

# Financial Integration and Growth – Why Is Emerging Europe Different?\*

Christian Friedrich<sup>†</sup>

The Graduate Institute, Geneva

Isabel Schnabel<sup>‡</sup>

University of Mainz, CEPR, and MPI Bonn

Jeromin Zettelmeyer<sup>§</sup>

European Bank for Reconstruction and Development and CEPR

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**Abstract:** Using industry-level data, this paper tries to explain why financial integration raised growth differentials between externally dependent and less dependent industries in European transition countries, but not in other developing or advanced countries in the years preceding the current crisis. We argue that political integration with countries that have stronger political and economic institutions leads to growth-enhancing foreign investments because investors expect an improvement of institutions in the future. The empirical evidence supports the importance of political integration: within the group of developing countries, the effect of financial integration is larger in countries that are more strongly politically integrated. Such an effect is not found for advanced countries. Our

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<sup>†</sup>Address: Graduate Institute of International and Development Studies, 1211 Geneva, Switzerland, christian.friedrich@graduateinstitute.ch.

<sup>‡</sup>Address: Gutenberg School of Management and Economics, Johannes Gutenberg University Mainz, 55099 Mainz, Germany, +49-6131-39 24191, isabel.schnabel@uni-mainz.de. **Corresponding author.**

<sup>§</sup>Address: One Exchange Square, London EC2A 2JN, United Kingdom, +44-207-338 6178, zettelmj@ebrd.com.

results suggest that political integration can considerably increase the benefits of financial integration in developing countries, even when institutions are still weak.

**Keywords:** Financial integration; political integration; economic growth; European transition countries.

**JEL-Classification:** F21, F36, F50, O16.

# 1 Introduction

Political, trade and financial integration have been the three defining pillars of the “development model” of the European transition countries in the past two decades. Until recently, this model was considered a spectacular success. Since the mid-1990s, the region had experienced an externally financed growth spurt, which does not have many parallels in economic history. The combination of large and persistent current account deficits and high growth rates in the years preceding the crisis *prima facie* suggests that capital inflows may have been beneficial for economic growth in transition countries.

However, the disastrous impact of the financial crisis on European transition countries has cast doubt on this model. Several countries suffered double-digit percent decreases in GDP in 2009. The benefits of political and trade integration have not seriously been questioned. A reversion of the political integration process is barely conceivable, and the benefits of trade integration are now widely accepted, both by politicians and by academics (see, e. g., Edwards, 1998). The criticism focuses instead on financial integration. The financial crisis was transmitted mainly through financial channels. In addition, financial integration seems to have fuelled the credit boom preceding the financial crisis. This credit boom and the related stocks of private foreign debt are widely believed to have made the region vulnerable to the financial crisis, and are in fact strongly correlated with extent to which output declined in the region during the crisis (see Berglöf, Korniyenko, Plekhanov, and Zettelmeyer, 2009). In addition, the academic literature is far less conclusive regarding the benefits of financial integration than it is with respect to trade integration (see Kose, Prasad, Rogoff, and Wei, 2009, for an excellent overview of the literature). However, as was noticed by Prasad, Rajan, and Subramanian (2007), the experience of the European transition countries does not seem to conform to this rather skeptical view of the relationship between financial integration and growth.

This paper explores the reasons for the observed differences between Emerging Europe and other countries. As a starting point, we reassess the stylized fact that financial integration has been more beneficial in European transition economies than in other countries in the years preceding the current crisis. In order to mitigate the endogeneity problems prevalent in cross-country studies, we use the Rajan-Zingales methodology based on industry-level data (see Rajan and Zingales, 1998). Our findings confirm that financial integration disproportionately benefited industries with high needs of external financing in Emerging Europe, whereas no such effect is found for other developing or advanced countries.

We then carefully examine the potential reasons for this difference. We first analyze whether it can be explained by threshold effects in the factors traditionally analyzed in the literature: financial development, institutional quality, trade integration, and financial integration itself (e. g., Kose, Prasad, and Taylor, 2011). However, the difference between Emerging Europe and other developing and advanced countries remains significant when accounting for threshold effects in these four dimensions. This finding is robust to a large number of different model specifications, in particular to threshold choices.

Our main contribution is to offer a novel explanation based on political integration. So far, political aspects of integration have largely been ignored in the economic literature even though political integration with advanced economies is one of the most distinguishing features of European transition countries. We argue that political integration raises expectations of future reforms, institutional improvements and a commitment to sound economic policy. Through this channel, current political integration may affect investors' decisions and lead to growth-enhancing investments even if the current institutional framework is still relatively weak, as was the case in Emerging Europe. In order to test our hypothesis, we construct a broad index of political integration on the basis of information on regional integration agreements, taking into account four dimensions of political integration: an institutional dimension, policy coordination, attitudes, and political stability. We then test whether the effect of financial integration is affected by the degree of political integration.

Our analysis suggests that differences in political integration can explain why financial integration had much stronger growth effects in European transition economies than in other countries. When political integration is included in the regression, the growth effects of financial integration are no longer significantly different in Emerging Europe and other countries. Moreover, within the group of developing countries, the effect of financial integration is strongest in countries that are most highly politically integrated. Hence, political and financial integration appear to be complementary: political integration considerably increases the benefits of financial integration, and thereby speeds up the transition process in developing countries. In contrast, political integration has no effect on industry growth differentials in advanced countries. This is not surprising, since these countries already have high quality institutions, so that that political integration loses its relevance as a signal or commitment device. Political integration plays an important role especially in the early stages of countries' development. We conclude that the growth effect of financial integration in Emerging Europe was different from other

developing countries because financial integration was accompanied (or indeed preceded) by advances in political integration.

Our paper is related to the fast growing empirical literature on the relationship between financial integration and economic growth, surveyed by Kose, Prasad, Rogoff, and Wei (2009). Much of that literature focuses on the troubling finding that financial integration and economic growth are not positively, but negatively correlated. In an influential paper, Prasad, Rajan, and Subramanian (2007) show in a sample of 65 developing, non-transition countries that current account surpluses had a *positive* impact on growth between 1970 and 2004, implying that countries relying on foreign financing grew more slowly than countries relying on domestic savings, which contradicts the neoclassical view. Gourinchas and Jeanne (2007) refer to the negative correlation of capital flows and economic growth in developing countries as the allocation puzzle. Gourinchas and Jeanne (2006) show in a calibrated neoclassical model that welfare gains from financial integration are expected to be small. They argue that one must consider channels that go beyond the textbook neoclassical model in order to generate a larger impact.<sup>2</sup>

Studies using disaggregated data tend to draw a somewhat more positive picture of financial integration than country-level studies (see Kose, Prasad, Rogoff, and Wei, 2009). Using industry-level data, Prasad, Rajan, and Subramanian (2007) find evidence of *threshold effects*: financial integration appears to have positive growth effects once the financial system is sufficiently developed. In our study, we follow this literature in using disaggregated data and integrating threshold effects in the analysis. Several studies (starting with Bekaert, Harvey, and Lundblad, 2005) have found evidence of a beneficial effect of financial integration through equity market liberalization.<sup>3</sup> The overall picture of the benefits of financial integration is still mixed at best, with scant or no evidence to suggest that financial integration supports economic growth in developing countries.

Another strand of the literature explains the mixed findings on financial integration by the dynamic properties of the liberalization process. Kaminsky and Schmukler (2008) show that financial liberalization leads in the short-run to more stock market volatility in (non-transition) emerging markets. However, in the long-run, volatility declines. In contrast, advanced countries are found to profit already in the short-run. As we will

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<sup>2</sup>Relaxing two assumptions, Hoxha, Kalemli-Ozcan, and Vollrath (2009) estimate welfare gains from financial integration that are by a factor of 8.6 larger than those of Gourinchas and Jeanne (2006).

<sup>3</sup>See also De Nicolò and Juvenal (2010). In Emerging Europe, equity markets at best play a subordinated role.

see, regarding the dynamics, countries in Emerging Europe appear to resemble advanced rather than other developing countries as there is evidence of substantial benefits already in the short- to medium-term.

Only few studies have focused on European transition countries. Guiso, Jappelli, Padula, and Pagano (2004) apply the Rajan and Zingales (1998) methodology to test for the effect of financial development (rather than financial integration) on economic growth using industry-level data (61 countries over the period 1981-1995, excluding transition countries) and firm-level data (firms from 26 countries, among them 11 transition countries, between 1996 and 2001). Their results indicate that financial development has a “growth dividend” in Europe, and they speculate that this will also translate into positive growth effects of financial integration. This view is supported by Abiad, Leigh, and Mody (2009) who show in a country-level panel regression framework that financial integration as measured by current account deficits had a positive growth effect between 1975 and 2004 in Europe, but not in the rest of the world.<sup>4</sup> Thresholds in institutional quality and financial integration itself can only partially explain the differences between Europe and the rest of the world.<sup>5</sup> In his comment to Abiad, Leigh, and Mody (2009), Imbs (2009) criticizes the use of country-level data and stresses that a significant part of the Europe effect remains unexplained – two issues that this paper intends to tackle.

The paper proceeds as follows. Section 2 reassesses the stylized fact that Emerging Europe is different. It presents industry-level evidence showing that externally dependent industries in Emerging Europe benefited substantially more from financial integration than those in other developing and advanced countries. Section 3 focuses on the role of political integration. We first discuss the theoretical channel through which political integration may affect the relationship between financial integration and economic growth. We then describe the construction of the political integration index. Section 4 analyzes the reasons for the observed difference between Emerging Europe and other countries. We find that political integration can explain this difference, whereas financial development, institutional quality, trade integration, and financial integration cannot. This finding proves to be robust to various changes in the model specification. Section 5 concludes.

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<sup>4</sup>The number of observations from transition economies in their sample is rather small.

<sup>5</sup>When threshold effects are included, the “Europe effect” drops by up to one third and remains highly significant.

## 2 Is Emerging Europe Different?

### 2.1 Empirical Model

The starting point of our analysis is the observation that current account balances in European transition countries were negatively correlated with real GDP per capita growth over the past decades, whereas this correlation was positive in other developing countries (Prasad, Rajan, and Subramanian, 2007). In this section, we reassess this finding on the basis of sector-level regressions, which mitigate the endogeneity problems prevalent in cross-country studies. The presented methodology and data will also form the basis of our main regressions in Section 4.

Our analysis is based on industry-level data, applying the methodology developed in the seminal paper by Rajan and Zingales (1998) to the context of financial integration. The approach relies on the following theoretical presumption: some industries depend on external finance – as opposed to internal finance, such as retained earnings – more than others (for example, because they have to make large investments that generate cash flows only after several years). If financial integration “works” in the sense that it facilitates access to financing and thereby ultimately influences investment and growth, it should have a larger effect on industries that depend strongly on external financing. This implication can be tested by estimating an econometric model in which the growth effect of financial integration is allowed to vary according to the external financial dependence of an industry. The estimation equation underlying the baseline specification is as follows:

$$\begin{aligned} Growth_{j,k} = & \alpha_k + \beta_j + \gamma \cdot industry\ share_{j,k} \\ & + \delta_0 \cdot (ext.dependence_j \cdot fin.integration_k) \\ & + \delta_1 \cdot (ext.dependence_j \cdot fin.integration_k) \cdot Emerg.Europe\ dummy_k \\ & + \delta_2 \cdot (ext.dependence_j \cdot fin.integration_k) \cdot advanced\ dummy_k + \varepsilon_{j,k}, \end{aligned} \tag{1}$$

where  $j$  denotes the industry and  $k$  the country. One major advantage of this methodology is that it controls for country ( $\alpha_k$ ) and industry ( $\beta_j$ ) fixed effects, which mitigates endogeneity problems. Furthermore, the industry share is included in order to account for the fact that young industries on average grow faster than mature industry; hence, we expect  $\gamma$  to be negative. The three interaction terms capture the effect of financial

integration on industry-level growth, depending on external dependence of an industry. External dependence measures the degree to which firms of industry  $j$  are dependent on external finance. In the first interaction term, external dependence is interacted with various measures of financial integration at the country level. In the second interaction term, the first interaction is additionally interacted with an indicator variable that takes on the value of 1 if a country is part of Emerging Europe. This term captures differences between European transition economies and other developing countries regarding the effect of financial integration on industry-level growth. Similarly, the third interaction term captures differences between advanced countries and non-transition developing countries.

Hence, the main coefficients of interest are the  $\delta$  parameters.  $\delta_0$  captures the impact of financial integration, depending on external dependence, in developing countries outside of Emerging Europe. If industries that rely strongly on external financing benefit more from financial integration in this group of countries, this coefficient should be positive.  $\delta_1$  captures the *differential* effect of financial integration in Emerging Europe. A significant coefficient implies that the growth effects of financial integration are different in European transition countries. The sum of  $\delta_0$  and  $\delta_1$  captures the total effect of financial integration (again depending on external dependence) in Emerging Europe. Analogously,  $\delta_2$  captures the differential effect of financial integration in advanced countries, and  $\delta_0 + \delta_2$  the total effect of financial integration in those countries. Note that the overall effect of financial integration cannot be identified with this method because the level effect is absorbed by the country fixed effects; only the slope effect with respect to external dependence is identified.

## 2.2 Data

**Industry growth and sample selection** We use industry data from the 2011 version of the INDSTAT4 database (3rd revision) provided by the United Nations Industrial Development Organization (UNIDO). This dataset is the only available source of industry data that has a sufficiently broad coverage of European transition countries. This comes at the expense of a lower coverage of other developing country regions. The availability of data in the industry and time dimension varies widely across countries (see second column in Table 1).

As a measure of industry growth, we calculate average growth rates of real output over the



Table 1: Descriptive statistics at the country level

Country	Number of sectors	Average sector growth rate	Financial Integration Measures								Emerging Europe dummy	Other dev. countries dummy	Advanced countries dummy	
			CA	ΔNFA	ΔFDI	ΔD	GFI	FDI	D	FBNS (avg.)				FBNS (beg.)
Albania	13	10.1	-3.8	1.3	1.3	-2.6	79.5	20.5	27.6	72.0	63.0	1	0	0
Armenia	51	8.2	-9.7	2.7	1.4	-3.0	109.3	25.8	56.4	39.6	23.0	0	1	0
Australia	36	0.0	-4.5	-0.3	0.1	2.3	188.3	32.4	61.4	43.5	41.0	0	0	1
Austria	50	2.1	0.5	0.0	5.8	10.0	322.4	22.0	139.2	7.4	5.0	0	0	1
Belgium	59	0.3	4.2	-1.0	8.0	12.0	662.0	98.4	201.9	39.9	35.0	0	0	1
Botswana	3	-6.8	7.7	1.8	-2.4	-2.8	155.9	18.7	25.2	45.3	43.0	0	1	0
Brazil	59	7.0	-1.7	-1.0	1.5	-1.3	86.5	19.8	34.7	34.9	33.0	0	1	0
Bulgaria	53	7.7	-5.3	-1.1	5.5	-4.9	158.8	26.5	70.1	49.6	36.0	1	0	0
Canada	48	-3.6	1.4	3.4	1.0	-3.7	204.8	29.1	64.0	42.1	44.0	0	0	1
Czech Republic	46	3.6	-4.1	-3.0	3.6	-0.6	145.7	42.0	32.4	53.1	44.0	1	0	0
Denmark	38	-0.9	2.4	4.4	2.9	2.9	335.1	38.4	114.0	7.9	3.0	0	0	1
Ecuador	51	4.5	-1.1	3.5	1.1	-3.5	122.0	36.2	72.3	17.6	18.0	0	1	0
Egypt	55	2.0	0.6	2.8	1.5	-0.7	99.8	23.2	34.0	18.1	13.0	0	1	0
Estonia	43	10.0	-8.3	-6.1	7.0	3.8	173.7	58.6	50.2	45.9	13.0	1	0	0
Finland	55	1.6	6.2	8.8	2.2	3.4	345.9	22.4	85.7	12.3	13.0	0	0	1
France	59	-0.9	1.4	0.0	1.3	9.1	361.9	40.9	99.6	6.9	6.0	0	0	1
Georgia	41	8.5	-8.9	-2.4	4.0	-1.1	283.2	28.1	49.1	20.0	0.0	0	1	0
Germany	60	3.2	1.2	2.6	1.7	5.4	283.2	21.8	102.0	11.8	10.0	0	0	1
Greece	52	7.0	-6.1	-7.3	0.3	8.1	156.1	11.0	82.9	15.5	8.0	0	0	1
Hungary	60	5.4	-7.5	-3.0	1.7	1.1	156.8	52.6	55.2	80.9	75.0	1	0	0
Iceland	14	0.7	-7.1	-4.6	3.3	29.1	240.2	11.2	137.7	0.0	0.0	0	0	1
India	62	8.0	-0.2	0.8	0.4	-1.1	48.4	5.4	20.3	8.6	8.0	0	1	0
Indonesia	59	3.3	3.1	14.0	-1.7	-14.5	125.8	11.7	80.8	32.3	29.0	0	1	0
Ireland	37	-2.4	-0.6	-6.9	1.5	44.2	1512.2	111.0	389.2	85.8	84.0	0	0	1
Israel	40	2.6	-0.2	0.5	2.3	0.3	170.3	20.2	57.4	12.6	13.0	0	0	1
Italy	60	-0.2	-0.4	-0.5	0.6	3.2	204.6	10.9	84.0	4.9	4.0	0	0	1
Japan	61	-0.4	3.0	0.5	0.2	-0.8	124.8	1.6	31.0	0.6	0.0	0	0	1
Jordan	43	9.3	0.7	-12.2	11.8	-4.9	219.6	48.7	83.0	13.8	10.0	0	1	0
Korea	62	5.5	4.0	-0.8	0.7	-3.1	96.0	10.3	27.4	12.9	0.0	0	0	1
Latvia	46	7.9	-8.8	-5.5	1.1	6.8	146.4	28.1	63.8	33.4	29.0	1	0	0
Luxembourg	14	1.8	10.4	11.0	308.7	73.7	16055.0	1811.6	2418.8	99.0	99.0	0	0	1
Macedonia, FYR	13	-22.9	-5.5	-2.1	4.3	0.3	103.3	24.6	45.0	35.4	15.0	1	0	0
Madagascar	8	-23.1	-6.5	6.5	0.8	-6.9	130.7	8.9	99.4	97.5	80.0	0	1	0
Mexico	52	1.1	-1.9	0.6	1.4	-2.4	75.2	21.9	26.0	50.0	44.0	0	1	0
Moldova	43	4.5	-6.5	3.2	2.9	-4.5	172.7	32.2	97.1	34.0	27.0	0	1	0
Netherlands	51	-0.5	4.3	5.1	4.3	13.8	649.1	66.1	180.6	49.9	52.0	0	0	1
New Zealand	8	2.2	-4.7	3.0	-1.2	0.0	207.6	51.6	79.3	65.1	67.0	0	0	1
Norway	51	-3.9	11.3	6.4	1.4	4.5	261.4	22.0	79.6	1.0	1.0	0	0	1
Oman	37	2.2	3.9	7.1	-0.3	-4.8	80.1	9.9	28.5	0.0	0.0	0	1	0
Panama	21	-2.9	-5.6	-1.9	1.2	-5.8	339.2	61.7	152.4	59.8	60.0	0	1	0
Philippines	37	3.6	-0.4	2.9	0.0	-2.6	139.9	18.6	75.6	14.6	14.0	0	1	0
Poland	60	4.9	-3.9	-2.6	2.4	0.8	88.3	23.1	35.8	65.4	50.0	1	0	0
Portugal	51	-0.3	-8.8	-6.2	1.9	10.4	329.7	30.9	141.4	24.0	17.0	0	0	1
Republic of Yemen	17	-0.3	4.2	11.8	-0.8	-7.5	129.8	3.4	52.0	0.0	0.0	0	1	0
Romania	40	-3.4	-5.6	-2.4	2.2	1.0	77.1	19.6	29.7	59.4	39.0	1	0	0
Slovak Republic	39	6.6	-6.9	-5.0	5.2	-0.5	140.7	32.8	48.0	71.8	42.0	1	0	0
Slovenia	51	-1.7	-1.5	-0.9	1.1	4.7	118.7	16.8	45.1	26.0	15.0	1	0	0
South Africa	8	7.5	-1.1	-0.6	3.0	-1.3	130.3	28.4	23.2	16.9	16.0	0	1	0
Spain	62	1.5	-3.9	-3.8	1.9	7.5	236.1	30.3	84.1	5.4	5.0	0	0	1
Sweden	52	2.7	5.3	2.5	3.8	4.1	354.2	41.0	105.2	2.0	2.0	0	0	1
Turkey	55	8.1	-1.5	-1.4	1.3	0.1	80.3	9.2	45.0	17.4	13.0	1	0	0
United Kingdom	59	-4.0	-1.9	-0.8	1.8	15.3	626.3	32.2	234.5	49.8	47.0	0	0	1
United States	58	-1.5	-4.2	-0.9	0.7	3.7	154.0	13.9	53.8	20.1	15.0	0	0	1
Uruguay	37	5.4	-0.8	0.4	1.9	4.0	180.1	15.2	81.2	76.4	74.0	0	1	0
Vietnam	23	33.4	-0.7	4.8	-0.1	-2.9	108.3	44.8	40.0	10.6	10.0	0	1	0
Median			-1.1	0.0	1.5	0.3	156.8	24.6	64.0	26.0	16.0			
Average sector growth rate in countries with above-median financial integration			3.2	3.0	2.8	1.1	1.5	3.2	1.6	2.3	2.5			
Average sector growth rate in countries with below-median financial integration			2.5	2.6	2.9	4.8	4.2	2.5	4.1	3.3	3.1			

CA: Current account/GDP (average from 1998-2005)\*

FDI: FDI liabilities (average from 1998-2005)\*\*

ΔNFA: (Foreign assets - foreign liabilities)/GDP (change from 1998-2005)\*\*

D: Foreign debt liabilities (average from 1998-2005)\*\*

ΔFDI: FDI liabilities (change from 1998-2005)\*\*

FBNS (avg.): Foreign Bank Number Shares (average from 1998-2005)\*\*\*

ΔD: Foreign debt liabilities (change from 1998-2005)\*\*

FBNS (beg.): Foreign Bank Number Shares (1998)\*\*\*

GFI: (Foreign assets + foreign liabilities)/GDP (average from 1998-2005)\*\*

Sources:

\* IMF, World Economic Outlook Database

\*\* Lane and Milesi-Ferretti (2007)

\*\*\* Claessens and Van Horen (2011)

period 1998 to 2005.<sup>6</sup> We only include countries that have data on real output in 1998 and 2005 to ensure a comparison of identical time periods. The chosen time period reflects the trade-off between choosing a reasonably long time span to capture medium-term effects of financial integration and maintaining a reasonably large cross-section of countries, including a broad set of transition countries.<sup>7</sup> Taking averages over a shorter sample period would make the analysis susceptible to business cycle effects, while extending the sample period would lead to a significant reduction in the number of countries, or, alternatively, to a comparison of growth rates over different time periods, which is undesirable. Since the sample period excludes the boom in transition economies preceding the subprime crisis, we also avoid biasing our results towards finding positive growth effects in these countries.<sup>8</sup> Starting from the maximum sample of countries for which industry- and country-level data is available, we follow Prasad, Rajan, and Subramanian (2007) in eliminating a number of countries according to some pre-defined criteria to avoid a distortion of results. Specifically, we drop small island economies, countries relying strongly on commodity exports, and countries with high inflows of developmental aid (see Appendix A.1 for details). This selection procedure leads to a final sample of 55 countries: 24 are advanced countries, 12 are part of Emerging Europe, and 19 are other developing countries.

Table 1 shows the composition of the sample and descriptive statistics at the country level.<sup>9</sup> The sample used in most of our regressions contains 2,363 observations. As can be seen from the table, the sample is highly unbalanced as many countries do not provide information on some sectors.

**Industry share** The *industry share* of an industry  $j$  in country  $k$  is computed as the ratio of the size of this industry and the size of the entire manufacturing sector of the respective country in 1998.

**External dependence** The *external dependence* ratios of industries are taken from Rajan and Zingales (1998) and are defined as the ratio of capital expenditures minus cash flow from operations, divided by capital expenditures.<sup>10</sup> Hence, they measure the share of capital expenditures that cannot be financed internally in a given industry. Since

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<sup>6</sup>The growth rate has been winsorized at the 1<sup>st</sup> and 99<sup>th</sup> percentiles.

<sup>7</sup>Long-run effects, especially those from FDI, are unlikely to materialize in such a short time period.

<sup>8</sup>It would be interesting to also explore the effect of financial integration on TFP growth (as in Bonfiglioli, 2008; Kose, Prasad, and Terrones, 2009). Due to a lack of sufficient data on investment in the given data set, such an analysis is not feasible here.

<sup>9</sup>For descriptive statistics at the sector level, see Table A.1 in the Appendix.

<sup>10</sup>See Appendix A.2 for details on the adjustment of industry definitions.

observed external dependence ratios in developing countries are distorted by financial frictions, Rajan and Zingales suggested to use the corresponding ratios of U.S. industries, arguing that the U.S. capital market comes closest to the ideal of a frictionless market. The ratios are computed using data from the 1980s. This may reduce the chance to find a significant effect during our sample period. However, manufacturing industries, especially at this high level of aggregation, are likely to have relatively stable financing patterns over time.

**Financial integration** Regarding financial integration, Kose, Prasad, Rogoff, and Wei (2009) argue in favor of quantity-based, *de facto* measures. The early literature had mostly used *de jure* measures, such as those based on the IMF’s Annual Report on Exchange Arrangements and Exchange Restrictions (AREAER). However, such measures do not fully capture the degree of enforcement and effectiveness of capital controls as well as regulations in other fields that affect capital flows. Regarding the choice between quantity- and price-based measures, Kose, Prasad, Rogoff, and Wei (2009) point out that observed price differences may be due to risk and liquidity premia rather than being an indication of low financial integration. In addition, domestic financial markets might not be liquid enough to efficiently diminish price differentials, so that price-based measures may underestimate the true degree of financial integration. Therefore, quantity-based measures are also used in this study.

We use nine *de facto*, *quantity-based* measures of financial integration. To ensure comparability with Prasad, Rajan, and Subramanian (2007) and Abiad, Leigh, and Mody (2009), we use the current account deficit in percent of GDP – taken from the IMF’s World Economic Outlook database – as our first variable (*CA*, see Table 1 for the values of financial integration measures of all included countries).<sup>11</sup> Moreover, we compute six measures from the External Wealth of Nations Mark II Database, which was constructed and updated by Lane and Milesi-Ferretti (2007). We use both stock and flow variables.<sup>12</sup> First, we use the standard measure of *gross financial integration*, defined as the sum of total foreign assets and total foreign liabilities in percent of GDP (*GFI*). Gross measures of financial integration have the advantage that they also capture risk-sharing benefits of financial integration. Then we consider various measures taking into account only foreign liabilities (capturing the financing side of financial integration), distinguishing different

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<sup>11</sup>It is debatable whether the current account is an appropriate measure of financial integration as highly financially integrated countries may well run a balanced current account.

<sup>12</sup>Strictly speaking, what we call “flows” are valuation-effect adjusted changes in stocks over the sample period.

types of foreign liabilities: foreign direct investment ( $FDI$ ) and foreign debt ( $D$ ), both expressed in percent of GDP.<sup>13</sup> In addition, we consider the changes of these variables between 1998 and 2005: the change in FDI liabilities ( $\Delta FDI$ ) and the change in foreign debt ( $\Delta D$ ). Further, we consider the change in net foreign assets (defined as the difference between foreign assets and foreign liabilities) between 1998 and 2005 in percent of GDP ( $\Delta NFA$ ), which could be interpreted as a valuation-change adjusted equivalent to the current account. Finally, we use a measure capturing the presence of foreign banks, which is one distinguishing feature of financial integration in European transition countries. This variable is defined as the share of the number of foreign banks in all banks in a country (*Foreign bank number share*) and was obtained from Claessens and Van Horen (2011).<sup>14</sup> The variable choice reflects our intention to mainly capture the benefits of financial integration running through the financing side, e. g., the loosening of capital constraints of local firms and the transfer of managerial skills from parent firms to local firms through FDI transactions.

The stock variables enter as averages over the sample period, i. e. 1998 to 2005 (unless noted otherwise). The same time period is used when considering changes in financial integration. In order to minimize endogeneity problems, the use of starting values of the stock variables would be preferable. However, in our case, the starting values do not reflect actual differences in financial integration in the considered time period because all financial integration measures increased sharply in Emerging Europe over the time period examined. The only exception is foreign bank presence as this variable took off already at the beginning of the sample. Thus we also include this variable using starting values (i. e. 1998).

## 2.3 Results

We now discuss the results from the baseline regression (1), given in Table 2. The columns show the regressions using different measures of financial integration in the interaction terms.<sup>15</sup> The industry share always enters negatively as expected and is significant at the

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<sup>13</sup>We do not consider portfolio equity flows because they are quantitatively insignificant in Emerging Europe.

<sup>14</sup>According to that paper, the use of foreign bank number shares is preferable to foreign bank assets shares as the information on foreign banks' assets is missing for many banks, especially prior to 2004. We thank the authors for making their data available to us.

<sup>15</sup>We use robust standard errors. When estimating the two-period panel model, standard errors will be clustered by country. In a cross-sectional framework with fixed effects in the country- and industry

1 percent level (first line of the table, p-values are in parentheses). The following lines in the table report the coefficients of the interaction terms. The second line shows the coefficients of the Rajan-Zingales interaction term (corresponding to  $\delta_0$  in equation 1). It gives the sectoral growth effect of financial integration, depending on external dependence, in developing countries *not* belonging to Emerging Europe (called “other developing countries” in the table). If there was a sectoral growth effect in this group of countries, the coefficient should be significantly negative for the first two measures of financial integration (where a higher value indicates less financial integration) and significantly positive for the remaining measures. In line with the existing literature, we find no evidence of a sectoral growth effect of financial integration in these countries. The coefficient is insignificant in all regressions, and it even has the “wrong” sign in some cases.

The third line shows the differential sectoral growth effect in European transition countries, relative to the effect of other developing countries (corresponding to  $\delta_1$  in equation 1). We find that this coefficient goes in the expected direction in 8 out of 9 cases and is highly significant in all these cases. Interestingly, the exception to the rule is debt flows, the coefficient of which goes in the opposite direction and is insignificant, a finding that is discussed below. Hence, there appear to be significant differences between European transition countries and other developing countries: sectoral growth effects from financial integration are larger in European transition economies than in other developing countries. Such an effect cannot be found in advanced countries (fourth line,  $\delta_2$ ), for which the differential effect is always insignificant.

The total sectoral growth effect for European transition countries can be seen in the first memo line, which is the sum of the coefficients from the second and third line (corresponding to  $\delta_0 + \delta_1$ ). We see that the total sectoral growth effect shows the expected sign in 8 out of 9 cases and is highly significant in all these cases. The exception are again foreign debt flows, which show the “wrong” sign and are insignificant. Hence, a large *change* in foreign debt does not seem to be conducive to economic growth, whereas a high level is beneficial. This finding can be explained by the fact that high debt inflows often go along with credit booms and other types of vulnerabilities, which make a country more prone to adverse shocks, and is well in line with the existing literature (see, e.g., Kose, Prasad, Rogoff, and Wei, 2009).<sup>16</sup> The total effect in advanced countries ( $\delta_0 + \delta_2$ , second

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dimension, this is not necessary.

<sup>16</sup>Debt flows also show a different pattern than other financial integration measures in all following regressions.

Table 2. Baseline regressions

(Regression coefficients; p-values in parentheses; dependent variable: average growth in sectoral output, 1998-2005)

	Financial integration measure							Foreign bank	Foreign bank
	CA	$\Delta$ NFA	$\Delta$ FDI	$\Delta$ D	GFI	FDI	D	number share (avg.)	number share (beg.)
Industry share	-0.288*** (0.001)	-0.285*** (0.001)	-0.28*** (0.001)	-0.296*** (0.001)	-0.285*** (0.001)	-0.29*** (0.001)	-0.285*** (0.001)	-0.294*** (0.001)	-0.294*** (0.001)
Sectoral growth effect, depending on external finance (Other developing countries)	0.322 (0.362)	-0.156 (0.493)	0.05 (0.882)	0.235 (0.423)	0.001 (0.9)	-0.023 (0.634)	0.003 (0.89)	-0.021 (0.617)	-0.018 (0.695)
Differential sectoral growth effect (Emerging Europe)	-1.27*** (0.003)	-1.274** (0.013)	1.542*** (0.004)	-0.377 (0.463)	0.045*** (0.001)	0.187*** (0.002)	0.113*** (0.001)	0.126*** (0.005)	0.148*** (0.004)
Differential sectoral growth effect (Advanced countries)	-0.421 (0.266)	-0.086 (0.759)	-0.051 (0.879)	-0.267 (0.387)	-0.001 (0.91)	0.023 (0.633)	-0.002 (0.943)	0.04 (0.352)	0.028 (0.55)
<i>Memo:</i> Sectoral growth effect, depending on external finance (Emerging Europe)	-0.948*** (0)	-1.431*** (0.002)	1.592*** (0)	-0.141 (0.723)	0.046*** (0)	0.164*** (0)	0.116*** (0)	0.105*** (0)	0.13*** (0)
<i>Memo:</i> Sectoral growth effect, depending on external finance (Advanced countries)	-0.099 (0.441)	-0.242 (0.13)	-0.001 (0.948)	-0.032 (0.586)	0 (0.739)	0 (0.992)	0.001 (0.557)	0.019 (0.493)	0.01 (0.714)
<i>Memo:</i> Differential in real growth rates (Emerging Europe)	3.53*** (0)	4.68*** (0.002)	1.91*** (0)	-0.69 (0.723)	5.09*** (0)	2.01*** (0)	3.83*** (0)	2.5*** (0)	2.88*** (0)
<i>Memo:</i> Difference in differential real growth rates (Emerging Europe vs. Other developing countries)	4.99*** (0.003)	4.06** (0.013)	1.83*** (0.004)	-2.09 (0.463)	4.93*** (0.001)	2.34*** (0.002)	3.7*** (0.001)	3.11*** (0.005)	3.35*** (0.004)
<i>Memo:</i> Difference in differential real growth rates (Emerging Europe vs. Advanced countries)	3.16*** (0.005)	3.89** (0.015)	1.91*** (0)	-0.54 (0.782)	5.08*** (0)	2.01*** (0)	3.78*** (0)	2.05*** (0.007)	2.65*** (0.001)
R <sup>2</sup>	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39
Observations	2,363	2,363	2,363	2,363	2,363	2,363	2,363	2,363	2,363
Number of countries	55	55	55	55	55	55	55	55	55
25th percentile financial integration	1.391	2.791	0.989	-2.407	109.3	16.79	44.97	11.75	6
75th percentile financial integration	-4.511	-2.399	2.886	5.352	283.2	36.17	97.12	49.63	41
25th percentile external dependence	0.137	0.137	0.137	0.137	0.137	0.137	0.137	0.137	0.137
75th percentile external dependence	0.767	0.767	0.767	0.767	0.767	0.767	0.767	0.767	0.767

Notes: Data sources: UNIDO (sectoral output data); IMF (current account data); Claessens and Van Horen (2011) (foreign bank number shares) and Lane and Milesi-Ferretti (2007) (all other financial integration measures). For estimation procedure and further explanatory notes, see Table 1, text, and Appendix.

memo line) is insignificant. Hence, financial integration has an effect on industry growth differentials only in European transition countries.

In order to get a sense of the economic significance of the coefficients, we calculate differentials in real growth rates, as suggested by Rajan and Zingales (1998). That is, we consider two industries at the 25<sup>th</sup> and 75<sup>th</sup> percentile of external dependence, and two countries at the 25<sup>th</sup> and 75<sup>th</sup> percentile of the respective measure of financial integration. Then we compare the difference between the sectoral growth rates of the two industries across the two countries. The number of 3.53 in the third memo line of the first column implies that an externally dependent industry in Emerging Europe grows by 3.53 percentage points faster than a hardly externally dependent industry if it is based in a financially integrated country rather than in a hardly financially integrated country (holding constant industry shares).<sup>17</sup> We hence see that the sectoral growth effect of financial integration is substantial in European transition countries: it ranges from 1.91 to 5.09 percentage points.<sup>18</sup> The last two memo lines finally display the *difference* in the differentials in real growth rates between European transition countries and other developing countries or advanced countries, respectively. We see that these differences are large in economic terms and highly significant. The value of 4.99 in the first column, for example, implies that the differential real growth rate (as calculated above) in Emerging Europe exceeds that in other developing countries by 4.99 percentage points.<sup>19</sup>

Hence, there is strong evidence for European transition countries that industries depending on external financing grow relatively faster (compared to less dependent industries) in financially integrated countries than in less integrated countries. There exists no such effect for other developing or advanced countries: Emerging Europe is different.

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<sup>17</sup>Note that significance levels correspond exactly to those in the first memo line, since the differential in real growth rates is a linear combination of the total effect.

<sup>18</sup>This can, for example, be compared with the sectoral growth effects of financial development found by Rajan and Zingales (1998), which range from 0.4 to 1.3 percentage points in their main specification (see their table 4).

<sup>19</sup>The significance level corresponds to that of a simple t-test for equality of the respective total effects.

## 3 Political Integration – Theory and Measurement

### 3.1 The Role of Political Integration

We offer a novel explanation for why Emerging Europe is different, namely political integration with advanced countries (specifically the European Union), which distinguishes European transition countries from other developing countries. The interaction between financial and political integration has hardly been analyzed in the literature, and there exists no theoretical model on which we can base our argument.<sup>20</sup> Therefore, we illustrate our basic mechanism by a simple model. The central idea is that political integration affects the benefits of financial integration through its effect on investors' expectations.

We consider a continuum of competitive, risk-neutral foreign investors pondering investment in a developing economy. There are two periods,  $t = 0, 1$ . Period 0 is the “transition” period, and period 1 the “steady state,” in which the economy has reached its long-run political and economic institutions. At time 0, institutions are always bad. At time 1, they are good with probability  $\pi$  and bad with probability  $1 - \pi$ . The state of institutions in period 1 is revealed at the beginning of period 1. The risk-free international interest rate is assumed to be zero, i. e., there is no discounting from period 1 to period 0.

Consider an industry that requires outside funding.<sup>21</sup> Investors can choose between two types of investment. The *high-growth project* is associated with a positive externality that has growth benefits for the industry. For example, one can think of this as projects that promote good corporate governance, increase competition, transfer skills, or introduce new products, technologies or business practices that increase productivity and are copied by other firms. This is what Kose, Prasad, Rogoff, and Wei (2009, 2010) call the “collateral benefits” of financial integration. The *low-growth project* does not have this property. One can think of this as any type of financing that leads to positive private returns, but does not “improve” the economy beyond the project itself.

The critical assumption of the model is that while the high-growth project delivers its positive externality in both bad and good institutional environments, the foreign investor receives a high return on the project only in a good institutional environment (for example,

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<sup>20</sup>Campos and Coricelli (2009) analyze the relationship between democratization and financial reforms.

<sup>21</sup>In our empirical analysis, this would be an externally dependent industry. Since nothing interesting happens in industries that are not externally dependent, we do not have to consider them here.



because the investor's rents are expropriated under bad institutions). More specifically, we assume that if institutions are of a high quality, investors in the high-growth investment obtain a high return  $R$ ; if not, the return is 0. Since institutions are always bad in the first period, this project always yields 0 in the first period. In contrast, investors in the low-growth investment receive a low return  $r < R$ , regardless of the quality of institutions.

There are several ways to justify these assumptions about investor returns. For example, one can imagine that it is easier to expropriate high-growth investments because they tend to be less liquid. For instance, they could involve building or acquiring physical capital or developing specific human capital that cannot be readily sold. This leads to a hold-up problem, in which the government, or local officials, can extract rents from the project (for example, in the form of bribes) until its return is zero. In contrast, the low-growth project could involve investment in more liquid assets (e.g. treasury bills) whose return cannot easily be expropriated. Alternatively, one can think of a political economy story where high-growth projects tend to involve new firms that are not politically connected, while low-growth projects are associated with the political elites or their cronies. In an environment where institutions are bad, the latter are protected, while the former are not.

The intuition we are trying to explore is that when institutions are *expected* to be good in the future ( $\pi$  is high), there will be more high-growth investment leading to higher industry growth already during the transition period (in period 0). If the investment decisions in the two periods are independent, this is not the case. Denote by  $s_t$  the share of investors opting for the risky high-growth investment. Then the unique equilibrium in this model is  $s_0 = 0$  (all investors invest in the low-return investment in the first period because institutions are bad with certainty), while  $s_1 = 0$  if institutions are bad, and  $s_1 = 1$  if they are good. In other words, if the current investment behavior does not affect future investment possibilities, there is no reason why investors should invest in the high-growth project before they know whether institutions will be good or bad. Hence, all investment in the transition period will be of the low-growth kind, meaning that higher capital inflows are not associated with higher growth.

A simple way to introduce a connection between the two investment problems is to assume that high-growth investments *require* investments in period 0 because of time to build, or in order to learn about the economy, train workers, or build a customer base. Hence, the high-growth project yields positive private returns only in the long-term, while generating positive externalities for the industry as a whole right from the start. In this case, investors

choose the high-growth investment in period 0 over the low-growth investment if  $\pi R > 2r$ , giving us the desired relationship between the period-0 growth quality of capital inflows and the expected quality of future economic and political institutions ( $\pi$ ).

A richer story involves the assumption that the high-growth investment requires a unit of a local production factor, such as land, human capital, or firms that are being privatized. Call the local factor  $K$  and its price  $p$ . We assume that there is an upward-sloping aggregate supply curve for this local factor, where the price of the factor depends on how much of it has been sold already. For simplicity, assume that this function is linear,  $p_t = k + K_t$  (so  $k$  is the price of the factor when investment demand is zero, presumably because the factor also has other uses). These assumptions capture the idea that it pays to be the first to enter a country because land or other factors are still cheap. In this setup, if expected returns of the high-growth project are large enough, it will generally not be optimal for all investors to wait with high-growth investments until the state of institutions has been revealed in period 1, i. e.  $s_0 > 0$ . To see this, suppose that  $s_0 = 0$  were an equilibrium, implying that  $p_0 = k$ . Then if  $\pi R - 2r > k$ , any individual investor has an incentive to deviate and purchase the local factor in period 0. In other words, if the expected return of the high-growth project is high enough relative to the return of the low-growth project, investors will want to invest immediately while the prices of the local factor are still low.<sup>22</sup> The equilibrium level of high-growth investment in period 0 is determined by the level of the local factor at which the expected return of the high-growth investment, net of price, equals the return of the low-growth investment:  $\pi R - p_0 = 2r$ . Using  $p_0 = k + K_0$ , this implies  $K_0 = \pi R - 2r - k$ .  $K_0$  is obviously rising in  $\pi$ . The higher political integration, the higher the probability that future institutions will be good, and hence the higher the level of growth-enhancing foreign investment during the transition.

This story fits well the experience of Emerging Europe, where financial integration was accompanied by strong advances in political integration, especially with the EU. Once it became clear that European transition countries would become part of the EU or an EU-dominated Europe (with all the requirements attached to EU membership), there was a reasonable expectation that their institutions eventually converge to the European average. This created incentives for foreign investors and banks, particularly from Western Europe, to pursue high-growth investment strategies in the region, as described in the

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<sup>22</sup>Given our assumptions, the investor is indifferent between investing immediately and leaving the purchased factor idle and investing in period 1. In order to make it strictly preferable for the investor to invest already in period 0, we can assume that investing yields a small private return of  $\varepsilon$  already in period 0.

model (even ahead of actual institutional improvements). In the financial sector, these include the build-up of branches and subsidiaries with a better knowledge of the financial needs of local businesses and thus better opportunities to finance growth-generating investments. In other sectors, it includes FDI and equity participations, but also long-term debt.<sup>23</sup> In the described way, financial integration may have speeded up the transition process to the steady state, which would have taken a much longer time period if it had had to be financed by domestic savings. Note that the described channel is not relevant for countries that have already reached their steady states. Hence, the mechanism applies to developing, rather than advanced countries. One goal of our empirical analysis is to check whether there is any empirical support for the described channel. This first of all requires the measurement of political integration, which is discussed in the next section.

## 3.2 Political Integration Index

In the literature, several approaches to measure political integration have been used. Beckfield (2006) measures political integration as the number of cases referred from national courts to the European Court of Justice. Lee and Barro (2006) measure political proximity by the extent to which two states have common foreign policy interests. The latter are proxied by the voting correlations in the UN General Assembly. Dreher (2006) and Dreher, Gaston, and Martens (2008) construct the KOF Index of Globalization, which contains a political dimension comprising, for example, the number of embassies and high commissions in a country and the number of international organizations to which the country is a member. All these measures capture only very specific aspects of political integration. We therefore construct a much broader index of political integration (see Appendix A.3 for an in-depth description of the construction of the index).

We follow the work by Nye (1968), which theoretically identifies four dimensions of the political integration process: an *institutional* dimension, a *policy* dimension, an *attitude* dimension (subdivided in attitudes of the government and the public) and a *stability* dimension.<sup>24</sup> We then operationalize each of these dimensions by creating a corresponding

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<sup>23</sup>More generally, the argument applies to all kinds of capital flows, for which returns accrue to foreign investors only in the future and depend on whether institutions are good or bad. Short-term lending would *not* be captured by our mechanism. This coincides nicely with the opposing results on debt flows in all regressions because those may to a large extent be short-term.

<sup>24</sup>Although Nye's criteria are designed to measure political integration per se, the index effectively gives higher weight to political integration with advanced countries because the base country in a regional

subindex that takes on a value between 0 and 10. Finally, we combine all subindices into a composite index – also ranging on a scale from 0 to 10, where 10 denotes the highest level of political integration. For each of our sample countries, we identify the regional integration agreement that we consider most important. A full list is displayed in Table 3.

The dimensions are operationalized as follows: The *institutional* dimension captures the supranationality of each regional integration agreement. We approximate it by setting the corresponding organizational budgets in relation to the number of member countries in the respective regional integration agreement. The *policy* dimension measures the extent of policy coordination that a regional integration agreement implies. It consists of five subcomponents that evaluate different types of policies (security policy, trade policy, monetary policy, free movement of people, further integration intentions). The *attitude* dimension is split in two parts. First, to measure the conformity of government views across countries, we examine the correlation of voting behavior in the UN General Assembly between each country and a corresponding base country over the period 1998 to 2005 (cf. Lee and Barro, 2006). Second, to capture the attitude of the public, we use a set of questions from the World Values Survey concerning confidence in the local regional integration agreement.<sup>25</sup> Finally, the *stability* dimension proxies for the stability of the political integration agreement in the future, based on the current and past political stability in a country. Here, we use the Political Stability and Absence of Violence index from the Worldwide Governance Indicators provided by the World Bank. By assigning a weighting scheme of 30 %, 40 %, 20 %, 10 %, we then combine the four subindices to a composite index of political integration (see Appendix A.3).

The resulting index values for all sample countries are given in Table 3. As expected, countries from Emerging Europe obtain high scores of political integration (see last column of Table 3). However, we also observe some variation within this group of countries. For example, Macedonia receives a score of only 4.0, compared to a score of 9.1 for the Slovak Republic. Other developing countries mostly have rather low political integration scores. The scores for advanced countries are quite diverse. EU countries have high political integration scores, whereas countries like the United States and Japan show very low scores, even though they would be considered as relatively open in other dimensions.

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integration agreement is determined using GDP, and because the institutional depth of integration is measured using the budget size of the agreement per member state.

<sup>25</sup>Data from this survey was also used by Ekinici, Kalemli-Ozcan, and Sorensen (2008) who analyze the effect of social capital on the degree of financial integration of regions within the EU.

**Table 3:** Political integration index: Final score and subindices

Country	Country Type	Regional Integration Agreement	Institutions	Policy	Attitude		Security	Final Score
					(Government)	(Public opinion)		
					30%	40%		
Portugal	Adv	EU	10	10	9.4	6.8	7.3	<b>9.4</b>
Luxembourg	Adv	EU	10	10	9.7	5.8	7.9	<b>9.3</b>
Italy	Adv	EU	10	10	9.5	7.4	6.5	<b>9.3</b>
Slovak Republic	EE	EU	10	10	9.4	5.2	6.6	<b>9.1</b>
Belgium	Adv	EU	10	10	9.7	4.3	7.0	<b>9.1</b>
Estonia	EE	EU	10	10	9.4	4.6	6.6	<b>9.1</b>
Spain	Adv	EU	10	10	9.2	5.1	6.0	<b>9.0</b>
Slovenia	EE	EU	10	10	9.5	3.6	7.1	<b>9.0</b>
Netherlands	Adv	EU	10	10	9.6	2.8	7.5	<b>9.0</b>
Austria	Adv	EU	10	10	9.4	3.0	7.3	<b>9.0</b>
Finland	Adv	EU	10	10	9.5	1.9	7.9	<b>8.9</b>
France	Adv	EU	10	10	8.3	4.3	6.4	<b>8.9</b>
Ireland	Adv	EU	10	9	8.8	6.1	7.6	<b>8.8</b>
Germany	Adv	EU	10	10	8.2	3.0	7.0	<b>8.8</b>
Greece	Adv	EU	10	10	9.4	0.9	6.3	<b>8.7</b>
Latvia	EE	EU	10	9	9.3	4.3	6.4	<b>8.6</b>
Hungary	EE	EU	10	8	9.7	6.1	7.0	<b>8.5</b>
Denmark	Adv	EU	10	9	9.5	1.6	7.5	<b>8.5</b>
Poland	EE	EU	10	8	9.5	5.0	6.1	<b>8.3</b>
Czech Republic	EE	EU	10	8	9.5	4.0	6.7	<b>8.2</b>
Sweden	Adv	EU	10	8	8.9	1.5	7.6	<b>8.0</b>
Bulgaria	EE	EU	10	7	9.4	6.1	5.8	<b>7.9</b>
Romania	EE	EU	10	7	9.4	4.0	5.5	<b>7.7</b>
United Kingdom	Adv	EU	10	7	8.2	1.3	6.3	<b>7.4</b>
Iceland	Adv	EU Candidate	3	7	9.5	4.0	7.9	<b>5.8</b>
Oman	Other	Cooperation Council for the Arab States of the Gulf	1	6	9.7	5.9	6.6	<b>4.9</b>
Albania	EE	SAP Process	2	5	9.1	10.0	3.6	<b>4.9</b>
Turkey	EE	Candidate (but high uncertainty)	2	6	7.8	3.7	3.3	<b>4.5</b>
Norway	Adv	EU extra	1	5	9.5	1.7	7.6	<b>4.2</b>
New Zealand	Adv	CER (Closer Economic Relations)	0	5	8.0	5.6	7.5	<b>4.1</b>
Moldova	Other	Partnership	1	4	9.0	8.0	4.5	<b>4.0</b>
Australia	Adv	CER (Closer Economic Relations)	0	5	8.0	5.0	7.1	<b>4.0</b>
Macedonia, FYR	EE	EU Candidate	3	4	9.2	2.9	3.1	<b>4.0</b>
Botswana	Other	African Union	1	5	4.4	5.5	6.8	<b>4.0</b>
Uruguay	Other	UNASUR	1	5	4.4	5.3	6.4	<b>3.9</b>
Brazil	Other	UNASUR	1	5	3.7	6.5	4.8	<b>3.8</b>
Vietnam	Other	ASEAN	1	3	8.7	8.5	5.5	<b>3.8</b>
South Africa	Other	African Union	1	5	4.4	5.5	4.5	<b>3.7</b>
Georgia	Other	Partnership	1	4	8.3	5.8	2.4	<b>3.5</b>
Ecuador	Other	UNASUR	1	5	1.3	6.5	3.5	<b>3.4</b>
Armenia	Other	Partnership	1	4	5.4	5.9	3.7	<b>3.4</b>
Canada	Adv	NAFTA	0	4	3.9	6.9	7.1	<b>3.4</b>
Philippines	Other	ASEAN	1	3	7.8	7.5	3.3	<b>3.3</b>
Egypt	Other	League of Arab States	1	2	8.6	8.8	3.7	<b>3.2</b>
Indonesia	Other	ASEAN	1	3	9.2	5.4	1.8	<b>3.1</b>
Jordan	Other	League of Arab States	1	2	8.7	5.9	4.6	<b>3.0</b>
Madagascar	Other	African Union	1	3	4.1	5.5	5.2	<b>3.0</b>
Republic of Yemen	Other	League of Arab States	1	2	9.7	5.9	2.1	<b>2.9</b>
United States	Adv	NAFTA	0	4	3.9	2.8	5.9	<b>2.9</b>
Panama	Other	Central American Integration System	1	3	1.7	5.9	5.4	<b>2.8</b>
Japan	Adv	ASEAN (only dialogue partner)	1	2	0.0	6.3	7.2	<b>2.4</b>
Korea Rep.	Adv	ASEAN (only dialogue partner)	1	2	0.0	7.8	5.4	<b>2.4</b>
India	Other	ASEAN (less than dialogue partner)	1	1	5.0	5.6	3.4	<b>2.1</b>
Israel	Adv	EU extra	1	2	3.0	0.9	2.9	<b>1.8</b>
Mexico	Other	NAFTA	0	1	0.0	4.3	4.7	<b>1.3</b>

Notes: For a detailed description of sources and procedures, see text and Appendix. Adv = advanced countries, EE = Emerging Europe, Other = Other developing countries.

## 4 Why is Emerging Europe Different?

### 4.1 Empirical Model

We now turn to the empirical analysis of the question what drives the remarkable differences between Emerging Europe and other countries. Threshold effects and other types of non-linearities have become popular explanations of the difficulty to detect growth effects of financial integration in broad country samples. One of the first papers to find evidence of threshold effects is by Borensztein, De Gregorio, and Lee (1998) who detect threshold effects in human capital regarding the effect of FDI on economic growth. Brezigar-Masten, Coricelli, and Masten (2008) examine whether financial development and financial integration have non-linear effects on economic growth, using macroeconomic and industry-level data for Europe. The authors conclude that the benefits of financial integration become significant at higher levels of financial development. Kose, Prasad, and Taylor (2011) examine various types of threshold effects for financial integration (e. g., financial development, institutional quality, regulation, trade openness, macroeconomic policies) in a sample of 84 countries over the period 1995-2004. The results indicate that thresholds exist, but their level depends on the type of capital examined (i. e., thresholds are lower for FDI and portfolio equity flows). Abiad, Leigh, and Mody (2009) provide evidence that part of the observed difference between Europe and other countries can be explained by threshold effects in institutional quality and financial integration itself.

In order to test for the presence of threshold effects in our setup, we add further interaction terms to the baseline model, which multiply the original interaction term with threshold dummy variables indicating whether some variable is above the considered threshold. Hence, we estimate the following model:<sup>26</sup>

$$\begin{aligned} Growth_{j,k} = & \alpha_k + \beta_j + \gamma \cdot industry\ share_{j,k} \\ & + \delta_0 \cdot (ext.dependence_j \cdot fin.integration_k) \\ & + \delta_1 \cdot (ext.dependence_j \cdot fin.integration_k) \cdot Emerg.Europe\ dummy_k \\ & + \delta_2 \cdot (ext.dependence_j \cdot fin.integration_k) \cdot advanced\ dummy_k \\ & + \delta_3 \cdot (ext.dependence_j \cdot fin.integration_k) \cdot threshold\ dummy_k + \varepsilon_{j,k}. \end{aligned} \tag{2}$$

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<sup>26</sup>For ease of exposition, the model shows only one threshold variable. The following regression models include several threshold variables.

Our estimation strategy is to see whether the interaction term with the Emerging Europe dummy remains significant, once we introduce threshold effects. If not, threshold effects are able to explain the difference between European transition countries and other countries. If yes, there must be something else that explains the observed differences.

Before turning to the role of political integration, we consider threshold effects in the variables suggested by the existing literature: *financial development* (see Prasad, Rajan, and Subramanian, 2007), *institutional quality* and *financial integration* itself (see Abiad, Leigh, and Mody, 2009), and *trade integration* (see Kose, Prasad, and Taylor, 2011). For example, financial integration may be beneficial for economic growth only if the financial system of a country is sophisticated enough to efficiently absorb foreign funds, that is, if financial development crosses a certain threshold. Similar arguments have been made regarding the other threshold variables.

The threshold dummy variables are equal to one if the respective threshold variable is above the sample median of countries, and zero otherwise.<sup>27</sup> Financial development is measured by private domestic credit over GDP in 1998, taken from Beck, Demirgüç-Kunt, and Levine (2000). Institutional quality is measured by the variable “Regulatory quality,” provided by the World Bank (Worldwide Governance Indicators), also referring to the year 1998. Trade integration (in 1998) is a standard openness measure (sum of export and imports over GDP).<sup>28</sup> The cutoff values of these threshold dummies, as well as the values for individual countries are displayed in Table 4. For the threshold in financial integration itself, we use the broadest measure, namely gross financial integration (see Table 1 for the cutoff level).<sup>29</sup> As further threshold variable, we consider political integration in addition to the four threshold variables described above to see whether political integration is able to explain the observed differences between country groups. In line with our theoretical considerations, we allow political integration to have different effects in advanced and developed economies.

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<sup>27</sup>As is described in Section 4.3, we conduct extensive robustness checks regarding the chosen threshold levels. In another robustness check, we allow all variables to enter continuously in the interaction terms instead of using discrete thresholds.

<sup>28</sup>For robustness, we also measure financial development by stock market capitalization over GDP from Beck, Demirgüç-Kunt, and Levine (2000), institutional quality by the “Rule of Law” measure from the Worldwide Governance Indicators, and trade integration by an “adjusted trade intensity,” as suggested by Pritchett (1996). As the results are virtually unchanged, we do not report them separately.

<sup>29</sup>Using the other measures of financial integration for threshold construction leads to virtually identical regression results (not displayed).

**Table 4:** Values of additional threshold variables

Country	Financial Development	Quality of Institutions	Trade Integration
Albania	0.03	-0.28	0.35
Armenia	0.06	-0.38	0.56
Australia	0.75	1.49	0.37
Austria	0.99	1.39	0.79
Belgium	0.78	1.07	1.35
Botswana	0.11	0.77	0.98
Brazil	0.36	0.30	0.20
Bulgaria	0.09	0.11	0.91
Canada	0.99	1.49	0.70
Czech Republic	0.62	0.86	0.87
Denmark	0.33	1.65	0.72
Ecuador	0.31	-0.05	0.54
Egypt	0.42	-0.28	0.52
Estonia	0.31	1.24	1.32
Finland	0.50	1.74	0.62
France	0.81	0.93	0.45
Georgia	0.04	-0.77	0.48
Germany	1.12	1.30	0.55
Greece	0.32	0.72	0.49
Hungary	0.23	0.99	0.87
Iceland	0.62	1.25	<b>0.66</b>
India	0.23	-0.39	0.33
Indonesia	0.53	-0.27	0.70
Ireland	0.83	1.62	1.35
Israel	0.66	1.02	0.73
Italy	0.56	<b>0.84</b>	0.53
Japan	1.97	0.65	0.20
Jordan	0.72	0.47	1.03
Korea	1.45	0.33	0.52
Latvia	0.12	0.87	1.01
Luxembourg	0.96	1.51	2.45
Macedonia, FYR	0.22	-0.17	1.00
Madagascar	0.09	-0.81	0.59
Mexico	0.23	0.37	0.45
Moldova	0.12	-0.23	0.80
Netherlands	1.10	1.82	1.00
New Zealand	1.06	1.88	0.51
Norway	0.92	1.42	0.73
Oman	0.39	0.14	0.79
Panama	0.75	0.90	1.58
Philippines	0.54	0.30	1.06
Poland	0.21	0.68	0.58
Portugal	0.92	1.17	0.58
Republic of Yemen	0.05	-0.52	0.74
Romania	0.09	0.20	0.41
Slovak Republic	<b>0.52</b>	0.45	1.04
Slovenia	0.28	1.07	1.02
South Africa	1.13	0.21	0.54
Spain	0.81	1.25	0.47
Sweden	0.95	1.25	0.78
Turkey	0.14	0.49	0.38
United Kingdom	1.14	1.89	0.48
United States	1.54	1.57	0.23
Uruguay	0.35	0.88	0.53
Vietnam	0.19	-0.61	0.94
Median	0.52	0.84	0.66
Average sector growth rate above median	1.02	0.94	2.87
Average sector growth rate below median	4.83	4.99	2.78

Notes: Bold figures indicate the median. All 50%-threshold dummies take on a value of 1 when the corresponding variable is at least as large as the median. Sources: Financial development measured by domestic private credit over GDP, Beck et al. (2000). Institutional quality measured by regulatory quality, World Bank (2008). Trade integration is measured by a standard openness measure (sum of imports and exports / GDP).



## 4.2 Results

The first set of regressions (Table 5) considers threshold regressions including the four threshold variables described above, but excluding political integration. Let us first explain the interpretation of the coefficients in the threshold regressions. The coefficients in the second line (corresponding to  $\delta_0$  in equation 2) now denote the sectoral growth effect in other developing countries for which all four threshold variables are below the median. The coefficient in the third line (corresponding to  $\delta_1$ ) has a similar interpretation as before: it denotes the differential sectoral growth effect in European transition countries relative to other developing countries (but holding constant the four threshold variables). An analogous interpretation applies to the coefficient in the fourth line (corresponding to  $\delta_2$ ), comparing advanced countries to other developing countries. The following four lines (corresponding to  $\delta_4$ ) give the differential sectoral growth effect in countries above the median of the respective threshold variable relative to those below the median (independently of the country group). The memo item corresponds to the last two memo items in Table 2: it transforms the differential effect of European transition countries into the corresponding difference in differential real growth rates between European transition countries and other developing countries and advanced countries, respectively. The size of these coefficients tells us whether the four threshold variables are able to explain the observed difference between country groups.

We find only weak evidence of threshold effects. The coefficients of the threshold interactions are mostly insignificant (apart from those in the regressions using debt flows, in which institutional quality has a strong positive effect, whereas financial development shows the “wrong” sign). Most importantly, the Emerging Europe interaction term remains significant in all cases, compared to the baseline regression.<sup>30</sup> Moreover, the difference in the differential in real growth rates between Emerging Europe and other developing or advanced countries actually *increases* in all but one instance (on average, it increases by about one fourth). Hence, none of the considered factors can satisfactorily explain why Emerging Europe is different. As will be shown in the robustness section, the same result obtains when the threshold levels are chosen in an optimal way, giving the four variables the best chance to perform (see Section 4.3).

We now turn to political integration as an alternative explanation for why financial integration leads to larger sectoral growth differentials in Emerging Europe than elsewhere.

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<sup>30</sup>It also becomes significant for debt flows, but again in the opposite direction.

Table 5. Threshold regressions without political integration

(Regression coefficients; p-values in parentheses; dependent variable: average growth in sectoral output, 1998-2005)

	Financial integration measure							Foreign bank	Foreign bank
	CA	ΔNFA	ΔFDI	ΔD	GFI	FDI	D	number share (avg.)	number share (beg.)
Industry share	-0.289*** (0.001)	-0.283*** (0.001)	-0.288*** (0.001)	-0.3*** (0)	-0.284*** (0.001)	-0.29*** (0.001)	-0.286*** (0.001)	-0.295*** (0.001)	-0.294*** (0.001)
Sectoral growth effect, depending on external finance, in other developing countries with below-threshold values of all threshold variables	0.414 (0.28)	0.161 (0.701)	-1.645 (0.103)	0.751* (0.06)	-0.007 (0.661)	-0.108 (0.159)	-0.023 (0.526)	-0.062 (0.191)	-0.066 (0.213)
Differential sectoral growth effect (Emerging Europe)	-1.207** (0.011)	-1.555** (0.038)	2.128** (0.011)	-1.504** (0.028)	0.051*** (0.001)	0.228*** (0.002)	0.123*** (0.001)	0.117** (0.015)	0.143** (0.012)
Differential sectoral growth effect (Advanced Countries)	-0.272 (0.616)	-0.159 (0.794)	-0.161 (0.848)	-0.381 (0.402)	0.002 (0.819)	0.029 (0.622)	-0.002 (0.943)	-0.039 (0.549)	-0.068 (0.351)
Differential sectoral growth effect in countries ... with above-median financial development	-0.197 (0.629)	-0.077 (0.829)	1.048 (0.119)	-0.908** (0.028)	0.007 (0.288)	0.084 (0.122)	0.022 (0.293)	0.066 (0.281)	0.093 (0.205)
... with above-median institutional quality	0.109 (0.786)	0.299 (0.556)	-0.157 (0.842)	0.797* (0.053)	-0.011 (0.338)	-0.077 (0.307)	-0.02 (0.483)	0.002 (0.976)	-0.002 (0.977)
... with above-median trade integration	-0.136 (0.7)	-0.158 (0.672)	0.432 (0.546)	0.198 (0.118)	0.001 (0.662)	0.058 (0.168)	0.005 (0.608)	0.022 (0.598)	0.027 (0.578)
... with above-median financial integration	-0.125 (0.741)	-0.384 (0.351)	0.478 (0.516)	-0.452 (0.242)	0.007 (0.523)	0.013 (0.84)	0.019 (0.509)	0.033 (0.553)	0.03 (0.67)
<i>Memo:</i> Difference in differential real growth rates (Emerging Europe vs. Other developing countries)	4.83** (0.011)	5.2** (0.038)	2.97** (0.011)	-8.16** (0.028)	5.75*** (0.001)	3.08*** (0.002)	4.21*** (0.001)	3.12** (0.015)	3.47** (0.012)
<i>Memo:</i> Difference in differential real growth rates (Emerging Europe vs. Advanced countries)	3.48* (0.094)	4.57** (0.033)	2.74*** (0.006)	-5.5* (0.059)	5.32*** (0)	2.43*** (0.001)	4.1*** (0)	3.74** (0.027)	4.65*** (0.01)
R <sup>2</sup>	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39
Observations	2,363	2,363	2,363	2,363	2,363	2,363	2,363	2,363	2,363
Number of Countries	55	55	55	55	55	55	55	55	55
25th percentile financial integration	1.391	2.791	0.989	-2.407	109.3	16.79	44.97	11.75	6
75th percentile financial integration	-4.511	-2.399	2.886	5.352	283.2	36.17	97.12	49.63	41
25th percentile external dependence	0.137	0.137	0.137	0.137	0.137	0.137	0.137	0.137	0.137
75th percentile external dependence	0.767	0.767	0.767	0.767	0.767	0.767	0.767	0.767	0.767

Note: For sources and explanatory notes, see Tables 1, 2, 4, and text.

Table 6 shows the results from the threshold model, adding a threshold in political integration to the four other thresholds.<sup>31</sup> The political integration threshold turns one if – within the group of advanced or developing countries – the index is larger or equal to the 75% quantile (corresponding to a value of 7.9 for developing, and 9 for advanced countries). Looking at Table 3, we see that the 75% quantile is a much more natural cutoff for developing countries than a 50% cutoff, which would assign a many hardly politically integrated countries to the higher group.<sup>32</sup> Table 6 shows two sets of results for each financial integration variable: the first regression is based on the threshold specification described above, including interaction terms with political integration for developing and advanced countries. The second regression for each variable drops the Emerging Europe dummy to see how this affects the interaction term with political integration.

The results are revealing (see Table 6). All coefficients of the Emerging Europe interaction term become insignificant (see first column for each financial integration variable). Hence, there are no longer significant differences between the growth effects of financial integration in Emerging Europe and other developing or advanced countries once we control for an interaction with political integration. However, the interaction terms with political integration are also statistically insignificant in most cases. These findings can be explained by the high correlation between the Emerging Europe dummy variable and the political integration threshold (the correlation coefficient is 0.74). Indeed, the two interaction terms are jointly significant in all cases. Therefore, we also present regressions, leaving out the Emerging Europe dummy. This amounts to contributing the joint effect of the two interactions terms fully to political integration. Interestingly, the interaction with political integration now becomes highly significant in developing countries in all specifications. This supports the hypothesis that political integration explains the difference between Emerging Europe and other countries. The first memo line shows that the differences in the differential in real growth rates, due to political integration, are substantial, ranging from 2.38 to 6.03 percentage points (second column for each variable). In line with our theoretical considerations, there is no such effect in advanced countries. Political integration matters only in developing countries.

Our theoretical considerations suggest that the effect of political integration works through

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<sup>31</sup>The results for the other thresholds are not displayed in the table. Their coefficients are always insignificant, apart from two coefficients in the regressions using debt flows.

<sup>32</sup>The 75% cutoff is also the optimal one, see Section 4.3. When the 50% quantile is used, the results go in the same direction, but are slightly weaker. Alternative thresholds for the other variables hardly make any difference, as will be shown below.

Table 6. Threshold regressions with political integration (other thresholds not displayed)  
(Regression coefficients; p-values in parentheses; dependent variable: average growth in sectoral output, 1998-2005)

	Financial integration measure								
	CA	CA	ΔNFA	ΔNFA	ΔFDI	ΔFDI	ΔD	ΔD	GFI
Industry share	-0.291*** (0.001)	-0.292*** (0.001)	-0.285*** (0.001)	-0.285*** (0.001)	-0.291*** (0.001)	-0.292*** (0.001)	-0.3*** (0)	-0.3*** (0)	-0.292*** (0.001)
Sectoral growth effect, depending on external finance, with below-median values of all threshold variables (other developing countries)	0.39 (0.308)	0.323 (0.369)	0.105 (0.801)	0.107 (0.792)	-1.508 (0.151)	-1.289 (0.176)	0.738* (0.065)	0.697* (0.078)	0 (0.988)
Differential sectoral growth effect (Emerging Europe)	-0.636 (0.458)		0.017 (0.992)		1.155 (0.479)		-2.229 (0.501)		0.015 (0.655)
Differential sectoral growth effect (Advanced countries)	-0.309 (0.574)	-0.292 (0.592)	-0.236 (0.703)	-0.237 (0.7)	0.035 (0.97)	0.014 (0.988)	-0.359 (0.432)	-0.346 (0.447)	0.005 (0.638)
Differential sectoral growth effect in countries with above 75% political integration (Developing countries)	-0.733 (0.386)	-1.293*** (0.006)	-1.721 (0.302)	-1.705** (0.026)	1.075 (0.479)	2.061*** (0.008)	0.749 (0.822)	-1.433** (0.036)	0.041 (0.244)
Differential sectoral growth effect in countries with above 75% political integration (Advanced countries)	0.213 (0.481)	0.202 (0.503)	0.272 (0.495)	0.272 (0.495)	-0.075 (0.854)	-0.053 (0.895)	-0.066 (0.482)	-0.067 (0.473)	-0.003 (0.149)
<i>Memo:</i> Difference in differential real growth rates due to political integration (Developing countries)	2.73 (0.386)	4.81*** (0.006)	5.63 (0.302)	5.58** (0.026)	1.29 (0.479)	2.47*** (0.008)	3.66 (0.822)	-7.01** (0.036)	4.45 (0.244)
<i>Memo:</i> Difference in differential real growth rates due to political integration (Advanced countries)	-0.79 (0.481)	-0.75 (0.503)	-0.89 (0.495)	-0.89 (0.495)	-0.09 (0.854)	-0.06 (0.895)	-0.32 (0.482)	-0.33 (0.473)	-0.37 (0.149)
R <sup>2</sup>	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39
Observations	2,363	2,363	2,363	2,363	2,363	2,363	2,363	2,363	2,363
Number of Countries	55	55	55	55	55	55	55	55	55
25th percentile financial integration	1.391	1.391	2.791	2.791	0.989	0.989	-2.407	-2.407	109.3
75th percentile financial integration	-4.511	-4.511	-2.399	-2.399	2.886	2.886	5.352	5.352	283.2
25th percentile external dependence	0.137	0.137	0.137	0.137	0.137	0.137	0.137	0.137	0.137
75th percentile external dependence	0.767	0.767	0.767	0.767	0.767	0.767	0.767	0.767	0.767

	Financial integration measure								
	GFI	FDI	FDI	D	D	Foreign bank number share (avg.)	Foreign bank number share (avg.)	Foreign bank number share (beg.)	Foreign bank number share (beg.)
Industry share	-0.293*** (0.001)	-0.295*** (0.001)	-0.297*** (0.001)	-0.292*** (0.001)	-0.293*** (0.001)	-0.296*** (0.001)	-0.297*** (0.001)	-0.295*** (0.001)	-0.296*** (0.001)
Sectoral growth effect, depending on external finance, with below-median values of all threshold variables (other developing countries)	0.001 (0.971)	-0.089 (0.262)	-0.083 (0.288)	-0.009 (0.816)	-0.007 (0.85)	-0.059 (0.21)	-0.025 (0.547)	-0.063 (0.224)	-0.03 (0.545)
Differential sectoral growth effect (Emerging Europe)		0.119 (0.536)		0.026 (0.706)		0.097 (0.24)		0.125 (0.254)	
Differential sectoral growth effect (Advanced countries)	0.005 (0.652)	0.06 (0.356)	0.058 (0.37)	0.01 (0.696)	0.009 (0.701)	-0.024 (0.728)	-0.02 (0.774)	-0.055 (0.465)	-0.049 (0.513)
Differential sectoral growth effect in countries with above 75% political integration (Developing countries)	0.055*** (0)	0.126 (0.52)	0.239*** (0.002)	0.121* (0.089)	0.145*** (0)	0.024 (0.754)	0.1** (0.025)	0.02 (0.854)	0.125** (0.022)
Differential sectoral growth effect in countries with above 75% political integration (Advanced countries)	-0.003 (0.16)	-0.025 (0.396)	-0.023 (0.434)	-0.01 (0.186)	-0.01 (0.199)	-0.029 (0.482)	-0.03 (0.471)	-0.025 (0.568)	-0.026 (0.555)
<i>Memo:</i> Difference in differential real growth rates due to political integration (Developing countries)	6.03*** (0)	1.54 (0.52)	2.92*** (0.002)	3.98* (0.089)	4.76*** (0)	0.57 (0.754)	2.38** (0.025)	0.43 (0.854)	2.76** (0.022)
<i>Memo:</i> Difference in differential real growth rates due to political integration (Advanced countries)	-0.36 (0.16)	-0.31 (0.396)	-0.28 (0.434)	-0.34 (0.186)	-0.33 (0.199)	-0.69 (0.482)	-0.7 (0.471)	-0.56 (0.568)	-0.57 (0.555)
R <sup>2</sup>	0.39	0.40	0.40	0.39	0.39	0.39	0.39	0.39	0.39
Observations	2,363	2,363	2,363	2,363	2,363	2,363	2,363	2,363	2,363
Number of Countries	55	55	55	55	55	55	55	55	55
25th percentile financial integration	109.3	16.79	16.79	44.97	44.97	11.75	11.75	6	6
75th percentile financial integration	283.2	36.17	36.17	97.12	97.12	49.63	49.63	41	41
25th percentile external dependence	0.137	0.137	0.137	0.137	0.137	0.137	0.137	0.137	0.137
75th percentile external dependence	0.767	0.767	0.767	0.767	0.767	0.767	0.767	0.767	0.767

Notes: For each financial integration variable, results are shown for the regression with and without Emerging Europe dummy. For sources and explanatory notes, see Tables 1, 2, 4, and text.

the expectation of *future* improvements of institutions, financial systems etc., which are not yet visible in the current levels of these variables. In order to shed more light on this particular channel, we replace the values of the four threshold variables for countries from Emerging Europe by *current* values from 2006.<sup>33</sup> The idea is that the values from 2006 already reflect part of the expected increase in these variables. Therefore, if our channel was present, the effect of political integration should be reduced when current values are used. Indeed, as shown by Table 7, the difference in differential real growth rates vis-à-vis other developing countries drops in all specifications compared to Table 6 and becomes insignificant in three cases (see second column for each financial integration variable). This strongly supports the hypothesized channel.

Taken together, these results suggest that political integration plays a crucial role in explaining why Emerging Europe was different in the considered time period. In European transition countries, financial integration was accompanied by political integration with the EU, which raised expectations of future improvements in the quality of institutions and financial systems. This in turn may have influenced the way foreign investors employed their capital in the region. This implies that the benefits of financial integration are much larger if it is accompanied by political integration. We now present a large number of robustness checks to show that our results hold also when different specifications are used.

## 4.3 Robustness

### 4.3.1 Optimal Thresholds

The 50% threshold levels were chosen in an arbitrary fashion. To ensure that our results are not driven by this particular choice, we reran the regressions from Tables 5 and 6 allowing alternatively for 25 and 75% thresholds. We tried all possible combinations of the 25, 50, and 75% thresholds for the four threshold variables in order to give them the best possible chance to perform well. This amounted to running  $9 \cdot 3^4$  (i. e. 729) regressions. We then selected the model yielding the highest  $R^2$ .<sup>34</sup>

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<sup>33</sup>We choose the year 2006 because data are readily available and values are not yet affected by the financial crisis.

<sup>34</sup>More specifically, we chose the specification with the highest *sum* of  $R^2$  (across the nine financial integration variables) to avoid using a different specification for each financial integration variable.

Table 7. Threshold regressions: 2006 thresholds and political integration (other thresholds not displayed)  
(Regression coefficients; p-values in parentheses; dependent variable: average growth in sectoral output, 1998-2005)

	Financial integration measure								
	CA	CA	ΔNFA	ΔNFA	ΔFDI	ΔFDI	ΔD	ΔD	GFI
Industry share	-0.293*** (0.001)	-0.294*** (0.001)	-0.288*** (0.001)	-0.287*** (0.001)	-0.286*** (0.001)	-0.287*** (0.001)	-0.298*** (0)	-0.298*** (0)	-0.292*** (0.001)
Sectoral growth effect, depending on external finance, with below-median values of all threshold variables (other developing countries)	0.357 (0.345)	0.332 (0.367)	-0.048 (0.877)	-0.035 (0.908)	-1.009 (0.296)	-0.991 (0.292)	0.234 (0.435)	0.219 (0.462)	0.003 (0.863)
Differential sectoral growth effect (Emerging Europe)	-0.488 (0.58)		0.497 (0.761)		0.239 (0.876)		-1.795 (0.589)		0.012 (0.718)
Differential sectoral growth effect (Advanced countries)	-0.651 (0.155)	-0.629 (0.164)	-0.326 (0.498)	-0.348 (0.464)	-0.05 (0.958)	-0.066 (0.943)	-0.427 (0.281)	-0.413 (0.295)	0.003 (0.803)
Differential sectoral growth effect in countries with above 75% political integration (Developing countries)	-0.758 (0.366)	-1.169*** (0.008)	-1.915 (0.242)	-1.474** (0.034)	1.013 (0.503)	1.225 (0.14)	1.712 (0.608)	-0.062 (0.915)	0.037 (0.281)
Differential sectoral growth effect in countries with above 75% political integration (Advanced countries)	0.058 (0.844)	0.044 (0.882)	0.047 (0.907)	0.043 (0.914)	-0.063 (0.873)	-0.057 (0.884)	-0.076 (0.425)	-0.076 (0.426)	-0.003 (0.188)
<i>Memo:</i> Difference in differential real growth rates due to political integration (Developing countries)	2.82 (0.366)	4.35*** (0.008)	6.27 (0.242)	4.82** (0.034)	1.21 (0.503)	1.47 (0.14)	8.38 (0.608)	-0.3 (0.915)	4.07 (0.281)
<i>Memo:</i> Difference in differential real growth rates due to political integration (Advanced countries)	-0.22 (0.844)	-0.16 (0.882)	-0.15 (0.907)	-0.14 (0.914)	-0.08 (0.873)	-0.07 (0.884)	-0.37 (0.425)	-0.37 (0.426)	-0.34 (0.188)
R <sup>2</sup>	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39
Observations	2,363	2,363	2,363	2,363	2,363	2,363	2,363	2,363	2,363
Number of Countries	55	55	55	55	55	55	55	55	55
25th percentile financial integration	1.391	1.391	2.791	2.791	0.989	0.989	-2.407	-2.407	109.3
75th percentile financial integration	-4.511	-4.511	-2.399	-2.399	2.886	2.886	5.352	5.352	283.2
25th percentile external dependence	0.137	0.137	0.137	0.137	0.137	0.137	0.137	0.137	0.137
75th percentile external dependence	0.767	0.767	0.767	0.767	0.767	0.767	0.767	0.767	0.767

	Financial integration measure								
	GFI	FDI	FDI	D	D	Foreign bank number share (avg.)	Foreign bank number share (avg.)	Foreign bank number share (beg.)	Foreign bank number share (beg.)
Industry share	-0.293*** (0.001)	-0.295*** (0.001)	-0.296*** (0.001)	-0.291*** (0.001)	-0.292*** (0.001)	-0.297*** (0.001)	-0.298*** (0.001)	-0.296*** (0.001)	-0.297*** (0.001)
Sectoral growth effect, depending on external finance, with below-median values of all threshold variables (other developing countries)	0.003 (0.856)	-0.086 (0.264)	-0.086 (0.264)	0.002 (0.942)	0.003 (0.933)	-0.052 (0.264)	-0.037 (0.389)	-0.06 (0.247)	-0.042 (0.394)
Differential sectoral growth effect (Emerging Europe)		0.068 (0.724)		0.017 (0.801)		0.069 (0.417)		0.1 (0.374)	
Differential sectoral growth effect (Advanced countries)	0.002 (0.817)	0.046 (0.44)	0.044 (0.456)	0.005 (0.847)	0.004 (0.856)	0.002 (0.972)	-0.006 (0.921)	-0.047 (0.495)	-0.051 (0.469)
Differential sectoral growth effect in countries with above 75% political integration (Developing countries)	0.049*** (0)	0.111 (0.563)	0.175*** (0.008)	0.111 (0.117)	0.127*** (0)	0.031 (0.687)	0.078 (0.131)	0.02 (0.852)	0.097 (0.143)
Differential sectoral growth effect in countries with above 75% political integration (Advanced countries)	-0.003 (0.2)	-0.017 (0.585)	-0.015 (0.612)	-0.01 (0.215)	-0.01 (0.223)	-0.03 (0.474)	-0.035 (0.406)	-0.027 (0.545)	-0.031 (0.48)
<i>Memo:</i> Difference in differential real growth rates due to political integration (Developing countries)	5.34*** (0)	1.35 (0.563)	2.14*** (0.008)	3.66 (0.117)	4.17*** (0)	0.75 (0.687)	1.86 (0.131)	0.45 (0.852)	2.15 (0.143)
<i>Memo:</i> Difference in differential real growth rates due to political integration (Advanced countries)	-0.33 (0.2)	-0.2 (0.585)	-0.19 (0.612)	-0.32 (0.215)	-0.31 (0.223)	-0.72 (0.474)	-0.82 (0.406)	-0.6 (0.545)	-0.69 (0.48)
R <sup>2</sup>	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39
Observations	2,363	2,363	2,363	2,363	2,363	2,363	2,363	2,363	2,363
Number of Countries	55	55	55	55	55	55	55	55	55
25th percentile financial integration	109.3	16.79	16.79	44.97	44.97	11.75	11.75	6	6
75th percentile financial integration	283.2	36.17	36.17	97.12	97.12	49.63	49.63	41	41
25th percentile external dependence	0.137	0.137	0.137	0.137	0.137	0.137	0.137	0.137	0.137
75th percentile external dependence	0.767	0.767	0.767	0.767	0.767	0.767	0.767	0.767	0.767

Notes: For sources and explanatory notes, see Tables 1, 2, 4, and text. Thresholds for Emerging Europe (apart from political integration) refer to the year 2006.

Table A.3 in the Appendix shows the results for the optimal threshold model where political integration is not included.<sup>35</sup> A comparison with Table 5 shows that the results are virtually unchanged. In particular, the Emerging Europe effect remains highly significant, and the differences in differential real growth rates are even larger than before. Looking at all 729 regressions, we find that the Emerging Europe effect (and hence the corresponding difference in differentials relative to other developing countries) is significant at the 10 percent level in *all* specifications, apart from those using debt flows where the effect is mostly insignificant. The difference in differentials relative to advanced countries is significant in 87% of the regressions. The coefficients of the threshold interactions are again mostly insignificant. Hence, the results are very consistent across the different specifications.

Table A.4 presents the results for the optimal model when political integration is included, but the Emerging Europe dummy is not (corresponding to the second column for each financial integration variable in Table 6).<sup>36</sup> Again the results are very similar to before. The interaction with political integration is significant in developing countries, but not in advanced countries. The differences in differential real growth rates due to political integration are in most cases slightly smaller than before, but of the same order of magnitude. However, the Emerging Europe dummy remains significant in 2 out of 9 specifications. Looking again at all 729 regressions (but sticking to the optimal 75% threshold for political integration), we find that, in developing countries, the interaction with political integration is significant at the 10 percent level in 99.4% of the specifications (excluding those using debt flows where the effect is always insignificant). In advanced countries, the effect is significant in only 0.6% of the specifications. There is again no evidence of threshold effects in the other four threshold variables. Taken together, the robustness check strongly supports our results from the previous section.

### 4.3.2 Continuous Interactions

As a second robustness check, we reran the regressions using continuous interactions terms instead of threshold dummies. Hence, the threshold dummies in equation 2 are replaced by financial development, institutional quality, trade and financial integration.

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<sup>35</sup>This model uses a 50% threshold for financial development and institutional quality, and a 25% threshold for trade and financial integration.

<sup>36</sup>As before, the model with 50% thresholds for financial development and institutional quality and 25% thresholds for trade and financial integration yields the highest  $R^2$ . The optimal threshold for political integration is 75%.

The results are shown in Tables A.5 and A.6. Consider first the regression without political integration. The Emerging Europe interaction term remains significant in all cases even if continuous controls are included (see Table A.5). The differences in differential real growth rates are of the same order of magnitude as before. Again very few interactions with the control variables are statistically significant.

The results from the regression including political integration are also virtually unchanged (see Table A.6). Note that political integration also enters in a continuous fashion here. Therefore, the differences in differential real growth rates given in the two memo lines now refer to a one-unit increase in the political integration index. We find that the interaction with political integration is significant in developing countries, but not in advanced countries. The effects range from 0.43 to 1.02 percentage points in developing countries (per unit of political integration), which is substantial. For example, raising the political integration index from the level of Turkey (4.5) to that of the Slovak Republic (9.1) raises the differential in real growth rates by up to 4.7 percentage points. Hence, the second robustness checks also strongly supports the previous results.

### **4.3.3 Two-Period Panel**

As a final robustness check, we construct a two-period panel in order to be able to exploit the variation over time. However, this attempt meets serious limitations due to poor data availability. As was explained in Section 2.2 (see also Appendix A.2), the time period 1998 till 2005 proved to be the longest time period, for which data could be found for a broad selection of countries. For consistency reasons, we restricted ourselves to comparing identical time periods. Some of this consistency is lost in this robustness check. The chosen time periods for the extended version are 1996 until 2001 and 2002 until 2007. However, in order to maintain a relatively broad number of countries, which is comparable to that in our main regressions, we also allow countries to enter when data is available over a similar but slightly different time period. The minimum requirement for each subperiod is that a real growth rate can be calculated over at least four years. In some cases, we had to include data from 1995 or 2008 in order to be able to keep a country in the sample. Our sample contains 51 countries, which is only slightly below the number of countries in the cross-section. However, it should be kept in mind that the data quality is much poorer as it may happen that for one country, we are using the years 1995 until 2001 in



the first period, and for another one, 1998 until 2001. This is the price we have to pay for using panel data.

The regression model is specified as before, adding separate sets of country and sector fixed effects for each period. Moreover, we are now clustering standard errors by country to account for potential correlations across time periods. The results are shown in Table A.7. The overall results are similar to those from the cross-section. In particular, the differences in differential real growth rates due to political integration are statistically significant for all specifications except that using debt flows (see second column for each financial integration variable), and the effects are of the same order of magnitude as before. In three cases, the Emerging Europe dummy does not become insignificant when the interaction with political integration is added. Moreover, we find a negative effect of the interaction with political integration in advanced countries for three financial integration variables, but the effect is relatively small (about 0.5 percentage points). Given that such an effect was not found in the cross-section, it should not be overstated. Taken together, the presented robustness checks give us confidence in claiming that political integration with the EU is indeed the major reason for why Emerging Europe is different.

## 5 Conclusion

Using the methodology by Rajan and Zingales (1998), we have shown that financial integration substantially raised growth differentials between externally dependent and less dependent industries in Emerging Europe, but not in other developing and advanced countries, in the period from the late 1990s until before the financial crisis. The effect of financial integration on industry growth differentials is not only statistically significant, but also economically important. The difference between the effect of financial integration on industries in Emerging Europe and elsewhere cannot be explained by threshold effects in financial development, institutional quality, trade or financial integration. There is little evidence of such threshold effects in our sample, and the Emerging Europe interaction term remains significant in these regressions.

However, there is substantial evidence that the finding can be explained by the region's high level of political integration with the European Union. Within the group of developing countries, the effect of financial integration on sectoral growth differentials was found to be strongest in countries that are most highly politically integrated. This suggests that

political and financial integration are complementary and that political integration can considerably increase the benefits of financial integration. A plausible explanation of our findings is that the process of political integration created expectations of an increasingly stable political and economic environment in the European transition countries and of the eventual catch-up of their institutions with those of Western European countries. This in turn made it profitable for foreign investors to engage in projects that would otherwise have been considered too risky, with beneficial effects on economic growth.

Our results have important policy implications. They suggest that the negative side effects of financial integration that became evident in the current crisis, such as credit booms, over-indebtedness of firms and households, and especially a high exposure to foreign currency debt, must be weighed carefully against clear evidence that financial integration has had significant growth effects in Emerging Europe. This does not imply that the risks associated with financial integration do not need to be taken seriously, but it does suggest that policy should seek various ways to better manage those risks, rather than push back against financial integration per se (see also European Bank for Reconstruction and Development, 2009, 2010). Furthermore, our results suggest that financial integration works best when accompanied by a process of political integration with more advanced countries. In fact, political integration may not only make financial integration more conducive to economic growth, but also lower the costs of financial integration in times of crisis, as it makes it less likely that there will be a sudden reversal of capital flows. Indeed, there is evidence of a protective role of foreign banks in the current crisis.<sup>37</sup> Emerging Europe provides the most prominent example of such a political integration process, and in this respect, it is certainly different from other developing countries. But, in the medium term, the European model might also be replicable elsewhere.

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<sup>37</sup>Berglöf, Korniyenko, Plekhanov, and Zettelmeyer (2009) and Herrmann and Mihaljek (2010) document the stabilizing role of foreign bank presence in Emerging Europe during the crisis. Cetorelli and Goldberg (2010) and De Haas, Korniyenko, Loukoianova, and Pivovarsky (2011) provide evidence that the “Vienna Initiative,” a coordination device supported by EU governments, the European Commission, the European Bank for Reconstruction and Development, the IMF and the World Bank, contributed to the stability of bank flows to Emerging Europe in this period.

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## A Appendix

### A.1 Country selection

Starting with all countries contained in the 2011 INDSTAT4 (3rd revision) database with complete sector- and country-level data, the sample is narrowed down by excluding those countries that satisfy one of the following three criteria (along the lines of Prasad, Rajan, and Subramanian, 2007): (1) Small island economies (which typically have extremely high financial integration measures) if they are smaller than 30,000 sq. km (exclusion of Mauritius, and Trinidad and Tobago). (2) Countries that on average received development aid of more than 15 percent of GDP over the period 1994 to 2004 (exclusion of Eritrea and Ethiopia). (3) Commodity-exporting countries (Azerbaijan, Iran, Kazakhstan, Kyrgyz Republic, Mongolia) to avoid the problem that potential growth effects in highly financially integrated countries are overshadowed by windfall profits and corresponding current account surpluses in commodity exporting countries.

## A.2 Sectoral data

We use industry output data with 4-digit level International Standard Industrial Classification of All Economic Activities (ISIC codes) provided by the United Nations Industrial Development Organization (UNIDO). To calculate real output growth, we deflate output in current prices in national currencies, using national GDP deflators from the International Financial Statistics database.

Since the industry-level data from Rajan and Zingales (1998) consists of a mixture of 3-digit and 4-digit level ISIC codes that are consistent with UNIDO data from the 2nd revision, they differ from the 4-digit level classification that is applied in the 3rd revision, which we are using. While external dependence ratios exist for 36 industries in their sample (of which 27 are at the 3-digit level and 9 are at the 4-digit level), our dataset contains 127 industries at the 4-digit level. There is no straightforward conversion method to convert industries from the 2nd to the 3rd revision or vice versa, since some of the industry definitions mutually contain each other. However, a correspondence table for converting industries from the 3rd to the 2nd revision is provided by the United Nations Statistics Division. Based on this table, we proceed in the following way: All external dependence ratios with a 4-digit level ISIC code from the 2nd revision, can easily be matched with the corresponding industries in the 3rd revision. For all other sectors, we use the 3rd digit of the 4-digit level ISIC code in the 3rd revision (which is still more detailed than the 3rd digit of the 3-digit ISIC code in the 2nd revision) and match it with the external dependence ratio of the suggested industry according to the correspondence table or, in case of more than one corresponding industry, the industry that is obviously dominating. In the case of 7 sectors for which each industry from the 3rd revision is corresponding to a greater number of industries from the 2nd revision and none of them is obviously dominating, we use the average of these industries' external dependence ratios. Finally, in three cases, where an external dependence ratio of a sub-industry in the 3rd revision data is available, we redefine the top-level industry by excluding this separately listed industry from the definition to avoid inconsistencies.

## A.3 Political integration index

Our index of political integration is based on the work by Nye (1968) who suggests several dimensions of political integration: an institutional dimension, policy dimension, attitude

dimension (split into government and public opinion), and a stability dimension. In each geographical region, we focus on the regional integration agreement that we consider most important, or that delivers the highest degree of political integration: European Union (EU) and its pre-accession agreements for all countries located in (geographical) Europe; Union of South American Nations (UNASUR) and Southern Common Market (MERCOSUR) for South America; Central American Integration System (SICA) for Central American countries; Association of Southeast Asian Nations (ASEAN) for Asian countries; African Union (AU) for African countries; Cooperation Council for the Arab States of the Gulf (CCASG) for the Gulf countries; League of Arab States (Arab League) for all other countries in the Middle East; North American Free Trade Agreement (NAFTA) for the US, Canada, and Mexico; Closer Economic Relations (CER) for Australia and New Zealand.

For each dimension of political integration, a subindex is constructed that ranges from 0 to 10, where a value of 10 denotes the highest level of political integration. By assigning a weight to each subindex, we construct the composite index of political integration. Nye (1968) does not suggest any weighting scheme. We decided to give the highest weight to the institutional and policy dimensions (30 and 40 %, respectively), and somewhat smaller weights to the softer factors as attitude (20 %) and political stability (10 %). The results are not sensitive to this choice.<sup>38</sup> In the following, the construction of each subindex is described in detail.

**Institutional dimension (30 %)** We capture the degree of supranationality of each regional integration agreement by setting the organizational budgets in relation to the number of member countries in the respective regional integration agreement listed in the CIA World Factbook. To ensure a high level of coherence, the organizational budgets are calculated indirectly by using the debit entry in the category “Transfer payments by the General Government” in the definition of the current account provided by the IMF. As this category contains also development aid paid by governments of especially advanced countries, we subtract the amount of gross disbursements of “Official Development Assistance” made by each country. This procedure should closely approximate a country’s payments to international integration agreements. We then compute for each agreement the total budget resulting from the payments of all its member countries (i.e. also of those that are not part of our sample) in one year and divide it by the number of all countries that are part of the agreement each year. Finally, we average these figures over

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<sup>38</sup>Regressions using an index constructed on the basis of equal weights yield virtually the same results.



the respective sample period.<sup>39</sup> The largest number is found for the EU (5.3 Billion USD per member state over the period 1998-2005). The second largest – but substantially smaller – budget per member state is obtained for the CCASG and amounts to 74 Million USD. Finally, NAFTA and CER – both merely trade agreements rather than political integration agreements – receive slightly negative numbers that are treated as if their budgets per member state were zero. As EU candidate, aspirant, and Eastern Partnership countries do not contribute to the budget but clearly tend towards the European Union, we assign a conservatively chosen share of the European Union budget to each of them to reflect expectations about future European Union membership: 25 percent for candidate countries, 10 percent for aspirant countries, and 1 percent for Eastern Partnership countries. Also all independent countries in the sample – namely Norway and Israel – are considered to be most closely related to the EU and receive a share of 1 percent. Similarly, Korea and Japan – who are not a full member state of ASEAN, but dialogue partners – are assigned a 75 percent share of the ASEAN budget figure, and finally, India as a non-dialogue partner of ASEAN is assigned a value of 50 percent.

Finally, we translate the resulting figures into an index from 0 to 10: Most countries receive a score of 1. Exceptions are the EU members that all receive a score of 10, the EU candidates (3), the SAP countries (2), and EU candidates with high uncertainty such as Turkey (2), and finally NAFTA (0) and CER (0).

**Policy dimension (40 %)** The policy dimension is comprised of five subcomponents that take on values between 0 and 2, and thus also add up to an index between 0 and 10 (see Table A.2). The subcomponents are the following: (1) *Foreign/security policy coordination*: Formal foreign/security policy agreement: 2 (e.g., “European Foreign and Defence Policy”/NATO members), Less formal agreements: 1 (e.g., “Partnership for Peace” members), No agreement: 0 (e.g., Panama); (2) *Trade policy coordination*: Custom Union: 2 (e.g., EU Common Market); Regional Trade Agreement: 1 (e.g., Rep. Korea: Free Trade Agreement with ASEAN); No Regional Trade Agreement: 0; source: WTO Regional Trade Agreements gateway; (3) *Monetary/Currency policy coordination*: Currency Union: 2 (e.g., Euro-member countries); Moderate policy coordination: 1 (e.g., EWS II member countries); No policy coordination: 0 (e.g., Brazil); (4) *Movement of people* Free movement to base country: 2 (e.g., Schengen countries); no visa for travel to neighbor/base country required and no visa in return: 1 (e.g., Brazil; base country: Argentina); no free movement/visa required: 0 (e.g., Armenia; base country: Germany);

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<sup>39</sup>For simplicity, we assume that sample countries only contribute to their main international agreement.

for base country definitions, see attitudes – government; source: <http://projectvisa.com>;  
(5) *More integration intended?* Plans to intensify integration: 2 (e.g., UNASUR – “to model a community after the European Union which will include a common currency, parliament, passport, and defense policy”); integration as a goal: 1 (e.g., African Union – “to accelerate political, social, and economic integration”); no intention of integration: 0 (League of Arab States – “promote economic, social, political, and military cooperation”); sources: CIA World Factbook and subjective assessment.

Judgements are made based on the current state of integration. In the time-varying version of the index, and in order to avoid attributing output growth to future political developments, we use the rule that an event is attributed to a subperiod whenever it takes place in the first half of it or earlier.

**Attitude dimension – Government (10 %)** To measure the conformity of government views across countries, we examine the correlation of voting behavior in the UN General Assembly (source: Erik Voeten and Adis Merdzanovic, “United Nations General Assembly Voting Data”) between each country and a corresponding base country over the sample period (1998 till 2005, or 1996-2001 and 2001-2007 in the panel version, the results are not sensitive to this selection). We use the following base country concept. In a first step, we usually take the country with the highest US Dollar GDP in each regional integration agreement in 2005 as a base country. In case the largest country is included in the sample itself, we use the second largest country as a corresponding base country for the largest country. The only exception is the African Union as the distance between the countries and their corresponding base countries is too large to assume that a high degree of political integration occurs. Here we use South Africa as a base country for Botswana and Madagascar, and Botswana as a base country for South Africa. We also conduct a number of robustness checks in which we look at the second or even third largest country of the region, but in all cases the correlations are very close. To fit the percentage numbers to our 1 to 10 scale, we multiply each correlation by 10. In case of negative correlations, a value of 0 is assigned.

**Attitude dimension – Public opinion (10 %)** To capture the attitude of the public towards a regional integration agreement, we use data from the World Values Survey. For the country-sector panel, we use the 3rd (1995/1998) and the 4th wave (1999/2000), which are consistently available for most of the countries in our sample. For the country-sector-time panel, we also use the 5th wave (2005), which is however only available for about 50

percent of the sample countries. We focus on the question in the “politics and society” section that asks for the “confidence” in the local regional integration agreements. Questions are posed with respect to the following agreements: European Union, MERCOSUR, ASEAN, African Union, and the League of Arab States.

13 sample countries have been surveyed in both waves, and thus we take the average. 7 countries in the sample were surveyed only once, so we include the available result. 5 country/regional integration agreement pairs are not included in the survey. In the case of Botswana and Madagascar, we take the value of South Africa with respect to the African Union. For Korea and Uruguay, we use the confidence in the United Nations by each of the countries as a proxy. For Panama where this question is not available either, we use the survey result for Puerto Rico with respect to the confidence in the NAFTA as a proxy. In case of the country-sector-time panel, the above derived values are allocated to the first period. Whenever a country has been surveyed regarding its agreement (or on its attitude towards the UN) in the 5th wave, this value is taken for the second period. In all missing cases, the value from the first period is used again. The answer options in all surveys comprise “A great deal,” “Quite a lot,” “Not very much,” and “None at all,” and answers for each category are reported in percent. The index value of this subcategory is then constructed as follows: We multiply the given percentage values by 10, 5, -5, and -10, and add 5. This would imply for a country with equally distributed answers (i. e., 50 % would be have confidence in the agreement and 50 % not) to receive a score of 5. The value of Albania (10.6) is adjusted to the maximum value of 10.

**Political stability dimension (10 %)** Nye (1968) recommended using the number of hostile incidents over a specified period. We do not find this concept appropriate, therefore we use instead the Political Stability and Absence of Violence index from the World Bank’s Worldwide Governance Indicators (WGI) for the years 1998 till 2005, and 1996-2001/2002-2007 in the country-sector-time panel. For each country, we compute an average value of the Political Stability and Absence of Violence index over the given period. The original index ranges from -2.5 to 2.5 and thus has to be multiplied by 2 and augmented by 5 to fit into the 0 to 10 scale of our index.

Table A.1. Descriptive statistics at the sector level (cross-sectional data)

Variable	Observations	Mean	Std. Dev.	Min	Max
<b>Core Variables</b>					
Real Sector Output Growth (avg. 1998-2005), in %	2363	2.82	10.67	-31.19	43.64
Initial Industry Share (1998), in %	2363	2.05	3.48	0.00	62.63
External Dependence (Rajan/Zingales 1998)	2363	0.39	0.37	-0.45	1.49
<b>Financial Integration (all divided by GDP)</b>					
Current Account (avg. 1998-2005)	2363	-1.27	4.67	-9.67	11.28
Change in Net Foreign Asset Position (1998-2005)	2363	0.21	4.63	-12.16	14.03
Change in Gross Foreign FDI Liabilities (1998-2005)	2363	3.99	23.65	-2.36	308.72
Change in Gross Foreign Debt Liabilities (1998-2005)	2363	2.98	9.79	-14.46	73.75
Gross Financial Integration (avg. 1998-2005)	2363	322.7	1234.4	48.4	16055.0
Level of Gross FDI Liabilities (avg. 1998-2005)	2363	39.7	138.4	1.6	1811.6
Level of Gross Debt Liabilities (avg. 1998-2005)	2363	95.0	189.7	20.3	2418.8
Number Share of Foreign Banks (avg. 1998-2005)	2363	29.7	23.9	0.0	99.0
Number Share of Foreign Banks (beg., 1998)	2363	24.1	22.2	0.0	99.0
<b>Dummy variables</b>					
Dummy Emerging Europe	2363	0.22	0.41	0	1
Dummy Developing Countries	2363	0.52	0.50	0	1
Dummy Advanced Countries	2363	0.48	0.50	0	1
<b>Other Threshold Variables</b>					
Private Credit over GDP	2363	0.61	0.45	0.03	1.97
Regulatory Quality	2363	0.74	0.69	-0.81	1.89
Trade Integration	2363	0.68	0.33	0.20	2.45
Political Integration Index	2363	6.0	2.8	1.3	9.4

Notes: For sources, see Table 1, text, and Appendix.

**Table A.2:** Political integration index: Composition of policy dimension

Country	Regional Integration Agreement						Policy Total
		Security	Trade	Monetary Policy	Movement of People	More Integration Intended?	
Austria	EU	2	2	2	2	2	10
Belgium	EU	2	2	2	2	2	10
Estonia	EU	2	2	2	2	2	10
Finland	EU	2	2	2	2	2	10
France	EU	2	2	2	2	2	10
Germany	EU	2	2	2	2	2	10
Greece	EU	2	2	2	2	2	10
Italy	EU	2	2	2	2	2	10
Luxembourg	EU	2	2	2	2	2	10
Netherlands	EU	2	2	2	2	2	10
Portugal	EU	2	2	2	2	2	10
Slovak Republic	EU	2	2	2	2	2	10
Slovenia	EU	2	2	2	2	2	10
Spain	EU	2	2	2	2	2	10
Denmark	EU	2	2	1	2	2	9
Ireland	EU	2	2	2	1	2	9
Latvia	EU	2	2	1	2	2	9
Czech Republic	EU	2	2	0	2	2	8
Hungary	EU	2	2	0	2	2	8
Poland	EU	2	2	0	2	2	8
Sweden	EU	2	2	0	2	2	8
Bulgaria	EU	2	2	0	1	2	7
Iceland	EU Candidate	2	1	0	2	2	7
Romania	EU	2	2	0	1	2	7
United Kingdom	EU	2	2	0	1	2	7
Oman	Cooperation Council for the Arab States of the Gulf	2	2	0	1	1	6
Turkey	Candidate (but high uncertainty)	2	2	0	0	2	6
Albania	SAP Process	2	1	0	0	2	5
Australia	CER (Closer Economic Relations)	2	1	0	1	1	5
Botswana	African Union	1	2	0	1	1	5
Brazil	UNASUR	1	2	0	1	1	5
Ecuador	UNASUR	1	2	0	1	1	5
New Zealand	CER (Closer Economic Relations)	2	1	0	1	1	5
Norway	EU extra	2	1	0	2	0	5
South Africa	African Union	1	2	0	1	1	5
Uruguay	UNASUR	1	2	0	1	1	5
Armenia	Partnership	1	1	0	0	2	4
Canada	NAFTA	2	1	0	1	0	4
Georgia	Partnership	1	1	0	0	2	4
Macedonia, FYR	EU Candidate	1	1	0	0	2	4
Moldova	Partnership	1	1	0	0	2	4
United States	NAFTA	2	1	0	1	0	4
Indonesia	ASEAN	1	1	0	1	0	3
Madagascar	African Union	1	1	0	0	1	3
Panama	Central American Integration System	0	1	0	1	1	3
Philippines	ASEAN	1	1	0	1	0	3
Vietnam	ASEAN	1	1	0	1	0	3
Egypt	League of Arab States	1	1	0	0	0	2
Israel	EU extra	0	1	0	1	0	2
Japan	ASEAN (only dialogue partner)	1	1	0	0	0	2
Jordan	League of Arab States	1	1	0	0	0	2
Korea Rep.	ASEAN (only dialogue partner)	1	1	0	0	0	2
Republic of Yemen	League of Arab States	1	1	0	0	0	2
India	ASEAN (less than dialogue partner)	0	1	0	0	0	1
Mexico	NAFTA	0	1	0	0	0	1

Notes: The sum of the first five columns corresponds to the score "Policy" (last column, see also Table 2). For a detailed description of sources and procedures, see text and Appendix.

Table A.3. Threshold regressions with optimal thresholds without political integration

(Regression coefficients; p-values in parentheses; dependent variable: average growth in sectoral output, 1998-2005)

	Financial integration measure							Foreign bank	Foreign bank
	CA	$\Delta$ NFA	$\Delta$ FDI	$\Delta$ D	GFI	FDI	D	number share (avg.)	number share (beg.)
Industry share	-0.287*** (0.001)	-0.286*** (0.001)	-0.287*** (0.001)	-0.299*** (0)	-0.286*** (0.001)	-0.288*** (0.001)	-0.289*** (0.001)	-0.291*** (0.001)	-0.289*** (0.001)
Sectoral growth effect, depending on external finance, in other developing countries with below-threshold values of all threshold variables	0.966* (0.071)	0.979 (0.223)	-2.092* (0.058)	1.267* (0.056)	-0.035* (0.056)	-0.204** (0.02)	-0.111** (0.019)	-0.103** (0.03)	-0.109** (0.039)
Differential sectoral growth effect (Emerging Europe)	-1.252*** (0.008)	-1.419* (0.056)	1.905** (0.017)	-1.338* (0.051)	0.051*** (0)	0.234*** (0.002)	0.13*** (0)	0.126*** (0.007)	0.154*** (0.005)
Differential sectoral growth effect (Advanced Countries)	-0.317 (0.492)	-0.278 (0.598)	-0.001 (0.999)	-0.778* (0.056)	0.005 (0.6)	0.044 (0.473)	0.01 (0.663)	0.005 (0.926)	-0.023 (0.721)
Differential sectoral growth effect in countries ... with above-median financial development	-0.208 (0.585)	-0.161 (0.638)	0.714 (0.296)	-0.608 (0.152)	0.007 (0.327)	0.071 (0.206)	0.021 (0.33)	0.031 (0.571)	0.058 (0.378)
... with above-median institutional quality	0.242 (0.545)	0.119 (0.812)	-0.31 (0.711)	0.776* (0.054)	-0.015 (0.182)	-0.115 (0.159)	-0.027 (0.327)	-0.024 (0.679)	-0.054 (0.489)
... with above 25% trade integration	-0.363 (0.257)	-1.21* (0.078)	0.687 (0.386)	0.155 (0.244)	0.004 (0.267)	0.061 (0.153)	0.012 (0.221)	0.031 (0.379)	0.022 (0.584)
... with above 25% financial integration	-0.503 (0.257)	0.188 (0.744)	0.996 (0.238)	-0.828 (0.209)	0.034** (0.037)	0.143 (0.11)	0.096** (0.02)	0.083 (0.152)	0.122 (0.119)
<i>Memo:</i> Difference in differential real growth rates (Emerging Europe vs. Other developing countries)	5.44*** (0.008)	5.34* (0.056)	2.82** (0.017)	-7.89* (0.051)	6.36*** (0)	3.41*** (0.002)	5.07*** (0)	3.55*** (0.007)	3.92*** (0.005)
<i>Memo:</i> Difference in differential real growth rates (Emerging Europe vs. Advanced countries)	3.48** (0.026)	3.74** (0.029)	2.28** (0.014)	-2.74 (0.284)	4.95*** (0)	2.33*** (0.001)	3.94*** (0)	2.89** (0.037)	3.91*** (0.01)
R <sup>2</sup>	0.39	0.39	0.40	0.39	0.40	0.40	0.39	0.40	0.40
Observations	2,363	2,363	2,363	2,363	2,363	2,363	2,363	2,363	2,363
Number of Countries	55	55	55	55	55	55	55	55	55
25th percentile financial integration	1.391	2.791	0.989	-2.407	109.3	16.79	44.97	11.75	6
75th percentile financial integration	-4.511	-2.399	2.886	5.352	283.2	36.17	97.12	49.63	41
25th percentile external dependence	0.137	0.137	0.137	0.137	0.137	0.137	0.137	0.137	0.137
75th percentile external dependence	0.767	0.767	0.767	0.767	0.767	0.767	0.767	0.767	0.767

Note: For sources and explanatory notes, see Tables 1, 2, 4, and text.

Table A.4. Threshold regressions: Optimal thresholds and political integration (other thresholds not displayed)  
(Regression coefficients; p-values in parentheses; dependent variable: average growth in sectoral output, 1998-2005)

	Financial integration measure								
	CA	CA	ΔNFA	ΔNFA	ΔFDI	ΔFDI	ΔD	ΔD	GFI
Industry share	-0.287*** (0.001)	-0.291*** (0.001)	-0.287*** (0.001)	-0.287*** (0.001)	-0.288*** (0.001)	-0.29*** (0.001)	-0.299*** (0)	-0.298*** (0)	-0.291*** (0.001)
Sectoral growth effect, depending on external finance, with below-threshold values of all threshold variables (other developing	0.956* (0.097)	0.675 (0.17)	0.622 (0.473)	0.555 (0.481)	-2.008* (0.097)	-1.607 (0.134)	1.33** (0.047)	1.134* (0.082)	-0.026 (0.176)
Differential sectoral growth effect (Emerging Europe)	-1.113 (0.236)		-0.262 (0.882)		1.596 (0.329)		-2.88 (0.392)		0.036 (0.322)
Differential sectoral growth effect (Advanced countries)	-0.361 (0.431)	-0.296 (0.51)	-0.388 (0.479)	-0.382 (0.483)	0.056 (0.951)	-0.006 (0.994)	-0.745* (0.068)	-0.715* (0.078)	0.006 (0.549)
Differential sectoral growth effect in countries with above 75% political integration (Developing countries)	-0.137 (0.886)	-1.172** (0.015)	-1.291 (0.481)	-1.541** (0.047)	0.355 (0.832)	1.875** (0.022)	1.602 (0.636)	-1.235* (0.073)	0.018 (0.626)
Differential sectoral growth effect in countries with above 75% political integration (Advanced countries)	0.221 (0.426)	0.221 (0.427)	0.227 (0.561)	0.236 (0.545)	-0.034 (0.933)	-0.024 (0.953)	-0.079 (0.42)	-0.082 (0.405)	-0.003 (0.187)
<i>Memo</i> : Difference in differential real growth rates due to political integration (Developing countries)	0.51 (0.886)	4.36** (0.015)	4.23 (0.481)	5.05** (0.047)	0.43 (0.832)	2.24** (0.022)	7.84 (0.636)	-6.04* (0.073)	1.97 (0.626)
<i>Memo</i> : Difference in differential real growth rates due to political integration (Advanced countries)	-0.82 (0.426)	-0.82 (0.427)	-0.74 (0.561)	-0.77 (0.545)	-0.04 (0.933)	-0.03 (0.953)	-0.39 (0.42)	-0.4 (0.405)	-0.35 (0.187)
R <sup>2</sup>	0.40	0.39	0.39	0.39	0.40	0.40	0.39	0.39	0.40
Observations	2,363	2,363	2,363	2,363	2,363	2,363	2,363	2,363	2,363
Number of Countries	55	55	55	55	55	55	55	55	55
25th percentile financial integration	1.391	1.391	2.791	2.791	0.989	0.989	-2.407	-2.407	109.3
75th percentile financial integration	-4.511	-4.511	-2.399	-2.399	2.886	2.886	5.352	5.352	283.2
25th percentile external dependence	0.137	0.137	0.137	0.137	0.137	0.137	0.137	0.137	0.137
75th percentile external dependence	0.767	0.767	0.767	0.767	0.767	0.767	0.767	0.767	0.767

	Financial integration measure								
	GFI	FDI	FDI	D	D	Foreign bank number share (avg.)	Foreign bank number share (avg.)	Foreign bank number share (beg.)	Foreign bank number share (beg.)
Industry share	-0.293*** (0.001)	-0.291*** (0.001)	-0.294*** (0.001)	-0.292*** (0.001)	-0.293*** (0.001)	-0.29*** (0.001)	-0.293*** (0.001)	-0.288*** (0.001)	-0.292*** (0.001)
Sectoral growth effect, depending on external finance, with below-threshold values of all threshold variables (other developing	-0.018 (0.299)	-0.19** (0.037)	-0.16* (0.069)	-0.086 (0.106)	-0.058 (0.197)	-0.117** (0.011)	-0.046 (0.305)	-0.121** (0.016)	-0.056 (0.277)
Differential sectoral growth effect (Emerging Europe)		0.226 (0.253)		0.087 (0.256)		0.157* (0.055)		0.189* (0.081)	
Differential sectoral growth effect (Advanced countries)	0.005 (0.607)	0.061 (0.345)	0.055 (0.393)	0.015 (0.54)	0.012 (0.598)	0.014 (0.816)	-0.007 (0.904)	-0.016 (0.808)	-0.034 (0.616)
Differential sectoral growth effect in countries with above 75% political integration (Developing countries)	0.052*** (0)	0.013 (0.95)	0.232*** (0.002)	0.054 (0.496)	0.139*** (0)	-0.039 (0.643)	0.102** (0.035)	-0.044 (0.701)	0.133** (0.019)
Differential sectoral growth effect in countries with above 75% political integration (Advanced countries)	-0.003 (0.205)	-0.025 (0.411)	-0.021 (0.485)	-0.01 (0.238)	-0.01 (0.247)	-0.037 (0.384)	-0.025 (0.558)	-0.027 (0.554)	-0.017 (0.707)
<i>Memo</i> : Difference in differential real growth rates due to political integration (Developing countries)	5.74*** (0)	0.16 (0.95)	2.84*** (0.002)	1.79 (0.496)	4.56*** (0)	-0.94 (0.643)	2.44** (0.035)	-0.96 (0.701)	2.93** (0.019)
<i>Memo</i> : Difference in differential real growth rates due to political integration (Advanced countries)	-0.34 (0.205)	-0.3 (0.411)	-0.26 (0.485)	-0.33 (0.238)	-0.32 (0.247)	-0.89 (0.384)	-0.6 (0.558)	-0.59 (0.554)	-0.38 (0.707)
R <sup>2</sup>	0.40	0.40	0.40	0.40	0.39	0.40	0.39	0.40	0.39
Observations	2,363	2,363	2,363	2,363	2,363	2,363	2,363	2,363	2,363
Number of Countries	55	55	55	55	55	55	55	55	55
25th percentile financial integration	109.3	16.79	16.79	44.97	44.97	11.75	11.75	6	6
75th percentile financial integration	283.2	36.17	36.17	97.12	97.12	49.63	49.63	41	41
25th percentile external dependence	0.137	0.137	0.137	0.137	0.137	0.137	0.137	0.137	0.137
75th percentile external dependence	0.767	0.767	0.767	0.767	0.767	0.767	0.767	0.767	0.767

Notes: For sources and explanatory notes, see Tables 1, 2, 4, and text. Model uses 50% thresholds for financial development and institutional quality, and 25% thresholds for trade and financial integration.

Table A.5. Regressions with continuous controls without political integration  
(Regression coefficients; p-values in parentheses; dependent variable: average growth in sectoral output, 1998-2005)

	Financial integration measure							Foreign bank	Foreign bank
	CA	ΔNFA	ΔFDI	ΔD	GFI	FDI	D	number share (avg.)	number share (beg.)
Industry share	-0.287*** (0.001)	-0.286*** (0.001)	-0.287*** (0.001)	-0.297*** (0.001)	-0.288*** (0.001)	-0.291*** (0.001)	-0.289*** (0.001)	-0.293*** (0.001)	-0.292*** (0.001)
Sectoral growth effect, depending on external finance (base effect, other developing countries)	0.539 (0.355)	0.394 (0.582)	-1.201 (0.286)	0.699* (0.089)	0.006 (0.756)	-0.146 (0.144)	-0.011 (0.803)	-0.095 (0.119)	-0.109 (0.131)
Differential sectoral growth effect (Emerging Europe)	-1.268** (0.015)	-1.334* (0.052)	2.02*** (0.01)	-1.052* (0.066)	0.05*** (0)	0.212*** (0.002)	0.125*** (0.001)	0.127** (0.014)	0.161*** (0.009)
Differential sectoral growth effect (Advanced Countries)	-0.671 (0.315)	-0.27 (0.72)	-0.208 (0.73)	-0.605 (0.136)	-0.003 (0.767)	0.018 (0.755)	-0.003 (0.899)	0.004 (0.962)	-0.009 (0.914)
Differential sectoral growth effect (financial development)	0.145 (0.705)	-0.247 (0.698)	1.604 (0.173)	-0.914** (0.035)	0.008 (0.268)	0.099 (0.257)	0.024 (0.338)	0.093 (0.343)	0.123 (0.315)
Differential sectoral growth effect (institutional quality)	0.078 (0.828)	0.108 (0.825)	-0.209 (0.744)	0.408* (0.074)	-0.005 (0.37)	-0.028 (0.559)	-0.007 (0.686)	-0.029 (0.578)	-0.045 (0.507)
Differential sectoral growth effect (trade integration)	-0.324 (0.549)	-0.541 (0.518)	0.367 (0.61)	0.044 (0.822)	0.002 (0.779)	0.078 (0.127)	0.015 (0.319)	0.084* (0.062)	0.102** (0.039)
Differential sectoral growth effect (financial integration)	3.44e-05 (0.621)	7.35e-05 (0.452)	-4.45e-05 (0.454)	1.91e-06 (0.926)	-4.70e-07 (0.341)	-7.31e-06* (0.067)	-2.19e-06 (0.113)	-1.01e-05* (0.099)	-1.15e-05* (0.075)
<i>Memo:</i> Difference in differential real growth rates (Emerging Europe vs. Other developing countries)	5.16** (0.015)	4.65* (0.052)	2.73*** (0.01)	-5.89* (0.066)	5.36*** (0)	2.97*** (0.002)	4.17*** (0.001)	3.53** (0.014)	4.07*** (0.009)
<i>Memo:</i> Difference in differential real growth rates (Emerging Europe vs. Advanced countries)	2.22 (0.2)	3.49 (0.122)	2.67*** (0.003)	-2.19 (0.317)	5.83*** (0)	2.37*** (0.002)	4.19*** (0)	2.95* (0.084)	3.75** (0.047)
R <sup>2</sup>	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39
Observations	2,363	2,363	2,363	2,363	2,363	2,363	2,363	2,363	2,363
Number of Countries	55	55	55	55	55	55	55	55	55
25th percentile financial integration	1.391	2.791	0.989	-2.407	109.3	16.79	44.97	11.75	6
75th percentile financial integration	-4.511	-2.399	2.886	5.352	283.2	36.17	97.12	49.63	41
25th percentile external dependence	0.137	0.137	0.137	0.137	0.137	0.137	0.137	0.137	0.137
75th percentile external dependence	0.767	0.767	0.767	0.767	0.767	0.767	0.767	0.767	0.767

Notes: For sources and explanatory notes, see Tables 1, 2, 4, and text.



Table A.6. Regressions with continuous controls with political integration  
(Regression coefficients; p-values in parentheses; dependent variable: average growth in sectoral output, 1998-2005)

	Financial integration measure								
	CA	CA	ΔNFA	ΔNFA	ΔFDI	ΔFDI	ΔD	ΔD	GFI
Industry share	-0.288***	-0.289***	-0.286***	-0.288***	-0.287***	-0.287***	-0.298***	-0.296***	-0.289***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Sectoral growth effect, depending on external finance (base effect, other developing countries)	0.896	1.324	0.523	0.943	-1.406	-2.174	-0.107	1.177*	-0.004
	(0.408)	(0.108)	(0.666)	(0.328)	(0.363)	(0.107)	(0.933)	(0.072)	(0.907)
Differential sectoral growth effect (Emerging Europe)	-0.77		-1.03		1.681		-2.25		0.033
	(0.527)		(0.525)		(0.385)		(0.274)		(0.417)
Differential sectoral growth effect (Advanced countries)	-0.838	-1.276	-0.623	-1.09	0.336	1.169	0.113	-1.18	0.014
	(0.531)	(0.27)	(0.66)	(0.358)	(0.863)	(0.483)	(0.935)	(0.125)	(0.582)
Differential sectoral growth effect of political integration (Developing countries)	-0.111	-0.254**	-0.052	-0.217*	0.068	0.36**	0.24	-0.164	0.004
	(0.642)	(0.014)	(0.86)	(0.087)	(0.855)	(0.017)	(0.521)	(0.115)	(0.624)
Differential sectoral growth effect of political integration (Advanced countries)	-0.03	-0.029	0.025	0.032	-0.036	-0.028	0.014	0.013	-0.001
	(0.641)	(0.645)	(0.786)	(0.728)	(0.824)	(0.859)	(0.807)	(0.82)	(0.627)
<i>Memo:</i> Difference in differential real growth rates per unit of political integration (Developing countries)	0.41	0.94**	0.17	0.71*	0.08	0.43**	1.18	-0.81	0.39
	(0.642)	(0.014)	(0.86)	(0.087)	(0.855)	(0.017)	(0.521)	(0.115)	(0.624)
<i>Memo:</i> Difference in differential real growth rates per unit of political integration (Advanced countries)	0.11	0.11	-0.08	-0.11	-0.04	-0.03	0.07	0.06	-0.07
	(0.641)	(0.645)	(0.786)	(0.728)	(0.824)	(0.859)	(0.807)	(0.82)	(0.627)
R <sup>2</sup>	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39
Observations	2,363	2,363	2,363	2,363	2,363	2,363	2,363	2,363	2,363
Number of Countries	55	55	55	55	55	55	55	55	55
25th percentile financial integration	1.391	1.391	2.791	2.791	0.989	0.989	-2.407	-2.407	109.3
75th percentile financial integration	-4.511	-4.511	-2.399	-2.399	2.886	2.886	5.352	5.352	283.2
25th percentile external dependence	0.137	0.137	0.137	0.137	0.137	0.137	0.137	0.137	0.137
75th percentile external dependence	0.767	0.767	0.767	0.767	0.767	0.767	0.767	0.767	0.767

	Financial integration measure								
	GFI	FDI	FDI	D	D	Foreign bank number share (avg.)	Foreign bank number share (avg.)	Foreign bank number share (beg.)	Foreign bank number share (beg.)
Industry share	-0.289***	-0.291***	-0.291***	-0.289***	-0.29***	-0.292***	-0.291***	-0.29***	-0.29***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Sectoral growth effect, depending on external finance (base effect, other developing countries)	-0.026	-0.174	-0.272**	-0.071	-0.099*	-0.132	-0.152**	-0.178*	-0.19**
	(0.311)	(0.303)	(0.027)	(0.278)	(0.062)	(0.116)	(0.041)	(0.087)	(0.031)
Differential sectoral growth effect (Emerging Europe)		0.175		0.043		0.056		0.031	
		(0.438)		(0.593)		(0.66)		(0.844)	
Differential sectoral growth effect (Advanced countries)	0.031*	-0.009	0.069	0.063	0.082	0.071	0.105	0.103	0.123
	(0.088)	(0.958)	(0.585)	(0.337)	(0.129)	(0.596)	(0.369)	(0.495)	(0.329)
Differential sectoral growth effect of political integration (Developing countries)	0.009***	0.007	0.038***	0.018	0.025***	0.015	0.025***	0.027	0.033***
	(0)	(0.859)	(0.003)	(0.251)	(0)	(0.519)	(0.008)	(0.341)	(0.003)
Differential sectoral growth effect of political integration (Advanced countries)	0	0.006	0.007	-0.001	0	-0.001	-0.001	0	0
	(0.734)	(0.599)	(0.538)	(0.88)	(0.942)	(0.939)	(0.949)	(0.992)	(0.987)
<i>Memo:</i> Difference in differential real growth rates per unit of political integration (Developing countries)	1.02***	0.09	0.46***	0.58	0.83***	0.35	0.59***	0.6	0.72***
	(0)	(0.859)	(0.003)	(0.251)	(0)	(0.519)	(0.008)	(0.341)	(0.003)
<i>Memo:</i> Difference in differential real growth rates per unit of political integration (Advanced countries)	-0.05	0.07	0.08	-0.02	-0.01	-0.02	-0.02	0	0
	(0.734)	(0.599)	(0.538)	(0.88)	(0.942)	(0.939)	(0.949)	(0.992)	(0.987)
R <sup>2</sup>	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39
Observations	2,363	2,363	2,363	2,363	2,363	2,363	2,363	2,363	2,363
Number of Countries	55	55	55	55	55	55	55	55	55
25th percentile financial integration	109.3	16.79	16.79	44.97	44.97	11.75	11.75	6	6
75th percentile financial integration	283.2	36.17	36.17	97.12	97.12	49.63	49.63	41	41
25th percentile external dependence	0.137	0.137	0.137	0.137	0.137	0.137	0.137	0.137	0.137
75th percentile external dependence	0.767	0.767	0.767	0.767	0.767	0.767	0.767	0.767	0.767

Notes: For sources and explanatory notes, see Tables 1, 2, 4, and text.

Table A.7. Two-period panel: Threshold regressions with political integration (other thresholds not displayed)  
(Regression coefficients; p-values in parentheses; dependent variable: average growth in sectoral output 1996-2001/2002-2007)

	Financial integration measure								
	CA	CA	ΔNFA	ΔNFA	ΔFDI	ΔFDI	ΔD	ΔD	GFI
Industry share	-0.31*** (0.001)	-0.314*** (0.001)	-0.301*** (0.001)	-0.304*** (0)	-0.313*** (0)	-0.317*** (0)	-0.313*** (0)	-0.313*** (0)	-0.323*** (0)
Sectoral growth effect, depending on external finance, with below-median values of all threshold variables (other developing countries)	0.442** (0.019)	0.376** (0.022)	0.297* (0.077)	0.255 (0.13)	-0.593 (0.235)	-0.391 (0.455)	-0.219 (0.26)	-0.184 (0.323)	-0.029** (0.023)
Differential sectoral growth effect (Emerging Europe)	-1.355 (0.174)		-1.145 (0.184)		2.002 (0.169)		0.484 (0.239)		0.065 (0.117)
Differential sectoral growth effect (Advanced countries)	1.193** (0.02)	1.176** (0.023)	0.333 (0.591)	0.308 (0.622)	0.45 (0.299)	0.381 (0.357)	1.298*** (0.001)	1.271*** (0.002)	0.013 (0.45)
Differential sectoral growth effect in countries with above 75% political integration (Developing countries)	0.18 (0.853)	-1.102*** (0)	0.372 (0.682)	-0.731** (0.013)	-0.601 (0.676)	1.246*** (0.002)	-0.166 (0.742)	0.268 (0.535)	-0.011 (0.779)
Differential sectoral growth effect in countries with above 75% political integration (Advanced countries)	0.122 (0.435)	0.128 (0.397)	0.071 (0.763)	0.089 (0.71)	-0.385** (0.027)	-0.361** (0.041)	-0.088 (0.103)	-0.085 (0.11)	-0.004* (0.09)
<i>Memo:</i> Difference in differential real growth rates due to political integration (Developing countries)	-0.82 (0.853)	5.01*** (0)	-1.52 (0.682)	2.99** (0.013)	-1.03 (0.676)	2.14*** (0.002)	-0.85 (0.742)	1.36 (0.535)	-1.06 (0.779)
<i>Memo:</i> Difference in differential real growth rates due to political integration (Advanced countries)	-0.55 (0.435)	-0.58 (0.397)	-0.29 (0.763)	-0.36 (0.71)	-0.66** (0.027)	-0.62** (0.041)	-0.45 (0.103)	-0.43 (0.11)	-0.36* (0.09)
R <sup>2</sup>	0.33	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32
Observations	4,490	4,490	4,490	4,490	4,490	4,490	4,490	4,490	4,490
Number of Countries	51	51	51	51	51	51	51	51	51
25th percentile financial integration	2.141	2.141	2.380	2.380	0.844	0.844	-0.589	-0.589	107.7
75th percentile financial integration	-5.066	-5.066	-4.101	-4.101	3.571	3.571	7.472	7.472	258.5
25th percentile external dependence	0.137	0.137	0.137	0.137	0.137	0.137	0.137	0.137	0.137
75th percentile external dependence	0.767	0.767	0.767	0.767	0.767	0.767	0.767	0.767	0.767

	Financial integration measure								
	GFI	FDI	FDI	D	D	Foreign bank number share (avg.)	Foreign bank number share (avg.)	Foreign bank number share (beg.)	Foreign bank number share (beg.)
Industry share	-0.324*** (0)	-0.32*** (0)	-0.322*** (0)	-0.324*** (0)	-0.327*** (0)	-0.317*** (0)	-0.319*** (0)	-0.317*** (0)	-0.32*** (0)
Sectoral growth effect, depending on external finance, with below-median values of all threshold variables (other developing countries)	-0.026* (0.063)	-0.209*** (0)	-0.197*** (0)	-0.063** (0.022)	-0.056* (0.064)	-0.057* (0.08)	-0.03 (0.442)	-0.059 (0.102)	-0.036 (0.368)
Differential sectoral growth effect (Emerging Europe)		0.269 (0.298)		0.16** (0.036)		0.189* (0.084)		0.235** (0.035)	
Differential sectoral growth effect (Advanced countries)	0.01 (0.552)	0.054 (0.439)	0.046 (0.51)	0.051 (0.281)	0.043 (0.351)	0.049 (0.367)	0.046 (0.415)	0.052 (0.366)	0.05 (0.384)
Differential sectoral growth effect in countries with above 75% political integration (Developing countries)	0.047*** (0.001)	0.021 (0.936)	0.27*** (0)	-0.029 (0.695)	0.115*** (0)	-0.055 (0.602)	0.108** (0.011)	-0.092 (0.389)	0.12*** (0.01)
Differential sectoral growth effect in countries with above 75% political integration (Advanced countries)	-0.003 (0.136)	-0.007 (0.656)	-0.005 (0.759)	-0.015** (0.049)	-0.013* (0.09)	0.002 (0.941)	0.002 (0.934)	-0.001 (0.956)	-0.002 (0.925)
<i>Memo:</i> Difference in differential real growth rates due to political integration (Developing countries)	4.48*** (0.001)	0.31 (0.936)	4.02*** (0)	-1.07 (0.695)	4.21*** (0)	-1.28 (0.602)	2.52** (0.011)	-1.98 (0.389)	2.57*** (0.01)
<i>Memo:</i> Difference in differential real growth rates due to political integration (Advanced countries)	-0.31 (0.136)	-0.11 (0.656)	-0.07 (0.759)	-0.56** (0.049)	-0.48* (0.09)	0.04 (0.941)	0.04 (0.934)	-0.03 (0.956)	-0.04 (0.925)
R <sup>2</sup>	0.32	0.33	0.32	0.32	0.32	0.32	0.32	0.32	0.32
Observations	4,490	4,490	4,490	4,490	4,490	4,490	4,490	4,490	4,490
Number of Countries	51	51	51	51	51	51	51	51	51
25th percentile financial integration	107.7	14.01	14.01	39.84	39.84	10	10	8	8
75th percentile financial integration	258.5	37.61	37.61	97.59	97.59	47	47	42	42
25th percentile external dependence	0.137	0.137	0.137	0.137	0.137	0.137	0.137	0.137	0.137
75th percentile external dependence	0.767	0.767	0.767	0.767	0.767	0.767	0.767	0.767	0.767

Notes: For sources and explanatory notes, see Tables 1, 2, 4, and text. Standard errors are clustered by country.