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Foreign and Domestic Growth Drivers in Eastern Europe[1]

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Abstract

This paper analyses the growth effects of capital formation, exports and FDI as major drivers of economic development in Eastern Europe. The fundamental innovations are identified by empirically and theoretically motivated short- and long-run restrictions in structural cointegrated vector autoregressions. Impulse responses and variance decompositions reveal quite different growth effects in various Eastern European countries. Generally, strong reliance on exports goes along with higher GDP, and FDI bears substantial potential for fostering economic growth. It is shown that the recent worldwide recession clearly hit Eastern Europe through the export channel, whereas the recovery is mainly supported by positive demand shocks.

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1 Introduction

Since the end of the Soviet Union, the Central and East European countries (CEEC) proceed on a path of transition towards internationally integrated market economies. The process includes both restructuring of the domestic economies and opening to world trade and finance. This development lead to increasing trade flows to the high-income EU market and growing capital inflows for most CEECs. Catching-up with western income levels broadly advances, even if there is no unequivocal improvement of everyday life of the population (Kornai 2006) and the recent global crisis had a detrimental impact on several countries in the region. Especially, the experience of East Asian emerging and already industrialised countries represents an interesting and possibly fruitful parallel in this respect.

This situation makes it worthwhile to pursue the following research questions: What have been major growth drivers in transition? What are potential growth drivers? Are there similarities or special patterns in Eastern Europe? What changed during the recent crisis? Answering these questions should provide valuable information on strengths and weaknesses of the various national economies. Comparing their performance shall give important insights into the potential of particular growth strategies.

Both in the above-mentioned East Asian growth process as well as in Eastern European transition, on a macro level domestic capital formation, exports and foreign direct investment (FDI) are seen as important growth drivers. Besides their obvious effects on aggregate demand, their potential is closely connected to supply-side factors like technological progress, acquisition of knowledge and market liberalisation. Several strands of literature set out these arguments:

The role of *investment* is closely linked to the main arguments in growth theory: For the neoclassical part (Solow 1956), factor endowment accumulation is a key variable for catching-up, even though representing only transitory processes. However, the endogenous approach assigns persistent impacts to real investment, which generally stem from external effects (see Romer 1986 and Lucas 1988): For example, higher capital accumulation could trigger further technological progress, resulting in higher productivity. Likewise, the idea of dynamic interaction between physical capital and human resources, comprising abilities, knowledge, experience and social institutions, directs to structural growth effects of investment, which exceed pure moving along the production function. At last, the notion of embodied growth (Solow 1960), stressing that new capital goods carry inherent technological progress, is of importance. For a debate on factor accumulation

and technology see Krugman (1994), Nelson and Pack (1999) as well as Rodrigo (2000).

Most approaches on *export* impacts origin in the theories of growth or development, as elaborated in Lewis (1980), Feder (1982), Helpman and Krugman (1985) and Krueger (1985). First of all, openness to trade is likely to increase the intensity of competition and set economic incentives, thus enhancing efficiency in production and causing sector reallocation. Contact to the world markets may trigger learning processes and generate knowledge about manufacturing, organisation, sales strategies and so on, even though this absorption might require some minimum level of development (e.g. Grossman and Helpman 1991). Furthermore, export strengthening could be a solution to the problem of growth constraints in case needed imports or policy flexibility are subject to foreign exchange restrictions. At last, scale and specialisation effects are likely to occur as markets expand, so that for example problems of large minimum plant sizes are mitigated.

Potential growth effects of *FDI* are discussed for instance in the survey by de Mello (1997). The most important arguments in the literature deal with diffusion of technology. I.e., sustained influences on long-run development of the host country can be expected in case advanced foreign technological progress is absorbed by the national economy. According to the technology gap hypothesis (Findlay 1978), this potential is the greater the larger the difference in technological development; see Nicolini and Resmini (2010) for a recent application to CEECs. The same could hold true for the adoption of organisation and management skills. Furthermore, as in the case of exports, intensified competition can foster efficiency of the economic system. This will increase the income level in the long run, even if competition effects could be negative during a temporary restructuring period (Konings 2003).

In the light of the presented arguments I seek to identify the stochastic trends in gross domestic product (GDP) as generated by shocks to the growth drivers exports (EXP), gross fixed capital formation (GCF) and FDI. In this context, innovations with only transitory effects are interpreted as demand shocks. Identification in structural cointegration models will ensure theoretical interpretability by connecting empirical analysis and economic reasoning. The examination works with cointegration restrictions, which are imposed on reduced-form vector autoregressions (VARs). In the second step, long- and short-run restrictions are deduced from the model properties and economic considerations. In this, economic interpretability is achieved based on a minimal set of necessary assumptions. By the same token, structural identification solves the problem of endogeneity between GDP and growth drivers. Within the identified model, the growth effects are examined using impulse responses and variance decompositions. Here, I partly follow Weber (2009),

going beyond the existing literature mainly based on empirical Granger-causality tests between measures of output and exports respectively investment. Moreover, I present results concerning the structural shocks during the recent global recession.

The reader can expect the following: Section 2 introduces the econometric techniques with emphasis on dynamic modelling, cointegration and identification. Afterwards, the results of the reduced-form and structural models are presented and analysed in section 3. In the end, the summary gives a concluding overview.

2 Methodology

Several features of economic growth require a special type of econometric model: First, growth effects are delayed, so the model needs to be dynamic. Second, GDP is a mixture of long-run growth and short-run business cycle fluctuations. Logically, an appropriate model must allow for long-run equilibria besides the short-run dynamics. Third, growth shocks are not directly observed. This requires a structural model to be identified by statistical and economic reasoning.

The long-run and the structural dimensions will be introduced below. The dynamic model is specified by the VAR with lag length $q+1$

$$y_t = c_0 + c_1 t + c_2 d_t + \sum_{i=1}^{q+1} A_i^* y_{t-i} + u_t \ , \tag{1}$$

where y_t contains the n endogenous variables, A_i^* are $n \times n$ coefficient matrices and u_t is an n-dimensional vector of white noise errors. The deterministic terms are constant, linear trend (t) and centred seasonal dummies (d_t).

Before proceeding, assume that a unit root process is an acceptable description of the data. In case of long-run comovement, the variables contain common non-stationary components. According to Johansen (1995), the commonness of $n-r$ such stochastic trends is reflected by a reduced rank of $A^*(1)$, with $A^*(L) = I_n - \sum_{i=1}^{q+1} A_i^* L^i$. Consequently, one can write $A^*(1) = -\alpha\beta'$, where β spans the space of the r cointegrating vectors, and α includes the corresponding adjustment coefficients. Granger's representation theorem leads to the VECM

$$\Delta y_t = \alpha[\beta' y_{t-1} + c_1^*(t-1)] + c_0^* + c_2 d_t + \sum_{i=1}^{q} A_i \Delta y_{t-i} + u_t \ , \tag{2}$$

with $A_i = -\sum_{j=i+1}^{q+1} A_j^*$, $i = 1, \ldots, q$. This representation assumes that the trend is absorbed in the cointegrating relation in order to exclude quadratic trending. Johansen (1994, 1995) provides a test for cointegration in the VECM in (2). His likelihood ratio trace test statistic for the null hypothesis of at most r cointegrating relations is given by

$$\Lambda(r) = -T \sum_{i=r+1}^{n} log(1 - \hat{\lambda}_i) \ , \tag{3}$$

where T is the number of observations. $\hat{\lambda}_i$ denotes the i-th largest squared sample canonical correlation between Δy_t and the respective cointegrating relation, both corrected for the influence of the remaining regressors.

The VECM in (2) represents the reduced form of an underlying structural system. In particular, the correlated residuals in u_t do not represent economically interpretable innovations. Instead, they result as linear combinations of some structural shocks. Formally, this can be written as

$$u_t = B e_t \ , \tag{4}$$

where B is an $n \times n$ parameter matrix, and e_t represents the vector of structural disturbances. B contains the initial impacts of all these shocks on the respective variables, with positiv diagonal elements.

Evidently, B introduces n^2 unknown coefficients into the model, which cannot be determined form the reduced form without further elaboration. First, the variances of e_t are normalised to one and the cross-correlations between the different structural shocks are assumed zero (as is standard in structural VAR models). This reduces the number of unknowns by $n + n(n-1)/2 = n(n+1)/2$, still leaving $n^2 - n(n+1)/2 = n(n-1)/2$ restrictions to impose for identification of the structural form. From a different angle, such restrictions serve to solve the problem of determining causal impacts between endogenous variables.

I will address this issue by combining short- and long-run constraints. From the VECM moving average representation (Johansen 1995) one gets the matrix of the long-run effects of the reduced-form residuals u_t:

$$\Xi = \beta_\perp (\alpha_\perp' (I_n - \sum_{i=1}^{q} A_i) \beta_\perp)^{-1} \alpha_\perp' \ , \tag{5}$$

with $\perp$ denoting the orthogonal complement (thus $\alpha'\alpha_\perp = 0$, where both α and $\alpha_\perp$ have full column rank). In detail, the ith row of Ξ contains the long-run impacts of each of the n residuals in u_t. Accordingly, the long-run matrix associated to the fundamental shocks e_t results as ΞB.

From the cointegration properties it is known that at most r shocks have only transitory (i.e., no long-run) effects on the endogenous variables. This corresponds to according zero columns in ΞB. Since Ξ can be obtained from the reduced form, zero restrictions on ΞB serve to identify the matrix B. However, in a non-stationary cointegrated system ΞB has only the reduced rank of $n - r$. Thus, setting r columns to zero produces only $r(n - r)$ (and not rn) independent restrictions. Logically, identification must be completed by $n(n-1)/2 - r(n-r)$ additional restrictions. This can be split into $r(r-1)/2$ restrictions that disentangle the r transitory shocks and $(n-r)(n-r-1)/2$ restrictions that disentangle the $n - r$ permanent shocks (Gonzalo and Ng 2001).

Once the structural coefficients are identified, they provide the basis for impulse responses and forecast error variance decompositions (FEVD). These will be presented in the following empirical investigation. Thereby, a long-run impulse response represents the GDP multiplier connected to a unit shock in a certain innovation. I.e., it describes what follows *if* a shock occurs, or in short, the *potential* impact. In contrast, the variance decomposition provides the contributions of the different shocks to the variability of GDP, or in short, the *factual* importance of the shocks as observed in the historical sample.

3 Economic Growth in Eastern Europe

3.1 Data

As set out in the introduction, the empirical study employs times series of GDP, exports, GCF and FDI. I consider the CEECs Czech Republic (CZE), Estonia (EST), Hungary (HUN), Latvia (LAT), Lithuania (LIT), Poland (POL), Slovenia (SLO) and Russia (RUS). All quarterly data was taken from IMF international financial statistics. In few cases, this was complemented by national sources. Depending on the country, the samples begin in 1993:1, 94:1 or 95:1 and end in 2009:2. Since these samples are already quite short for multivariate time series analyses, countries with even less data available were not taken into account.

The series were transformed as follows: Per capita levels were calculated by dividing by

total population, which was linearly interpolated to gain quarterly data. The nominal data was deflated to the 2002 level using the implicit price deflator of GDP. At last, the 2002 purchasing power parity conversion factors from the international comparison program of the World Bank were employed to transform all series into US dollar. The calculated variables can be interpreted as the per quarter amount of dollars one would have needed in the USA in 2002, to reach the same level as in the respective country and period. The series are presented in Figure 1, seasonally adjusted and starting in 1995 for a better graphical overview. (The FDI series are so erratic that their mean is presented instead of a confusing collection of single graphs.) Besides considerable growth over the first twelve years the effect of the financial crisis stands out. For FDI, this development is even more abrupt.

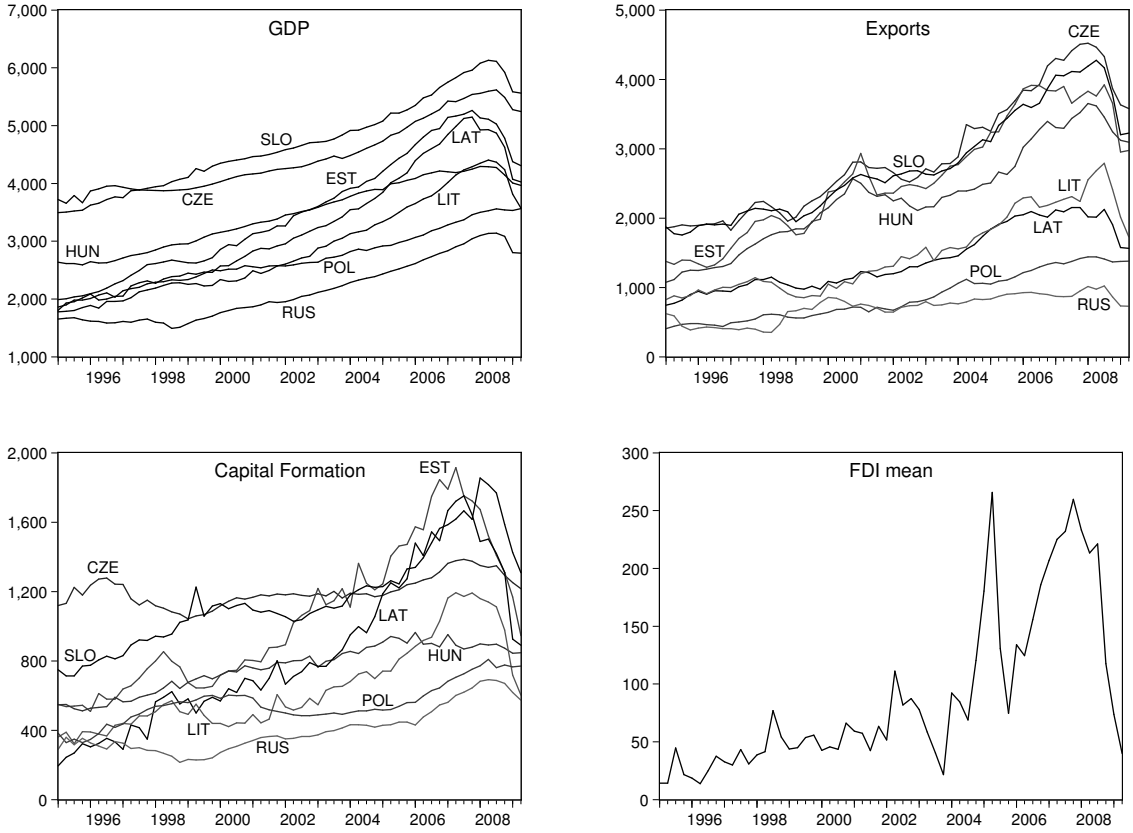

Figure 1: Real USD per capita GDP, exports, GCF, FDI

Of course, a short look into the growth literature easily allows extending the list of relevant variables for example by human capital accumulation, measures of institutions or total factor productivity. However, most such data are not available as series of sufficient length, width and frequency. Furthermore, for obvious reasons a complete analysis in an integrated time series model is infeasible, the more so in view of the limited number of

observations. Therefore, I focus on important growth drivers on the macro level, which already played a prominent role in the discussion on the East Asian growth experience. Additionally, the finding of cointegration will provide certain robustness against missing variables problems. I.e., according biases asymptotically do not affect cointegrating relations due to superconsistency of the estimation.

3.2 Cointegration Analysis

For analysing economic growth, the long-run data properties are of paramount importance. Non-stationarity would indicate the presence of persistent influences on GDP development. Therefore, the unit root behaviour of the variables was checked by ADF tests, including constant, trend and centred seasonal dummies. In general, no evidence against the null of non-stationarity resulted. Logically, as it is common for macroeconomics series, the variables are treated as integrated of order one.

It is well known that analyses of long-run dynamic behaviour of multiple variables are quite demanding concerning the data requirements. Given the relatively short sample lengths of the CEECs, I seek to limit the complexity and size of the empirical models, while still upholding sensible economic interpretability. In detail, firstly, I concentrate on systems of GDP, exports and GCF. Subsequently, GCF is replaced by FDI in order to compare the according effects. Secondly, I will favour parsimonious dynamic specifications with lag lengths as proposed by the Schwarz information criterion.

The trace test results in the accordingly specified VARs can be found in Table 1; the same information for the FDI models follows in Table 2.[2] Evidently, the null hypothesis of no cointegration can be rejected in all cases. This means that a cointegrating relation is present in all models. Additionally, for the Czech Republic and Latvia a second relation is found, implying bivariate cointegration between the three variables.[3]

In order to gain additional insight into the nature of the established equilibria, Tables 3 and 4 display the weights in the long-run relations (the cointegrating coefficients from β). As mentioned above, for the Czech Republic and Latvia two relations were specified.

[2]The FDI series of Hungary is nearly totally flat over the first decade in the sample and showed some erratic fluctuations thereafter. Since such a variable proves unsuitable for an empirical long-run analysis, I present no results of the Hungarian FDI model.

[3]The trace test for Latvia is not significant at the 10% level in the FDI model. I nonetheless allow for a second cointegrating relation since the test result is rather borderline and the resulting model seems to be well specified.

	CZE	EST	HUN	LAT	LIT	POL	SLO	RUS
$H_0 : r = 0$	**0.0**	**0.0**	**2.7**	**0.0**	**0.2**	**0.2**	**2.3**	**0.0**
$H_0 : r = 1$	**1.9**	64.3	44.9	**4.4**	81.9	20.5	35.2	22.0
Trace test p-values in % Rejections of H_0 in bold								

Table 1: Cointegration tests EXP-GCF-GDP model

	CZE	EST	HUN	LAT	LIT	POL	SLO	RUS
$H_0 : r = 0$	**1.4**	**6.8**	–	**0.0**	**0.0**	**0.0**	**1.2**	**0.3**
$H_0 : r = 1$	**4.8**	79.2	–	**13.1**	47.3	19.9	7.4	25.1
Trace test p-values Rejections of H_0 in bold								

Table 2: Cointegration tests EXP-FDI-GDP model

Note that $\beta' y_t$ gives the *deviations* from equilibrium. The equilibrium relation itself is obtained by bringing one of the variables to the other equation side. So, the negative sign of the GDP coefficients shows that GDP stands in *positive* long-run relations with exports and investment. Some of the coefficients might seem to be too large, but given the limited sample length for the CEECs, the finding of positive equilibria in the data is already quite encouraging. Note however that cointegrating coefficients in general do not equal causal effects; the econometric means for this issue is structural analysis, which follows in the subsequent section.

	CZE		EST	HUN	LAT		LIT	POL	SLO	RUS
EXP	1 | 0		1	1	1 | 0		1	1	1	1
GCF	0 | 1		5.63 (0.76)	22.2 (4.06)	0 | 1		3.44 (0.46)	1.95 (0.24)	2.94 (0.50)	5.12 (0.55)
GDP	-1.49 (0.20)	-0.32 (0.06)	-4.56 (0.52)	-6.14 (0.95)	-0.43 (0.09)	-0.53 (0.04)	-2.87 (0.28)	-1.92 (0.23)	-4.20 (0.43)	-1.94 (0.14)
standard errors in parentheses										

Table 3: Cointegrating vectors EXP-GCF-GDP model

3.3 Structural Analysis

In this section, the structural growth effects shall be determined, fully taking into account the endogeneity of the variables under consideration. To identify the underlying shocks and impact coefficients, I first exploit the reduced-rank properties of the models. In the

	CZE	EST	HUN	LAT	LIT	POL	SLO	RUS
EXP	1 | 0	1	–	1 | 0	1	1	1	1
FDI	0 | 1	35.7 (6.02)	–	0 | 1	10.5 (1.27)	3.48 (1.91)	15.0 (3.13)	10.9 (1.79)
GDP	-1.40 (0.05) | -0.10 (0.02)	-15.0 (3.87)	–	-0.46 (0.09) | -0.21 (0.02)	-1.95 (0.30)	-4.95 (0.48)	-1.97 (0.28)	-1.03 (0.14)
standard errors in parentheses								

Table 4: Cointegrating vectors EXP-FDI-GDP model

trivariate systems, either one or two common stochastic trends were found (what is less than the number of variables). Thus, it is possible to restrict the long-run impacts of one shock to zero, making it purely transitory. The straightforward interpretation would be that of an innovation to aggregate demand. When $r = 1$, the constraints on one column of Ξ provide $3-1 = 2$ linearly independent restrictions. This underlines the advantage of the current approach of deducing additional information from the long-run model properties: According to the criterion from section 2, only one more restriction is needed for full identification.

In the growth-orientated analytical frame, it would surely be inconvenient to impose further long-run constraints. Therefore, I adopt a sensible assumption about contemporaneous impacts; in this, since the single transitory shock is already unique, a suitable restriction has to be imposed on one of the permanent innovations. Consequently, there are four candidates in two columns of B (noting that the diagonal elements must be positive). Clearly, as components of GDP, both export and investment shocks must have non-zero contemporaneous effects on income. By the same token, the contemporaneous reaction of GCF to all shocks is left unrestricted. The reason is that investment takes the role of a business cycle forerunner, normally reacting quite quickly to news that influence profit expectations. The remaining alternative is to constrain the contemporaneous impact of investment shocks on exports to zero. This option can be supported by two subject-matter arguments: First, the settling process of new capital is typically characterised by delays, where one quarter seems plausible. Second, at least in the short-run exports depend mainly on foreign influences, as the role of foreign aggregate income in typical trade functions shows.

In case of two cointegrating relations ($r = 2$), the zero column in the long-run impact matrix delivers $3 - 2 = 1$ restriction. Consequently, a third one is required in addition to the contemporaneous zero impact of investment shocks on exports adopted above. For that purpose, I constrain the instantaneous effect of demand innovations on exports to

zero in the models with $r = 2$. The justification is analogous to the first restriction on B.

Having identified the structural models, impulse responses (the "potential" impacts) and variance decompositions (the "factual" impacts) can be calculated. Given the current focus on economic growth, I examine the *long-run* values of these measures; figures of complete impulse responses would be more informative for business cycle analysis and are left out here to save space. The long-run statistics are given in Table 5 as well as 6 for FDI. While the first two rows contain the multipliers as entries from $B\Xi$, the variance contributions of export and investment shocks to GDP can be found in the last row. For interpretation, it is important to observe that time series systems in limited samples are necessarily low dimensional; i.e., even if theoretical reasoning, structural identification and the presence of cointegration provide the models with economic and statistical appeal, it is illusionary to cover the whole set of relevant variables. The present measures of causality should be read under this qualification.

	CZE	EST	HUN	LAT	LIT	POL	SLO	RUS
EXP	0.73 (0.19)	0.50 (0.11)	0.05 (0.11)	1.97 (0.54)	0.77 (0.20)	0.59 (0.20)	0.94 (0.27)	0.73 (0.28)
GCF	0.54 (2.35)	1.10 (0.22)	3.01 (0.49)	1.19 (0.37)	1.43 (0.26)	0.89 (0.14)	0.68 (0.27)	4.18 (2.81)
FEVD	99/1	44/56	0/100	66/34	55/45	15/85	85/15	21/79
bootstrapped standard errors in parentheses FEVD: long-run GDP variance decomposition								

Table 5: GDP Long-Run Effects of Structural Unit Shocks (EXP-GCF-GDP model)

	CZE	EST	HUN	LAT	LIT	POL	SLO	RUS
EXP	1.12 (0.41)	0.57 (0.16)	–	1.45 (0.564)	0.63 (0.26)	0.43 (0.12)	0.81 (0.26)	0.83 (0.35)
FDI	-1.09 (1.92)	4.50 (4.35)	–	2.61 (0.61)	3.33 (0.57)	0.66 (0.16)	0.54 (0.60)	9.05 (3.76)
FEVD	96/4	59/41	–	36/64	44/56	25/75	92/8	27/73
bootstrapped standard errors in parentheses FEVD: long-run GDP variance decomposition								

Table 6: GDP Long-Run Effects of Structural Unit Shocks (EXP-FDI-GDP model)

Summarising the numeric results, several facts are worthwhile to consider: First, there are large differences between the countries. This holds both for the relation of long-run export and investment multipliers as well as the contributions to GDP variance. Hungary, Poland and Russia reveal high contributions of investment to GDP variation. While this might be plausible for large countries, one would expect a more important role for exports

in a small open economy like Hungary. Besides statistical sampling reasons it might be the unusual fiscal demand management over the past decade driving such a result. For a number of countries, the impulse responses of GDP to FDI reach considerable values. This suggests that there is clear *potential* of FDI to enhance economic growth. Of course, the *factual* FDI shocks have been smaller than for example the domestic GCF shocks.

A central interpretation concerns the dependence on exports: Figure 2 plots the per capita level of GDP in 2008 (i.e., before the crisis) against the contribution of export shocks to GDP. The linkage is positive and highly significant. Therefore, one can conclude that a more prevalent role of exports goes hand in hand with higher GDP.

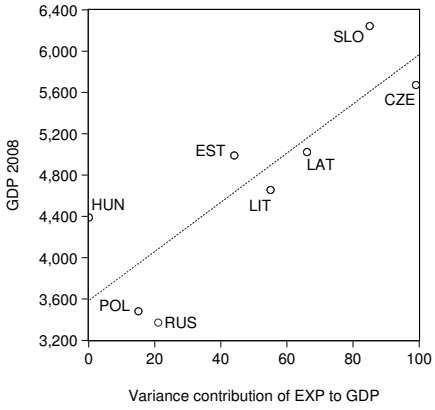

Figure 2: GDP level vs. export contribution

The important role of exports can be compared to Asia Pacific, another region that has gone and is still going through a dynamic economic transformation process. Weber (2009) found in a related study that investment tends to have played a more prominent role in the "Asian miracle" than exports. This is in line with the view that the Asian catching up process has been driven by capital accumulation. Obviously, the Eastern European transformation relies much more on the opening to foreign trade and technological progress than on input growth; e.g., see World Bank (2008) for a typical growth accounting exercise. Weber (2009) additionally finds that matured Asian Pacific economies depend relatively less on exports than more developing countries. This might imply for Eastern Europe that the process of transition and maturing will strengthen the role of domestic investment over time compared to foreign trade.

3.4 Structural Shocks and the Crisis

In this final empirical section, I exploit the identified model structure to investigate the course of the current global financial crisis and recession. The means of the three structural innovations during the last years are shown in the left panel of Figure 3, providing an overview of aggregate shocks to the Eastern European region. In the fourth quarter 2008 and first quarter 2009, the export innovations were heavily negative. This is in line with the plausible view that this crisis hit the CEECs as an external effect. I.e., at least in terms of the real economy, reduction in exports was the initial trigger of crisis propagation in Eastern Europe. Of course, the worldwide recession originally started in the financial sector. So, the current framework could be complemented by financial variables like capital flows in future research.

The role of exports is further explored in the right panel of Figure 3, which plots the GDP loss in 2009:1 against the (negative) sum of the export shocks in 2008:4 and 2009:1. The positive linkage is obvious. What we see here are two sides of the same coin: The previous section showed the growth-promoting role of exports, but pronounced dependence on foreign demand is far from riskless. The two remaining shocks are significantly negative only in a single quarter, 2009:1. Thereafter, demand is strongly rising, causing a positive impulse in 2009:2. This is likely to be driven by stabilisation policy programmes, which followed the advent of the crisis.

As a last issue, I have checked robustness of the results to leaving out the crisis observations. Given the limited sample length, it is natural that the quantitative outcome cannot stay totally unchanged. Notwithstanding, the influence of the last observations was not exceptionally large, compared to usual variation encountered in standard robustness analyses.

4 Summary

In this study I have analysed structural effects of exports, capital formation and FDI on economic growth in the CEEC group. The variables were modelled in VARs including equilibrium relations. The underlying structural forms were identified by deducing restrictions from the cointegrating properties, complemented by economically founded short-run constraints.

Investigating the models by structural impulse responses and variance decompositions re-

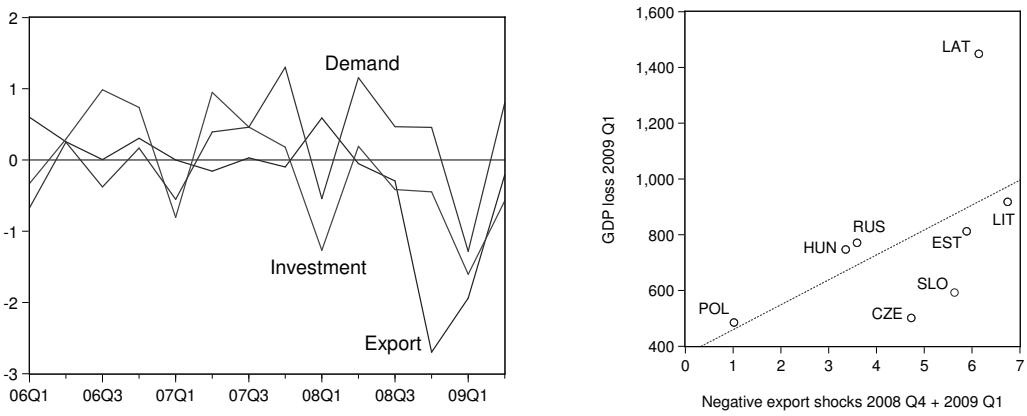

Figure 3: Structural shocks (mean) and GDP loss vs. export shocks

vealed pronounced differences between the countries. While for some countries investment dominated, a significant positive connection of income level and export dependence could be established. Furthermore, in many cases high GDP multipliers showed the potential of FDI to foster economic growth. Openness to EU trade and finance might be an important factor behind these outcomes.

In general, the results imply that on the one hand, exporting is beneficial as implied by the substantial growth impacts. On the other hand, it is a risky strategy as shown by the severe crisis impacts entering the CEECs through the export channel. To give a policy recommendation, strengthening of the tradeables sector in the medium run is essential to tap the potential of foreign trade. At the same time, the risk must be diversified by building up a sustainable second pillar of domestic demand. Besides fostering economic growth, such a strategy represents an attractive option for the CEECs to both overcome the current crisis and limit current account deficits. In particular, the typical short-run reaction to the recession was given by expansionary fiscal policy measures, which naturally tend to worsen current accounts already in deficit for a number of CEECs. Moreover, higher risk perceptions in the crisis make it unlikely that future growth will be supported by credit inflows as large as in the years of economic boom. Therefore, an export-strengthening strategy would have additional merits in reducing international macroeconomic imbalances. For the long run, the success story of some East Asian countries might suggest increasing relevance of domestic capital formation when the CEEC economies are further maturing.

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