 36 months (the limits are less restrictive in the case of loans secured by property or mortgage bank loans secured by specific instruments). This means that the banks are required to establish additional specific provisions against the unsecured part of the loans. e) Interest on special mention loans. The obligation to book interest on special mention loans as income in suspense has been abolished. Pursuant to the new regulations, interest on such loans will be recognized as current period income.

⁴ The recommendation in its original form covered, inter alia, the following areas: (i) the risk of the mortgage-secured credit exposure portfolio; (ii) the risk assumed (appropriate tools for the proper measurement of risk associated with mortgage-secured credit exposures); (iii) the borrower's FX risk and interest rate risk (a systematic analysis of the FX risk and interest rate risk borne by the borrower); (iv) collateral (proper verification of its value); and (v) customer protection issues (type and quality of information presented to customers). Specifically, it was recommended that banks evaluate the creditworthiness of a borrower applying for an FX loan under the assumption that the interest rate of the zloty loan and FX loan are the same, and the outstanding FX loan principal is 20 percent higher to accommodate for the additional FX risk. It was also recommended that banks use stress-test analysis of the exchange-rate effect on credit risk.