The VISIO JOURNAL

AN INTERDISCIPLINARY JOURNAL OF PUBLIC POLICY ANALYSIS

25 YEARS AFTER THE FALL OF COMMUNISM: EASTERN EUROPEAN ECONOMIES

Editor Tanja Porčnik

Authors

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Cover design by Miroslav Krstić.
Photos inside the journal by Visio institut.

Cite this publication as:

Title: The Visio Journal 2

Publisher: Visio institut

Date of publication: 2018

Digital copy available from http://www.visio-institut.org/

Cataloguing Information
The Visio Journal 2 / edited by Tanja Porčnik
Annual.

2018 issue by James Gwartney, Hugo Montesinos, Aleksander Łaszek, Kryštof Kruliš, Martin Vlachynský, Jure Stojan and Adrian Nikolov.

ISSN 2536-1481

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No. 2

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About the Visio Institute

EDITOR'S NOTE

By Tanja Porčnik*

This issue of *The Visio Journal* offers a number of papers analyzing the degree to which the public policies and political institutions of former socialist economies have been supportive of economic freedom following the collapse of communism, as well as what changes in economic performance of these countries occurred during the same period.

In their opening essay, James Gwartney and Hugo Montesinos take an in-depth look at 25 former socialist economies (Albania, Armenia, Azerbaijan, Bosnia & Herzegovina, Bulgaria, Croatia, Czech Republic, Estonia, Georgia, Hungary, Kazakhstan, Kyrgyz Republic, Latvia, Lithuania, Macedonia, Moldova, Montenegro, Poland, Romania, Russia, Serbia, Slovak Republic, Slovenia, Tajikistan, and Ukraine) following the collapse of communism, demonstrating that, in many ways, the transition from socialism to markets has gone well. Trade liberalization, more stable monetary regimes, lower marginal tax rates, and deregulation have all contributed to the movement of the former socialist economies toward economic freedom. Further, they have grown rapidly, achieved large increases in international trade, attracted substantial foreign investment, and made progress against poverty. Furthermore, with only a few exceptions, these countries are now functioning democracies. However, these countries also have a major shortcoming: their legal systems are weak and little progress has been made in this area.

Following are five country-based papers analyzing the degree to which the policies and institutions of Poland, Czech Republic, Slovakia, Slovenia, and Bulgaria have been supportive of economic freedom following the collapse of communism. Aleksander Łaszek illustrates how changes in the ownership structure of companies in Poland affected productivity and GDP growth. With Polish corporate sector experiencing outstanding output growth during the past 25 years, more than 2/3 of this growth can be attributed to rapid growth of private companies, which resulted from both vibrant incentives for private owners and the opening of the Polish economy. Despite the visible success, there is still room for improvement in the Polish economy, as a stock of less productive, protected, state-owned enterprises remains sizeable.

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Kryštof Kruliš examines specific features that have influenced the Czech Republic's performance during this transition and what could determine Czechia's economic growth in the upcoming technological revolution. Being at almost full employment, the growth paradigm of low wage economy has ended for the Czech Republic. The economy cannot grow further only by adding new production in newly built manufacturing plants. For the first time in the history of its transition, the Czech Republic can now focus only on attracting investments with higher added value and higher productivity.

In his paper, Martin Vlachynský argues that sound reforms mean a continuous process, not a one-time occurrence. After a *Tatra Tiger* introduced banking, tax, pension, labor code, healthcare, and other reforms in the 1998-2006 period, it attracted several prominent foreign investors and kick-started the sleeping economy. Following was a period of Slovakia's abandonment of reform efforts by putting on a halt necessary reforms in the pension, social, and healthcare systems. At this point, it seems the decision makers in Slovakia are postponing the reforms until they will become inevitable.

Jure Stojan discusses the partial regressing of Slovenia along several dimensions of economic freedom, while notes that Slovenia was a noticeably freer country overall in 2015 than it was in 1995. Further, the paper compares the Slovene experience with that of other former Yugoslav countries. Finally, the paper reviews the major explanations put forward for the worsening performance of the rule of law in Slovenia. With several explanations being put forward, the old theory of the soft budget constraint offers new avenues of inquiry. It not only explains why it should have been the financial crisis that exposed backpedaling in the transition process but also provides a link between policy outcomes and public expectations.

In his paper, Adrian Nikolov explores the history, structure, and economic consequences of the currency board in Bulgaria, which was introduced as an emergency measure to combat the late-nineties economic crisis, though has stayed in place ever since. The paper explores the currency board introduced to remedy the economic crisis during the Videnov government, as well as its consequences for the reshuffling of the institutional setting and the stabilization of Bulgaria's economy, in terms of inflation, gross domestic product, investment, public debt and stability of the banking system. Finally, the paper joins the present debate on whether the Bulgarian currency board should be abolished, arguing that it should not be reformed as the trade-off between economic and fiscal stability and freedom of monetary policy has been beneficial to Bulgaria.

Much can be learned from the transition from socialism to markets in Eastern Europe. One of the most vital lessons will be the role of government in a free society, especially the rule of law in protecting the rights of the people.

Finally, I would like to recognize the generous contribution of the Friedrich-Naumann-Foundation for Freedom for supporting the journal that is before you.

An Examination of the Former Socialist Economies 25 Years After the Fall of Communism

By James Gwartney* and Hugo Montesinos**

This research report analyzes the changes in economic freedom, political institutions, and performance of 25 former socialist (FS) economies following the collapse of communism. The degree of economic freedom among these countries varied considerably. The FS countries with higher levels of economic freedom in 2015 as measured by the Economic Freedom of the World summary ratings tended to grow more rapidly, achieve larger increases in international trade, and attract more foreign direct investment than their counterparts with less economic freedom. Differences among the FS countries in the protection of civil liberties, democratic political institutions, and administration of government with less corruption are also identified and analyzed. A regression model of economic growth during 1995-2015 for 122 countries was developed and used to examine the determinants of growth and the performance of the FS economies relative to high-income and other developing countries throughout the world. Regression analysis was also used to analyze the life satisfaction measure of the World Values Survey. The regression analysis indicates that economic freedom exerts a strong positive impact on both the growth of per capita GDP and the life satisfaction of individuals. Finally, the economic freedom area ratings were used to identify strengths and weaknesses of the FS economies. Most of the FS countries registered substantial increases in economic freedom in the areas of size of government, access to sound money, international trade, and regulation. But they have failed to improve their legal systems, and several FS countries have even experienced recent deteriorations in this area. While the FS countries achieved impressive growth and closed the income gap relative to high-income countries during 1995-2015, without improvements in the legal area, it is unlikely that this progress will continue. The addendum provides additional details for ten countries that have made the transition from communism to markets most successfully.

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Introduction

A little more than a quarter of a century has passed since the collapse of communism. This is an ideal time to evaluate the response of these countries. Which countries have moved the most toward economic liberalization? How have the former socialist (FS) economies performed in recent decades? How have their political institutions evolved during the transition era and beyond? What lessons can be learned from the experience of these economies? This report will address each of these questions.

In some ways, the experience of the FS countries constitutes a natural economic experiment. There is considerable diversity in the paths they have followed. Some moved rapidly toward economic reform and liberalization following the collapse of communism, but others moved more slowly, and still others have undertaken little or no reform. Some of the FS countries had relatively high per capita incomes prior to the fall of communism, while others were exceedingly poor. Some experienced lengthy and painful transitions, while others made the move from central planning to markets more smoothly. Some of these countries are now highly democratic, while others are still governed by authoritarian political regimes. As we examine the experience of these economies, we will do so with an eye to what can be learned about institutions, economic growth, and the development process.

The FS countries are also interesting for another reason: their growth rates during the past two decades are highly impressive. FS countries constituted seven of the 10 (and 10 of the 20) countries with the most rapid growth of per capita GDP during 1995-2015. Further, during 2000-2015, FS countries comprised six of ten (and 11 of 20) of the countries with the highest growth rates. Which of the FS economies have achieved these impressive growth rates and what can we learn from their experience?

This study is organized in the following manner. Section 1 examines the path of economic liberalization of 25 FS economies during 1995-2015. Section 2 presents data on various indicators of economic performance during this same time frame. Section 3 focuses on the evolution of the political institutions (e.g. protection of civil liberties, democracy, control of corruption) in the FS countries. Section 4 compares the income levels and growth rates of these economies relative to the world's high-income countries and other developing economies. Sections 5 and 6 use regression analysis to examine the determinants of economic growth and life satisfaction and consider the implications for the FS economies. Section 7 analyzes areas where the FS economies have made substantial moves toward economic liberalization, as well as a major deficiency — low quality legal systems — that is likely to restrain their future progress. Section 8 considers the implications for the future. The addendum provides additional details on the economic liberalization of ten "success stories" — countries that made the transition from central planning to markets most successfully.

1. Economic Liberalization of Former Socialist Economies

The Economic Freedom of the World project provides a measure of the degree to which the institutions and policies of various countries are consistent with economic freedom (Gwartney, Lawson, and Hall 2017). This measure uses more than 40 different variables to construct a summary index of economic freedom. The Economic Freedom of the World (EFW) index now covers 159 countries and the data are available for 123 countries since 1995. This data set makes it possible to identify cross-country differences in economic freedom and to track changes across time.

The EFW index is designed to measure the degree to which the institutions of a country are supportive of (1) personal choice, (2) voluntary exchange, (3) open entry into markets, and (4) protection of individuals and their property from aggression by others. Because economic freedom facilitates and encourages gains from trade, entrepreneurship, innovation, and capital formation, economic theory indicates that it is an important source of economic growth and development. Several empirical studies have found that this is indeed the case. See for example Berggren (2003), De Haan, Lundström, and Sturm (2006), Dawson (1998 and 2003), Faria and Montesinos (2009), Faria, Montesinos, Morales, and Navarro (2016), Feldmann (2017), Justesen (2008), and Nystrom (2008). Moreover, economic freedom permits individuals to mold and shape their lives according to their preferences. Over and above the impact on income, this may enhance quality of life.

There are 25 former socialist (FS) economies for which the EFW data are now available. These data are available continuously throughout the 1995-2015 period for 14 of these countries. Table 1 provides the EFW summary ratings and worldwide rankings (in parentheses) for these 25 countries (when available) for 1995, 2000, 2005, 2010, and 2015. Seven of the FS economies (Georgia, Estonia, Lithuania, Latvia, Romania, Armenia, and Albania) had a 2015 EFW summary rating of 7.5 or higher. Worldwide, these seven countries all ranked in the top quartile among the 159 countries for which the EFW data were available. Moreover, these countries have achieved dramatic increases in economic freedom. While the Baltic states all ranked in the Top 20 in 2015, in 1995 Estonia was 57th, Lithuania 80th, and Latvia 75th. Romania ranked 20th in 2015, but it was a late reformer. Romania's worldwide ranking was 118th in 1995 and 107th in 2000 (among the 123 countries included in the index during those years. Albania has steadily improved both its rating and ranking, moving up from 96th in 1995 to 63rd in 2005 and 32nd in 2015. While the EFW data were unavailable for Georgia and Armenia during 1995 and 2000, the ratings and rankings of both have increased since 2005.

Table 1: Economic Freedom (Ratings and Rankings), Former Socialist Economies 1995-2015

Group	Country	1995	2000	2005	2010	2015
	Georgia			7.42 (33)	7.50 (27)	8.01 (8)
v 115 50	Estonia	6.12 (57)	7.48 (23)	7.96 (11)	7.82 (10)	7.95 (10)
5 % Y	Lithuania	5.51 (80)	6.90 (53)	7.37 (40)	7.47 (29)	7.92 (13)
" & ^	Latvia	5.59 (75)	7.13 (39)	7.42 (33)	7.23 (50)	7.75 (17)
Top Group	Romania	3.83 (118)	5.37 (107)	7.24 (49)	7.30 (45)	7.72 (20)
. ? F	Armenia			7.31 (44)	7.56 (24)	7.60 (29)
	Albania	5.10 (96)	6.20 (73)	6.96 (63)	7.35 (37)	7.54 (32)
	Czech Rep	5.99 (72)	6.71 (62)	6.98 (62)	7.22 (52)	7.46 (42)
e e	Bulgaria	4.8 (101)	5.52 (104)	6.95 (64)	7.30 (45)	7.39 (48)
ve We	Poland	5.28 (90)	6.58 (72)	6.89 (67)	7.12 (61)	7.34 (51)
EFW G W bet and 7.	Slovak Rep	5.25 (83)	6.85 (57)	7.63 (20)	7.47 (29)	7.31 (53)
₹ <u>></u> €	Hungary	6.15 (58)	7.03 (47)	7.20 (52)	7.31 (44)	7.30 (54)
Middle EFW Group: 2015 EFW between 7.00 and 7.50	Kazakhstan			6.83 (69)	6.94 (71)	7.18 (66)
ddle 15 EF 7.00	Macedonia			6.36 (86)	6.93 (72)	7.17 (67)
.ĕ <u>6</u> .	Croatia	4.98 (94)	6.12 (78)	6.47 (83)	6.68 (88)	7.02 (72)
,	Slovenia	5.22 (87)	6.63 (71)	6.91 (66)	6.82 (80)	7.00 (73)
	Kyrgyz Rep			6.61 (79)	6.61 (94)	6.89 (80)
9 S	Tajikistan				6.28 (113)	6.80 (82)
7.0	Montenegro			6.35 (93)	7.33 (40)	6.77 (85)
<u>ა</u> ^	Serbia			5.96 (109)	6.56 (97)	6.75 (88)
EFW FFW	Bosnia&Hzgvna			6.18 (100)	6.63 (91)	6.61 (99)
~ ~	Russia	4.48 (107)	5.39 (106)	6.24 (98)	6.54 (98)	6.60 (100)
15	Moldova			6.67 (73)	6.58 (96)	6.56 (102)
Bottom EFW Group: 2015 EFW < 7.00	Azerbaijan			6.04 (106)	5.97 (127)	6.38 (114)
	Ukraine	3.39 (123)	4.69 (117)	5.81 (118)	5.90 (133)	5.38 (149)
Number	of countries included	123	123	141	153	159
in the inc	dex					

Source: 2017 Economic Freedom of the World Report.

Note: The table is sorted according to the 2015 EFW summary rating. The worldwide EFW ranking is in parentheses. The total number of countries included in the worldwide EFW ranking is in the last row of the table.

A group of nine other countries (Czech Republic, Bulgaria, Poland, Slovak Republic, Hungary, Kazakhstan, Macedonia, Croatia, and Slovenia) had a 2015 summary EFW rating between 7.0 and 7.5. Worldwide, the 2015 rankings of these countries ranged from 42nd for the Czech Republic to 73rd for Slovenia. Thus, each of these nine countries ranked in the second quartile among the 159 countries included in the EFW data set in 2015. These nine countries comprise the middle group in terms of economic liberalization among the 25 FS economies. The Czech Republic is the highest ranked country in the middle group, and it has shown significant improvement. It ranked 42nd in 2015, up from 72nd in 1995. Other countries in this group have registered even more impressive gains in economic freedom. For example, Bulgaria's 2015 worldwide ranking was 48th, up from 101st in 1995 and 104th in 2000. Poland ranked 51st in 2015, up from 90th in 1995 and 72nd in 2000. The ranking of the Slovak Republic rose from 83rd in 1995 to 20th in 2005, but it has subsequently receded to 53rd in 2015. The movements toward economic freedom of Hungary, Croatia, and Slovenia during 1995-2015 were more modest.

Finally, there is another set of nine FS economies with 2015 EFW summary ratings of less than 7.0. This set of countries is comprised of the Kyrgyz Republic, Tajikistan, Montenegro, Serbia, Bosnia and Herzegovina, Russia, Moldova, Azerbaijan, and Ukraine. The worldwide rankings of these countries ranged from 80th for the Kyrgyz Republic to 149th for Ukraine. Except for Ukraine, the 2015 ranking for each of these countries placed them in the third quartile worldwide. Ukraine was in the fourth quartile. In 2015, these nine countries were the least economically free among the FS economies. Further, there is little evidence of improvement among the countries in this group. These countries ranked in the bottom half worldwide during 1995-2005, and this was still true in 2015. The case of Russia is typical. Russia ranked 107th in 1995, 98th in 2005, and 100th in 2015.

As we proceed, we will often divide the 25 socialist economies into these three groups as we analyze their structure and performance.

2. Indicators of Economic Performance: 1995-2015

How does the performance of the former socialist (FS) economies that have made more substantial moves toward economic freedom compare with the performance of those that have been slow to move toward economic liberalization? In order to provide insight on this question, this section will examine the income levels, growth rates, international trade sectors, foreign investment, and poverty levels of the FS economies during 1995-2015.

Per Capita Income

Table 2 shows the 2015 per capita GDP figures for each of the 25 economies and for the high, middle, and low economic freedom groups. Both the simple mean and population weighted mean per capita GDP data are presented for each of the three groups. Within the most economically free group, the countries with the highest per capita 2015 GDP were Estonia, Lithuania, Latvia, and Romania. The 2015 per capita GDP for each of these countries exceeded \$20,000. In the middle group, seven of the nine countries (Czech Republic, Poland, Slovak Republic, Hungary, Kazakhstan, Croatia, and Slovenia) all registered a 2015 per capita GDP of greater than \$20,000. In this group only Bulgaria and Macedonia failed to reach this benchmark. In the group with the lowest EFW ratings in 2015, only Russia achieved a 2015 per capita GDP of greater than \$20,000. Four of the countries (Kyrgyz Republic, Tajikistan, Moldova, and Ukraine) in this group had a 2015 per capita GDP figure of less than \$10,000.

Table 2: Per capita GDP (2011 PPP dollars), Former Socialist Economies, 1995-2015

Group	Country (2015 EFW Rank)	1995	2000	2005	2010	2015
Group	<u> </u>					
_	Georgia (8)	2,295	3,264	4,902	6,734	9,025
<u> 5</u> 6	Estonia (10)	11,362	15,703	22,807	22,741	27,329
9 %	Lithuania (13)	9,357	12,189	18,526	21,069	26,971
ნ ∆	Latvia (17)	8,272	11,159	17,496	18,252	23,057
Top EFW Group: 2015 EFW ≥ 7.5C	Romania (20)	10,546	10,523	14,656	1 <i>7,</i> 818	20,538
ᄪᇄ	Armenia (29)	2,173	2,925	5,357	6 , 703	8,180
8 <u>;</u>	Albania (32)	4,129	5,470	7,462	9,927	11,025
- %	Simple Mean	6,876	8,748	13,029	14,749	18,018
	Pop. Wtd. Mean	8,202	9,021	12,968	15,469	18,349
ю	Czech Rep (42)	19,215	21,137	25,734	28,290	30,381
201 and	Bulgaria (48)	8,446	8,958	12,681	15,283	1 <i>7</i> ,000
9 B	Poland (51)	11,300	14,732	1 <i>7</i> ,194	21 <i>,77</i> 1	25,299
<u> </u>	Slovak Rep (53)	13,184	15,605	20,021	25,159	28,254
و ۲	Hungary (54)	15,244	1 <i>7,</i> 855	22,307	22,277	24,831
W Gr /een 7.50	Kazakhstan (66)	8,283	9,952	16,014	20,097	23,522
Middle EFW Group: 2015 EFW between 7.00 and 7.50	Macedonia (67)	<i>7,</i> 641	8,621	9,386	11,355	12,760
ь Бе	Croatia (72)	12,625	1 <i>5,</i> 745	19,545	20,118	20,636
ਭੱ≥	Slovenia (73)	18,431	22,723	26,955	28,678	29,097
흕出	Simple Mean	12,708	15,037	18,871	21,448	23,531
<	Pop. Wtd. Mean	12,044	14,595	18,393	21,791	24,646
10	Kyrgyz Rep (80)	1,696	2,075	2,370	2,790	3,238
É	Tajikistan (82)	1,270	1,180	1,707	2,106	2,641
7	Montenegro (85)	10,205	10,075	11,397	14,035	15,291
<u>ਦ</u> 8	Serbia (88)	7,393	7,985	10,901	12,688	13,278
Froup 7.00	Bosnia&Hzgvna (99)	1,827	6,327	8,315	9,717	10,902
Ø 🗸	Russia (100)	12,813	14,051	19,326	23,108	24,124
EFW FFW	Moldova (102)	2,605	2,321	3,308	3,911	4,747
<u> </u>	Azerbaijan (114)	3,320	4,459	8,052	15,950	16,699
E O	Ukraine (149)	5,060	4,797	7,246	7,824	7,465
Bottom EFW Group: 2015 EFW < 7.00	Simple Mean	4,498	5,919	8,069	10,237	10,932
60	Pop. Wtd. Mean	9,630	10,502	14,631	17,583	18,271

Source: World Bank (2017). World Development Indicators.

Note: The table is sorted according to the 2015 EFW summary rating. The worldwide 2015 EFW ranking, out of 159 countries, is in parentheses. The population weighted mean was computed using the 2015 population. In the case of Montenegro, the earliest per capita GDP figure available from the World Bank is for the year 1997. Therefore the per capita GDP for Montenegro reported in the table is for 1997 rather than 1995.

With regard to the mean figures for the three groups, both the simple mean and the population weighted mean for the middle group was the highest, followed by the most economically free group. The group with the lowest EFW ratings also had the lowest 2015 mean per capita income levels.

Growth of Per capita GDP

Table 3 presents the figures for the annual real growth rate of per capita GDP of the 25 countries during 1995-2015, 2000-2015, and 2005-2015. As column 1 shows, six of the seven countries in the most-free group had growth rates of 4.0 or higher during 1995-2015. The exception was Romania, which did not begin to move toward liberalization until after 2000 (See Table 1). After adopting reforms supportive of economic freedom, Romania achieved an annual growth rate of per capita GDP of

4.56 percent during 2000-2015. The per capita GDP annual growth rate for five of the seven countries in the most economically free group exceeded 5 percent during 1995-2015. The simple mean and population weighted growth rates for the most-free group were 5.36 and 4.54 respectively.

Table 3: Annual Growth Rate (percent) of per capita GDP, Former Socialist Economies, 1995-2015, 2000-2015, & 2005-2015

Group	Country (2015 EFW Rank)	1995-2015	2000-2015	2005-2015
	Georgia (8)	7.09	7.02	6.29
50 E	Estonia (10)	4.49	3.76	1.83
5 /.	Lithuania (13)	5.44	5.44	3.83
ÇΝ	Latvia (17)	5.26	4.96	2.8
Top EFW Group: 2015 EFW ≥ 7.50	Romania (20)	3.39	4.56	3.43
出 III	Armenia (29)	6.85	<i>7</i> .1	4.32
9 <u>5</u>	Albania (32)	5.03	4.78	3.98
2 T	Simple Mean	5.36	5.37	3.78
	Pop. Wtd. Mean	4.54	5.13	3.81
ю	Czech Rep (42)	2.32	2.45	1.67
2015 and	Bulgaria (48)	3.56	4.36	2.97
<u>ā</u> %	Poland (51)	4.11	3.67	3.94
<u> </u>	Slovak Rep (53)	3.88	4.04	3.5
5 7	Hungary (54)	2.47	2.22	1.08
W Gr /een 7.50	Kazakhstan (66)	5.36	5.9	3.92
₹ ≱ ^	Macedonia (67)	2.6	2.65	3.12
e e	Croatia (72)	2.49	1.82	0.54
liddle EFW Groo EFW between 7 7.50	Slovenia (73)	2.31	1.66	0.77
Middle EFW Group: 2015 EFW between 7.00 and 7.50	Simple Mean	3.23	3.2	2.39
<	Pop. Wtd. Mean	3.78	3.72	3.07
10	Kyrgyz Rep (80)	3.28	3.01	3.17
Ë	Tajikistan (82)	3.73	5.52	4.46
7	Montenegro (85)	2.27	2.82	2.98
2 8	Serbia (88)	2.97	3.45	1.99
7.00	Bosnia&Hzgvna (99)	9.34	3.69	2.75
ο	Russia (100)	3.21	3.67	2.24
EF.	Moldova (102)	3.04	4.89	3.68
<u> </u>	Azerbaijan (114)	8.41	9.2	7.57
μ _O	Ukraine (149)	1.96	2.99	0.3
Bottom EFW Group: 2015 EFW < 7.00	Simple Mean	4.5	4.36	3.24
₽	Pop. Wtd. Mean	3.3	3.83	2.22

Source: World Bank (2017). World Development Indicators.

Note: This table is sorted according to the 2015 EFW summary rating. The worldwide 2015 EFW ranking, out of 159 countries, is in parentheses. The population weighted mean was computed using the 2015 population. In the case of Montenegro, the earliest per capita GDP figure available from the World Bank is for the year 1997. Therefore, the growth figure for Montenegro is for 1997-2015 rather than 1995-2015.

Among the countries in the middle group, the annual growth rates of Poland, Bulgaria, Slovak Republic, and Kazakhstan were the most impressive. However, only Poland and Kazakhstan were able to achieve an annual growth rate greater than 4 percent during 1995-2015. The simple mean annual growth of per capita GDP was 3.23 for the middle group, while the population weighted mean was 3.78.

The simple and population weighted means for growth during 1995-2015 of the least-free group were 4.50 percent and 3.30 percent respectively. Among the eight countries in the least-free group, only Bosnia and Herzegovina and Azerbaijan were able to achieve an annual growth rate greater than 4 percent during 1995-2015. Interestingly, special circumstances underlie the growth of both of these countries. Compared to the size of its economy, Azerbaijan is the leading oil exporter among the FS economies. The high oil prices of 2002-2014 were a major factor underlying its strong growth. The 1995 per capita GDP of Bosnia and Herzegovina was depressed by the aftermath of civil war and therefore its 9.34 percent annual growth rate during 1995-2015 was exaggerated. Its real growth rates of 3.69 percent and 2.75 percent during 2000-2015 and 2005-2015 respectively are more indicative of its long-term growth path.

The FS countries that liberalized the most generally grew more rapidly during 1995-2015 than their counterparts that were slow to reform. Consider the number of countries in each of the three groups that achieved an annual growth rate of at least 4 percent during the two-decade time frame. Six of the seven countries in the most economically free group achieved this benchmark, but only two of the nine countries in the middle group and only two of the eight countries in the least-free group were able to achieve this figure. Moreover, the population weighted mean annual growth rate of the most-free group was 4.54 percent, compared to 3.78 percent for the middle group and 3.30 percent for the least-free group.

Table 4 presents the real growth rate of the 25 economies according to high and low initial income status. The high-income group is comprised of countries with a 1995 real per capita GDP (measured in 2011 dollars) of greater than \$8,000, while the low-income group contains those countries with a 1995 per capita GDP below this benchmark. It is useful to view the data in this manner because lower income economies are able to adopt technology and successful production procedures from the more advanced countries with higher income levels. Thus, other things constant, one would expect the lower income countries to grow more rapidly than their higher income counterparts. Within the two groups, the countries are ordered from high to low according to their 2015 EFW rating.

Within the 13 countries in the high-income group, seven of the eight countries with the highest economic freedom ratings (Czech Republic is the exception) achieved impressive growth rates during 1995-2015. Each of the seven countries grew at an annual rate of 3.39 or higher during 1995-2015. Among the high-income group, three of the five countries with the lowest EFW ratings – Hungary, Croatia, and Slovenia – lagged in terms of economic growth. Two countries (Russia and Kazakhstan) in the high-income group achieved impressive growth rates even though their economic freedom levels were low. Interestingly, both countries are leading oil exporters and the high world price of oil during 2002-2014 certainly enhanced their growth.

Table 4: Growth Rates of per capita GDP (percent), Former Socialist Economies, High and Low-Income Groups, 1995-2015, 2000-2015, & 2005-2015

			1995 per capita GDP	Annual growth rate of re per capita GDP (percent	
Group	Country (2015 EFW Rank)	2015 EFW rating	(2011 PPP dollars)	1995-2015	2000-2015
_	Estonia (10)	<i>7</i> .95	11,362	4.49	3.76
£	Lithuania (13)	7.92	9,357	5.44	5.44
Middle EFW Group: 2015 EFW between 7.00 and 7.50	Latvia (17)	7.75	8,272	5.26	4.96
2 .	Romania (20)	7.72	10,546	3.39	4.56
<u> 2</u>	Czech Rep (42)	7.46	19,215	2.32	2.45
9 C	Bulgaria (48)	7.39	8,446	3.56	4.36
δģ	Poland (51)	7.34	11,300	4.11	3.67
9 6	Slovak Rep (53)	7. 31	13,184	3.88	4.04
idle EFW Group: 201 between 7.00 and 7	Hungary (54)	7.3	15,244	2.47	2.22
a ≱	Kazakhstan (66)	<i>7</i> .18	8,283	5.36	5.9
F F	Croatia (72)	7.02	12,625	2.49	1.82
Š	Slovenia (73)	7	18,431	2.31	1.66
	Russia (100)	6.6	12,813	3.21	3.67
per	Georgia (8)	8.01	2,295	7.09	7.02
	Armenia (29)	7.6	2,173	6.85	<i>7</i> .1
8 9	Albania (32)	7.54	4,129	5.03	4.78
p: 1995 \$8,000	Macedonia (67)	<i>7</i> .1 <i>7</i>	7,64 1	2.6	2.65
<u>ë</u> ₩	Kyrgyz Republic (80)	6.89	1,696	3.28	3.01
§ ^	Tajikistan (82)	6.8	1,270	3.73	5.52
مَ مَ	Montenegro (85)	6.77	10,205	2.27	2.82
e G	Serbia (88)	6.75	<i>7</i> ,393	2.97	3.45
Income Grapita GDP	Bosnia&Hzgvna (99)	6.61	1,827	9.34	3.69
두통	Moldova (102)	6.56	2,605	3.04	4.89
Low Income Group: 1995 capita GDP < \$8,000	Azerbaijan (114)	6.38	3,320	8.41	9.2
	Ukraine (149)	5.38	5,060	1.96	2.99

Sources: 2017 Economic Freedom of the World Report; World Bank, World Development Indicators.

Note: Within each group, the countries are sorted according to the 2015 EFW summary rating. The worldwide 2015 EFW ranking, out of 159 countries, is in parentheses. In the case of Montenegro, the earliest per capita GDP figure available from the World Bank is for the year 1997. Therefore the per capita GDP for Montenegro reported in the table is for 1997 rather than 1995. Similarly, the growth figure for Montenegro is for 1997-2015 rather than 1995-2015.

Turning to the low-income group of Table 4, the three countries with the highest EFW rating – Georgia, Albania, and Armenia – had annual real growth rates in the 5 percent to 7 percent range during 1995-2015. Among the low-income group with lower EFW ratings, only Bosnia and Herzegovina and Azerbaijan achieved impressive growth during 1995-2015. As mentioned above, exceptional circumstances underlie the growth of these two countries. As we proceed, the relationship between economic freedom and the growth rate of the FS economies will be examined in more detail.

Growth of the Trade Sector

International trade promotes gains from specialization, economies from large scale production, and importation of innovative products and production methods. Further, international trade makes it possible for both consumers and producers of a domestic economy to gain from greater integration into the worldwide network of markets. Thus, economic analysis indicates that trade openness and expansion in trade will elevate economic growth.

The ratio of exports plus imports divided by GDP provides a straightforward measure for the size of the trade sector. The average annual size of the trade sector was calculated for the 25 FS economies for four periods: 1996-2000, 2001-2005, 2006-2010, and 2011-2015. Table 5 illustrates the expansion in the size of the trade sector for the 25 FS economies. Comparison of the beginning and ending time frames provides insight on changes in the size of the trade sector over the two-decade period.

Except for Armenia, all the countries in the most economically free group experienced substantial increases in trade as a share of GDP. The simple mean size of the trade sector for this group rose from 79.5 percent during 1996-2000 to 111.9 percent in 2011-2015, an increase of 40 percent. When the figures for each country are weighted by GDP, the size of the trade sector for these countries rose from 70.3 percent in the earlier period to 98.6 percent in the latter time frame, which is also an increase of approximately 40 percent.

The countries in the middle group also experienced sizeable expansions in international trade. The simple mean of trade as a share of GDP for the middle group rose from 86.4 percent during 1996-2000 to 125.0 during 2011-2015, an increase of approximately 45 percent. The GDP weighted mean size of the trade sector for the middle group rose from 75.3 percent during 1996-2000 to 111.6 percent during 2011-2015, an increase of almost 50 percent. Clearly both the top and middle groups experienced substantial increases in the size of their trade sectors. By 2015, both the most free and middle groups were substantially more integrated into the world economy than during the mid-1990s.

The situation was quite different for the least economically free group. Only three of the nine countries in this group – Kyrgyz Republic, Montenegro, and Serbia – experienced significant expansions in trade. The size of the trade sector for the other six countries in this group was either similar or smaller in 2015 than during the late 1990s. The simple mean for this group was 93.1 percent in 2011-2015, virtually unchanged from 93.7 percent in 1996-2000. When weighted by the GDP figures of each country, the mean size of the trade sector for this group fell from 62.8 percent during 1996-2000 to 55.8 percent during the most recent five-year period, a decline of a little more than 10 percent. Clearly, the least-free economies among the FS coun-

tries are considerably less integrated into the world economy than the countries in the middle and top groups in terms of economic freedom.

Table 5: Size of the Trade Sector (as Percentage of GDP), Former Socialist Economies

Group	Country (2015 EFW Rank)	1996-2000	2001-2005	2006-2010	2011-2015
	Georgia (8)	55	76	86	100
3 B	Estonia (10)	144	128	134	164
9.7	Lithuania (13)	88	102	120	159
ğΛI	Latvia (17)	86	90	97	122
≥ ≥	Romania (20)	61	76	70	81
# #	Armenia (29)	75	75	60	74
Top EFW Group: 2015 EFW ≥ 7.50	Albania (32)	47	65	82	82
2 T	Simple Mean	79.5	87.4	92.8	111.9
	Pop. Wtd. Mean	70.3	82.6	82.2	98.6
10	Czech Rep (42)	87	105	125	151
201. and	Bulgaria (48)	88	85	111	126
ā 5	Poland (51)	53	66	79	91
ë 8	Slovak Rep (53)	110	132	1 <i>57</i>	180
<u> </u>	Hungary (54)	107	123	154	169
Aiddle EFW Group: EFW between 7.00 7.50	Kazakhstan (66)	79	95	86	66
Ψ¥.	Macedonia (67)	85	76	99	111
e Def	Croatia (72)	70	84	81	88
ਭੋ≥	Slovenia (73)	97	108	128	144
Middle EFW Group: 2015 EFW between 7.00 and 7.50	Simple Mean	86.4	97.2	113.4	125
	Pop. Wtd. Mean	75.3	88.9	102.2	111.6
ю	Kyrgyz Rep (80)	91	86	134	129
5	Tajikistan (82)	156	126	79	74
8	Montenegro (85)	88	96	118	105
<u> </u>	Serbia (88)	39	66	79	94
Group < 7.00	Bosnia&Hzgvna (99)	112	105	85	89
<u>ა</u> ^	Russia (100)	58	59	52	48
EFW FFW	Moldova (102)	125	134	129	124
<u> </u>	Azerbaijan (114)	78	103	88	75
ةِ	Ukraine (149)	97	109	97	100
Bothom EFW Group: 2015 EFW < 7.00	Simple Mean	93.7	98.2	95.7	93.1
ш	Pop. Wtd. Mean	62.8	66	58.8	55.8

Source: World Bank, World Development Indicators.

Note: The size of the trade sector is the defined as imports plus exports divided by GDP. This table shows the average size of the trade sector over the periods 1996-2000, 2001-2005, 2006-2010, and 2011-2015. The table is sorted according to the 2015 EFW summary rating. The worldwide 2015 EFW ranking, out of 159 countries, is in parentheses.

Eight FS countries (Czech Republic, Estonia, Hungary, Latvia, Lithuania, Slovak Republic, Slovenia, and Poland) joined the European Union in 2004, and two others (Romania and Bulgaria) joined in 2007. Still later, Croatia joined the EU in 2013. In addition to its central government functions, the EU is a customs union. In fact, it is an outgrowth of a free trade agreement among several European countries. The EU sets common tariff rates and international trade policy for all member countries, but there are no tariffs or restrictions on the movement of goods and services within the union.

Joining the EU will generally reduce the trade barriers and enhance the size of the trade sector of a FS country. There are two reasons why this will be the case. First, joining the EU will provide both the domestic consumers and producers with a vastly

larger "free trade" market. Thus, trade with partners in other EU countries will generally increase. Second, because tariff rates and other trade restrictions imposed by the EU are relatively low, the trade barriers with non-EU members will also tend to decline. This will be particularly true if the trade restrictions of the joining member were high prior to membership in the union.

Did joining the EU reduce trade barriers and lead to an expansion in trade? There is evidence this was the case. All of the ten FS countries that joined the EU during 2004-2007 had substantially larger trade sectors in 2011-2015 than during 1996-2000. Further, the increases in the size of the trade sector were exceedingly large. For example, between 1996-2000 and 2011-2015, international trade as a share of GDP soared in Lithuania from 88 percent to 159 percent. In the Czech Republic, the size of the trade sector rose from 87 percent to 151 percent; in the Slovak Republic, the increase was from 110 percent to 180 percent; in Poland, the parallel increase was from 53 percent to 91 percent. Similarly, between 1996-2000 and 2011-2015 the trade sector of Hungary rose from 107 percent to 169 percent and that of Slovenia soared from 97 percent to 144 percent. Latvia and Bulgaria experienced similar large increases in the size of their trade sectors soon after joining the EU. Moreover, the expansions in the trade sector of the FS countries that joined the EU were substantially greater than those achieved by the non-EU FS countries. These trade increases are consistent with the view that joining the EU reduced trade barriers, enhanced international trade, and promoted integration into the world economy.

Foreign Direct Investment

Foreign direct investment (FDI) plays a key role in the growth process. There are several reasons why this is the case. First, almost all FDI is private. Thus, it reflects investor confidence in the institutions and future of a country. Second, FDI is an important source of innovation and technology transfers among countries. This is particularly important for developing economies because they often lag well behind their higher income counterparts in these areas. Finally, FDI is also a source of financing for capital investment, an ingredient that is often in short supply in lower income developing economies.

Table 6 present data on net foreign direct investment as a share of GDP during 1995-2015 for the 25 FS economies. Note how FDI increased as a share of GDP in most of these economies during the first decade of this century, but it has declined substantially since 2010. For example, the simple mean of net FDI as a share of the economy for the seven countries with the highest EFW ratings rose from 4.6 percent during 1996-2000 to 5.4 percent in 2001-2005 and 7.5 percent in 2006-2010, but it then receded sharply to 4.6 percent during 2011-2015. This same pattern was present for the GDP weighted mean of net FDI for this group.

Table 6: Net FDI (as Percentage of GDP), Former Socialist Economies, 1996-2015

Group	Country (2015 EFW Rank)	1996-2000	2001-2005	2006-2010	2011-2015
	Georgia (8)	5.4	6.6	11.9	8.1
Q	Estonia (10)	6.3	11.2	11.8	4.1
oup: 7.50	Lithuania (13)	4.3	3.2	3.8	2
ğΛI	Latvia (17)	5.6	3.1	4.5	3.7
××××××××××××××××××××××××××××××××××××××	Romania (20)	2.9	4.7	5.2	1.9
Top EFW Group: 2015 EFW ≥ 7.5C	Armenia (29)	5.6	5	7.4	3.9
	Albania (32)	2.3	3.8	7.9	8.6
, S	Simple Mean	4.6	5.4	7.5	4.6
	Pop. Wtd. Mean	3.7	4.8	5.9	2.9
10	Czech Rep (42)	5.5	7.3	4.6	2.9
Middle EFW Group: 2015 EFW between 7.00 and 7.50	Bulgaria (48)	4.6	9.3	16.8	3.9
<u>ā</u> %	Poland (51)	3.9	3.3	4.4	2.3
2 0.	Slovak Rep (53)	2.5	6.5	4.5	1.9
5 .	Hungary (54)	<i>7</i> .1	6	19.3	3.6
liddle EFW Gro EFW between 7 7.50	Kazakhstan (66)	6.7	9.7	10.2	4.9
¥ Š V	Macedonia (67)	2.6	5.1	5.4	3.1
е <u>е</u>	Croatia (72)	3.8	4	5.8	2.8
ਭੋਂ≥	Slovenia (73)	0.9	3.4	1.5	1.6
5 ⊞	Simple Mean	4.2	6.1	8.1	3.01
_	Pop. Wtd. Mean	4.8	5.8	7.5	3.05
10	Kyrgyz Rep (80)	3.5	2.5	6.3	9.3
ä	Tajikistan (82)	1.9	4.3	6.1	3.2
ă	Montenegro (85)		8.5	25.2	13.1
2 8	Serbia (88)	1	4.3	8.9	5.8
Group < 7.00	Bosnia&Hzgvna (99)	2.7	5	5.4	2.2
O V	Russia (100)	1.1	1. <i>7</i>	3.7	1.9
EFW	Moldova (102)	4.6	4.4	7.6	4.1
ᆫᇤ	Azerbaijan (114)	16.9	38	11.3	6.3
Bottom EFW Group: 2015 EFW < 7.00	Ukraine (149)	1.5	3.7	5.4	3.1
ě	Simple Mean	4.2	8	8.9	5.5
-	Pop. Wtd. Mean	1.8	3.4	4.3	2.4

Source: World Bank, World Development Indicators.

Note: Net foreign direct investment (FDI) is the net inflow of foreign direct investment (new investment inflows less disinvestment) as a percentage of GDP. This table shows the average FDI over the periods 1996-2000, 2001-2005, 2006-2010, and 2011-2015. The table is sorted according to the 2015 EFW summary rating. The worldwide 2015 EFW ranking, out of 159 countries, is in parentheses.

Further, this pattern — high levels of net FDI during 2001-2010, but declines during the past five years — was present for the mean values of the other two groups. The declining levels of net FDI as a share of the economy are a troublesome sign. This is likely to slow the rate of future economic growth. As we proceed, we will consider an important factor that may underlie the recent declining rates of foreign investment among the FS economies.

Poverty Rates

The World Bank defines Extreme poverty as the percentage of the population with an income of less than \$1.90 per day, measured in 2011 international dollars. The moderate poverty rate is defined as the share of population with an income of less than \$3.10 per day in 2011 dollars. The extreme poverty rate was exceedingly low

in most all of the FS countries throughout 1995-2015. Therefore, we will focus on the moderate poverty rate figures.

The moderate poverty rate for each of the 25 FS economies was derived for 1995, 2000, 2005, 2010, and 2015. As Table 7 illustrates, the moderate poverty rate was low during 1995-2015 in several of the FS countries. For example, the moderate poverty rate never rose above 3 percent during the two decades in the Czech Republic, Poland, Slovak Republic, Hungary, Croatia, and Slovenia. The moderate poverty rate was highest for Georgia, Lithuania, Armenia, Kazakhstan, Macedonia, Kyrgyz Republic, Tajikistan, Moldova, Azerbaijan, and Ukraine. The moderate poverty rate in each of these ten countries soared to more than 15 percent in either 1995 or 2000.

Table 7: Moderate Poverty Rates in the Former Socialist Economies, 1995-2015

Group	Country (2015 EFW Rank)	1995	2000	2005	2010	2015
	Georgia (8)	36.5	42.9	36.5	38.6	29.1
Q	Estonia (10)	5	4.7	2.9	0	0.1
oup: 7.50	Lithuania (13)	25.9	3.7	4.3	1.1	0.1
5 ∨ı	Latvia (17)	3	15	2.1	0.8	0.4
Top EFW Group: 2015 EFW ≥ 7.50	Romania (20)	4.5	6.5	19.8	4.8	4
出世	Armenia (29)	41.4	47.6	24.7	21.7	15.2
9 <u>5</u>	Albania (32)	12.9	12.1	9.8	8.9	6.4
7 Z	Simple Mean	18.5	18.9	14.3	10.8	7.9
	Pop. Wtd. Mean	13.6	14.7	18.4	9.6	7.3
ن	Czech Rep (42)	0.4	0.5	0.1	0	0.1
<u> </u>	Bulgaria (48)	1.1	5	4.1	2.7	4.4
Middle EFW Group: 2015 EFW between 7.00 and 7.50	Poland (51)	1.9	1.1	0	0.3	0.4
<u> </u>	Slovak Rep (53)	0.9	2.4	0.2	0.1	0.4
و ۲	Hungary (54)	0.9	0.3	0.6	0.1	0.2
W Gr	Kazakhstan (66)	8.5	22.2	2.9	4.7	1.8
₹ } `	Macedonia (67)	9.5	18	6.4	7.2	5.5
е Бе	Croatia (72)	1.4	0.2	0.2	0.2	0.2
ਭੋਂ≽	Slovenia (73)	0.3	0.1	0	0.1	0.1
5 ₽	Simple Mean	2.8	5.6	1.6	1. <i>7</i>	1.4
~	Pop. Wtd. Mean	2.8	5.4	1	1.3	1
10	Kyrgyz Rep (80)	36.1	47.8	42.5	21.7	18.2
5	Tajikistan (82)	86.2	80.3	60.5	31	28.1
7	Montenegro (85)	6.2	3.6	1.2	0.3	3.5
g S	Serbia (88)	4.4	2.1	1.4	1 <i>.7</i>	1.5
Proup 7.00	Bosnia&Hzgvna (99)	4.5	1.9	1.1	0.6	0.7
დ ^	Russia (100)	11.3	12.2	3.2	0.9	0.9
EFW EFW	Moldova (102)	5.4	64.8	28.8	5.2	2.4
" "	Azerbaijan (114)	24.8	28.2	0	5.1	7.6
5	Ukraine (149)	19	18.1	5	0.3	0.4
Bottom EFW Group: 2015 EFW < 7.00	Simple Mean	22	28.8	15.9	7.4	7
	Pop. Wtd. Mean	16.3	1 <i>7</i> .8	6.9	2.6	2.5

Source: World Bank, World Development Indicators; and Connors and Montesinos (2017).

Note: Moderate poverty rate is the percent of population living with less than \$3.10 a day. This table is sorted according to the 2015 EFW summary rating. The worldwide 2015 EFW ranking, out of 159 countries, is in parentheses.

In the countries with higher poverty rates, an observable pattern was present: The moderate poverty rate rose for at least five years and often for a full decade following

1995. After that, the poverty rate declined substantially. The mean values for the three groups reflect this pattern. For example, the population weighted mean moderate poverty rate for the most-free group rose from 13.6 percent in 1995 to 18.4 percent in 2005, but then declined to 7.3 percent in 2015. For the middle group, the population weighted mean moderate poverty rate rose from 2.8 percent in 1995 to 5.4 percent in 2000, but then receded during the next 15 years to a 2015 rate of 1.0 percent. The least-free group followed this same pattern.

Except for Bulgaria, the moderate poverty rate in 2015 was below the rate of 1995 in all 25 of the FS countries. The 2015 moderate poverty rate of Bulgaria was 4.4 percent, compared to only 1.1 percent in 1995. In addition to the countries with low poverty rates throughout the period, the 2015 moderate poverty rate was also low in Lithuania (0.1 percent), Kazakhstan (1.8 percent), Macedonia (5.5 percent), Moldova (2.4 percent), Azerbaijan (7.6 percent), and Ukraine (0.4 percent). In contrast, a double-digit 2015 moderate poverty rate was present in Georgia (29.1 percent), Armenia (15.2 percent), Kyrgyz Republic (18.2 percent), and Tajikistan (28.1 percent). But even these 2015 double-digit moderate poverty rates were substantially lower than the parallel rates of 1995. Overall, progress was made against poverty in the FS countries during 1995-2015. The moderate poverty rate in 2015 was greater than 5 percent in only seven of the FS countries, down from 13 in 1995. Similarly, the 2015 moderate poverty rate was greater than 10 percent in only four of these countries, compared to nine in 1995.

Economic Record of the FS Countries

The economic record of the FS countries during 1995-2015 was impressive. This was particularly true for the seven FS countries that moved the most toward economic liberalization. The average growth of real per capita GDP of these seven countries exceeded 5 percent during 1995-2015. Real per capita GDP more than doubled in six of the seven countries during the two decades. The late reforming Romania was the exception and its per capita GDP almost doubled (it increased by 95 percent) in just 15 years following adoption of liberal reforms early in this century. While the real GDP growth of the middle group was slower, it was still impressive. The population weighted annual real growth of per capita GDP of the middle group was 3.78 percent. Moreover, most all of the countries in the most-free and middle group also experienced large increases in international trade, an in-flow of foreign direct investment, and by 2015, their poverty rates had fallen to a low level. Economic growth, expansion in international trade, and foreign direct investment lagged in most of the least-free economies, but even this group achieved a population weighted annual growth of per capita GDP of 3.30 percent during 1995-2015.

3. Civil Liberties and Political Institutions

The FS economies have a history of authoritarianism, political corruption, and abuse of civil liberties. Thus, sensitivity to the operation of political institutions is an issue of considerable importance. Tables 8 through 10 provide data on civil liberties and political institutions.

Freedom House has provided ratings for both civil liberties and political rights annually since 1972. Table 8 provides the Freedom House data on civil liberties and political rights for the 25 FS countries during 1995-2015. According to Freedom House, "Civil liberties allow for the freedoms of expression and belief, associational and organizational rights, rule of law, and personal autonomy without interference from the state." Similarly, Freedom House indicates "Political rights enable people to participate freely in the political process, including the right to vote freely for distinct alternatives in legitimate elections, compete for public office, join political parties and organizations, and elect representatives who have a decisive impact on public policies and are accountable to the electorate." The Freedom House rating scale ranges from 1 (most free) to 7 (least free). Moreover, countries with a rating of 1 or 2 are classified as "free," 3, 4, or 5 as "partly free," and 6 or 7 as "not free."

Table 8: Civil Liberties (CL) and Political Rights (PR), Former Socialist Economies, 1995-2015

Group	Country (2015 EFW Rank)	19		20	00	200)5	20	10	20	15
	•	CL	PR								
2015	Georgia (8)	5	4	4	4	3	3	3	4	3	3
	Estonia (10)	2	2	2	1	1	1	1	1	1	1
50 E	Lithuania (13)	2	1	2	1	1	1	1	1	1	1
Group: / ≥ 7.50	Latvia (17)	2	2	2	1	1	1	2	2	2	2
	Romania (20)	3	4	2	2	2	2	2	2	2	2
EFW (Armenia (29)	4	4	4	4	4	5	4	6	4	5
о.	Albania (32)	4	3	5	4	3	3	3	3	3	3
Тор	Simple Mean	3.1	2.9	3	2.4	2.1	2.3	2.3	2.7	2.3	2.4
d 35	Czech Rep (42)	2	1	2	1	1	1	1	1	1	1
201 and	Bulgaria (48)	2	2	3	2	2	1	2	2	2	2
	Poland (51)	2	1	2	1	1	1	1	1	1	1
Group: en 7.00 50	Slovak Rep (53)	3	2	2	1	1	1	1	1	1	1
5 e G	Hungary (54)	2	1	2	1	1	1	1	1	2	2
EFW etwe	Kazakhstan (66)	5	6	5	6	5	6	5	6	5	6
	Macedonia (67)	3	4	3	4	3	3	3	3	3	4
γ P	Croatia (72)	4	4	3	2	2	2	2	1	2	1
Middle EFW b	Slovenia (73)	2	1	2	1	1	1	1	1	1	1
	Simple Mean	2.8	2.4	2.7	2.1	1.9	1.9	1.9	1.9	2	2.1
2015	Kyrgyz Rep (80)	4	4	5	6	4	5	5	5	5	5
20	Tajikistan (82)	7	7	6	6	5	6	5	6	6	7
	Montenegro (85)							2	3	3	3
Group:	Serbia (88)	6	6	4	4	2	3	2	2	2	2
5 7	Bosnia&Hzgvna (99)	6	6	4	5	3	4	3	4	3	4
≥ ×	Russia (100)	4	3	5	5	5	6	5	6	6	6
Bottom EFW EFW	Moldova (102)	4	4	4	2	4	3	3	3	3	3
E _	Azerbaijan (114)	6	6	5	6	5	6	5	6	6	7
Ĕ	Ukraine (149)	4	3	4	4	2	3	3	3	3	3
ĕ	Simple Mean	5.1	4.9	4.6	4.8	3.8	4.5	3.7	4.2	4.1	4.4

Source: Freedom House. The rating scale ranges from 1 (most free) to 7 (least free).

Note: This table is sorted according to the 2015 EFW summary rating. The worldwide 2015 EFW ranking, out of 159 countries, is in parentheses.

As Table 8 indicates, Freedom House classifies seven of the 25 FS economies as free (ratings of either 1 or 2) for both civil liberties and political rights throughout the entire period. These seven countries are Estonia, Lithuania, Latvia, Czech Republic, Poland, Hungary, and Slovenia. By 2015, Romania, Bulgaria, Slovak Republic, Croatia, and Serbia joined the "free" group for both civil liberties and political rights. Except for Serbia, all of the countries with civil liberties and political rights classifications as "free" are from the two groups with the highest EFW ratings. Moreover, other than Serbia, none of the countries in the bottom EFW group were classified as "free" in both civil liberties and political rights during any of the years. Freedom House rates Tajikistan, Russia, and Azerbaijan as "not free" in both civil liberties and political rights in 2015. The ratings for Russia are particularly interesting because of their persistent deterioration. Its rating for civil liberties were 4 in 1995, 5 during 2000-2010, and 6 in 2015. In political rights, Russia's rating receded from 3 in 1995 to 5 in 2000, and 6 during 2005-2015.

Table 9: Democracy (D) and Constraints on the Executive (CE), Former Socialist Economies

Group	Country (2015 EFW Rank)	19		20		200)5	20	10	20	15
	, .	D	CE	D	CE	D	CE	D	CE	D	CE
15	Georgia (8)	5	5	5	5	7	5	6	5	7	6
2015	Estonia (10)	6	7	9	7	9	7	9	7	9	7
.50 .50	Lithuania (13)	10	7	10	7	10	7	10	7	10	7
§ .	Latvia (17)	8	7	8	7	8	7	8	7	8	7
Top EFW Group: EFW ≥ 7.50	Romania (20)	5	5	8	6	9	7	9	7	9	7
EFW (Armenia (29)	3	3	5	5	5	5	5	5	5	5
Ф.	Albania (32)	5	5	5	5	9	7	9	7	9	7
	Simple Mean	6	5.6	7. 1	6	8.1	6.4	8	6.4	8.1	6.6
5 B	Czech Rep (42)	10	7	10	7	10	7	9	7	9	7
201 (and	Bulgaria (48)	8	7	8	7	9	7	9	7	9	7
	Poland (51)	9	7	9	7	10	7	10	7	10	7
2 %	Slovak Rep (53)	7	6	9	7	9	7	10	7	10	7
W Gr /een 7.50	Hungary (54)	10	7	10	7	10	7	10	7	10	7
e EFW Gr between 7.50	Kazakhstan (66)	-4	2	-4	2	-6	2	-6	2	-6	2
ᇤᇂ	Macedonia (67)	6	5	6	5	9	7	9	7	9	7
_ ≘	Croatia (72)	-5	3	8	7	9	7	9	7	9	7
Middle EFW Group: EFW between 7.00 7.50	Slovenia (73)	10	7	10	7	10	7	10	7	10	7
≥ "	Simple Mean	5.7	5.7	7.3	6.2	7.8	6.4	7.8	6.4	7.8	6.4
2	Kyrgyz Rep (80)	-3	4	-3	4	3	4	4		7	7
Group: 2015 < 7.00	Tajikistan (82)	-6	3	-1	4	-3	3	-3	3	-3	3
ä	Montenegro (85)					6		9	7	9	7
roup 7.00	Serbia (88)					6		8	7	8	7
ې ق ۷	Bosnia&Hzgvna (99)										
≥×≥	Russia (100)	3	3	6	5	6	5	4	4	4	4
EF.	Moldova (102)	7	7	7	7	9	7	9	7	9	7
Ĕ _	Azerbaijan (114)	-6	2	-7	2	-7	2	-7	2	-7	2
Bottom EFW EFW •	Ukraine (149)	7	5	6	5	6	5	6	5	4	5
Ď	Simple Mean	0.3	4	1.3	4.5	3.3	4.3	3.8	5	3.9	5.3

Source: Polity IV project. The democracy score ranges from -10 (strongly autocratic) to +10 (strongly democratic). The executive constraints variable ranges from 1 (no limitations on executive actions) to 7 (accountability groups such as legislatures have the power to constrain executive actions).

Note: This table is sorted according to the 2015 EFW summary rating. The worldwide 2015 EFW ranking, out of 159 countries, is in parentheses.

Table 9 provide information from the Polity IV dataset (Marshall, Gurr, and Jaggers 2016). The Polity IV data indicates that most of the FS economies moved towards democracy during 1995-2015. By 2015, only three countries, Kazakhstan, Tajikistan, and Azerbaijan, were classified as autocratic (negative rating). Most of the 25 countries have positive ratings of 8 or more. In the most economically free group, only Georgia and Armenia had a 2015 rating of less than 8, and in the middle group, only Kazakhstan failed to meet this benchmark. However, in the least-free group, five countries – Kyrgyz Republic, Tajikistan, Russia, Azerbaijan, and Ukraine – had democracy ratings of less than 8.

Table 9 also provides the Polity IV data for constraints on the executive. As in the case of democracy, the ratings for constraints on the executive were higher in 2015 than was true two decades earlier. In 2015, all countries of the most-free group had ratings of 7 except for Georgia (rating of 6) and Armenia (rating of 5). In the middle group, eight of the nine countries had a rating of 7; the exception was Kazakhstan with a rating of 2. In the least-free group, four of the nine countries – Kyrgyz Republic, Montenegro, Serbia, and Moldova – had a rating of 7. However, the constraints on the executive were weak for four other countries in this group: Tajikistan (rating of 3), Russia (rating of 4), Azerbaijan (rating of 2), and Ukraine (rating of 5). While there are countries with democratic political institutions in each of the three groups, countries in the least economically free group are more likely to be less democratic and have weaker constraints on the executive.

Table 10 presents data from Transparency International on perception of corruption (Transparency International, 2015). The Corruption Perception Index (CPI) focuses on corruption in the public sector and defines corruption as "the abuse of public office for private gain." As Table 10 illustrates the CPI increased for almost all the 25 FS economies, indicating a reduction in the level of corruption in these countries. The CPI was unavailable for a number of countries in 1995 and 2000. Thus, we will focus on the ratings during 2005-2015. For the most-free group, the average CPI increased from 37.1 in 2005 to 50.7 in 2015. For the middle group, the average CPI rose from 39.8 in 2005 to 49.1 in 2015. For the least-free group, the average CPI increased from 25.3 in 2005 to 32.7 in 2015. The 2015 average CPI is considerably higher for the most-free and middle groups than for the least economically free group. The following four countries had 2015 CPI of 60 or higher: Estonia (70), Lithuania (61), Poland (62), and Slovenia (60). In contrast, the 2015 CPI was less than 30 for the following countries: Kazakhstan (28), Kyrgyz Republic (28), Tajikistan (26), Russia (29), Azerbaijan (29), and Ukraine (27). Note that all four of the countries with the highest 2015 CPI are from the two groups with the highest 2015 EFW ratings. In contrast, five of the six countries (Kazakhstan is the exception) with the lowest 2015 CPI are from the group with the lowest 2015 EFW rating.

Table 10: Corruption Perception Index, Former Socialist Economies, 2000-2015

Group	Country (2015 EFW Rank)	2000	2005	2010	2015
0	Georgia (8)		23	38	52
.50 .50	Estonia (10)	57	64	65	70
ξ	Lithuania (13)	41	48	50	61
ნ ∑	Latvia (17)	34	42	43	55
FW Grou EFW ≥ 7	Romania (20)	29	30	37	46
2 - Z	Armenia (29)	25	29	26	35
Top EFW Group: 2015 EFW ≥ 7.50	Albania (32)		24	33	36
. 4	Simple Mean	37.2	37.1	41.7	50.7
	Czech Rep (42)	43	43	46	56
Middle EFW Group: 2015 EFW between 7.00 and 7.50	Bulgaria (48)	35	40	36	41
	Poland (51)	41	34	53	62
	Slovak Rep (53)	35	43	43	51
عَ فِ ≼	Hungary (54)	52	50	47	51
ᇤᇎᇴ	Kazakhstan (66)	30	26	29	28
≗ ∺ 8	Macedonia (67)		27	41	42
ide 7. /	Croatia (72)	37	34	41	51
≥ ⋈	Slovenia (73)	55	61	64	60
	Simple Mean	41	39.8	44.4	49.1
	Kyrgyz Rep (80)		23	20	28
äo	Tajikistan (82)		21	21	26
90. 00.	Montenegro (85)			37	44
2 /	Serbia (88)		28	35	40
≥×	Bosnia&Hzgvna (99)		29	32	38
EFW EFW	Russia (100)	21	24	21	29
۳ ک ا	Moldova (102)	26	29	29	33
Bo#om EFW Group: 2015 EFW < 7.00	Azerbaijan (114)	15	22	24	29
3 B	Ukraine (149)	15	26	24	27
	Simple Mean	19.3	25.3	27	32.7

Source: Transparency International. The Corruption Perception Index ranges from 0 (highly corrupt) to 100 (highly clean).

Note: This table is sorted according to the 2015 EFW summary rating. The worldwide 2015 EFW ranking, out of 159 countries, is in parentheses.

Summarizing, the following nine countries had 2015 political institutions most consistent with protection of civil liberties, political democracy, and absence of corruption: Estonia, Lithuania, Latvia, Czech Republic, Poland, Slovak Republic, Hungary, Croatia, and Slovenia. In 2015, these countries had civil liberties and political rights ratings of 1 or 2; democracy scores of 8, 9, or 10; constraints on the executive of 6 or 7; and a Corruption Perception Index of 50 or more. In contrast, the political institutions of the following four countries were most inconsistent with civil liberties protection, political democracy, and absence of corruption: Kazakhstan, Tajikistan, Russia, and Azerbaijan. In 2015, these countries had civil liberties and political rights ratings of 5, 6 or 7; democracy scores less than 5; constraints on the executive of less than 5; and a Corruption Perception Index of less than 30.

4. The Income of the Former Socialist Economies Compared to the World's High-Income Countries and Other Developing Economies

This section will compare the relative per capita GDP of the former socialist (FS) economies with the 21 high-income countries and with the 82 other developing economies for which the economic freedom data were available for 1995-2015. The 21 high-income countries are comprised of the 16 high-income European countries, plus Australia, Canada, Japan, New Zealand, and the United States.

Table 11: Per capita GDP, Former Socialist Economies Relative to the 21-High Income Industrial

Countries (percent), 1995, 2005, & 2015

Group	Country (2015 EFW Rank)	1995	2005	2015
0	Georgia (8)	6.7	11. <i>7</i>	20.3
.50 .50	Estonia (10)	33	54.3	61.6
2 7 2	Lithuania (13)	27.1	44.1	60.8
FFW Gr	Latvia (17)	24	41.6	51.9
₹ £	Romania (20)	30.6	34.9	46.3
Top EFW Group: 2015 EFW ≥ 7.5C	Armenia (29)	6.3	12.7	18.4
Top I 2015	Albania (32)	12	1 <i>7</i> .8	24.8
. 4	Simple Mean	19.9	31	40.6
	Czech Rep (42)	55.7	61.2	68.4
ë =	Bulgaria (48)	24.5	30.2	38.3
2 6 6	Poland (51)	32.8	40.9	57
Grou etwe 7.50	Slovak Rep (53)	38.2	47.6	63.7
و ق	Hungary (54)	44.2	53.1	55.9
ddle EFW 15 EFW b 7.00 and	Kazakhstan (66)	24	38.1	53
9	Macedonia (67)	22.2	22.3	28.7
Middle EFW Group: 2015 EFW between 7.00 and 7.50	Croatia (72)	36.6	46.5	46.5
≥ ⋈	Slovenia (73)	53.5	64.1	65.5
	Simple Mean	36.9	44.9	53
	Kyrgyz Rep (80)	4.9	5.6	7.3
ë o	Tajikistan (82)	3.7	4.1	5.9
9 S.	Montenegro (85)		27.1	34.4
5 \ 5 \	Serbia (88)	21.4	25.9	29.9
≥×	Bosnia&Hzgvna (99)	5.3	19.8	24.6
EFW	Russia (100)	37.2	46	54.3
<u>د</u> ک	Moldova (102)	7.6	7.9	10.7
Bottom EFW Group: 2015 EFW < 7.00	Azerbaijan (114)	9.6	19.2	37.6
9 G	Ukraine (149)	14.7	17.2	16.8
	Simple Mean	13	19.2	24.6

Source: World Bank, World Development Indicators.

Note: This table is sorted according to the 2015 EFW summary rating. The worldwide 2015 EFW ranking, out of 159 countries, is in parentheses.

Table 11 presents data for the per capita GDP of the FS economies as a percent of the parallel figure for the 21 high-income countries for 1995, 2005, and 2015. The per capita GDP for each of the 25 FS economies increased more rapidly than the mean for the high-income group between 1995 and 2015. As a result, the ratio of the per capita income of each socialist country relative to the mean for the high-income group rose.

The mean figures for the three groups of FS countries illustrate that the relative income increases are impressive. The ratio of the mean per capita GDP of the most economically free group compared to the high-income economies more than doubled, soaring from 19.9 percent in 1995 to 40.6 percent in 2015. The parallel ratio for the middle group increased by approximately 50 percent from 36.9 percent in 1995 to 53.0 percent in 2015. Finally, the ratio for the bottom group increased from 13.0 percent in 1995 to 24.6 percent in 2015, an increase of 90 percent. The largest increases in relative income were registered by Georgia, Lithuania, Latvia, Armenia, Albania, Kazakhstan, Azerbaijan, and Bosnia and Herzegovina. The ratio for each of these countries more than doubled between 1995 and 2015. Note that five of these eight countries are in the group with the highest 2015 EFW ratings.

The countries with the highest income levels were Estonia, Lithuania, Czech Republic, Slovak Republic, and Slovenia. By 2015, the per capita GDP for each of these five countries had risen to 60 percent or more than that of the mean for the 21 high-income countries. The countries with the lowest 2015 income levels were Armenia, Kyrgyz Republic, Tajikistan, Moldova, and Ukraine. The 2015 per capita income of each of these five countries was less than 20 percent of the comparable mean for the high-income group.

Table 12: Growth Rates of per capita GDP

	Group of Countries	1995-2015	2000-2015	2005-2015
± ÷	21 High-income	1.50	0.94	0.59
annuc ercent)	16 High-income European	1.52	0.90	0.54
e a	Other 82 developing	2.03	2.18	2.15
9 <u>0</u>	Other 82 (excluding China and India)	1.91	2.05	2.02
후	China and India	7.0 1	<i>7</i> .39	7.57
ž 2	25 Former Socialist	4.27	4.23	3.09
<u>ĕ</u> <u>₹</u>	7 FS - Top 2015 EFW group	5.36	5.37	3.78
Simple average annual growth rate (percent)	9 FS - Middle 2015 EFW group	3.23	3.20	2.39
Sir	9 FS - Bottom 2015 EFW group	4.50	4.36	3.24
9 -	21 High-income	1.25	0.80	0.52
average (percent)	16 High-income European	1.16	0.67	0.40
e ve	Other 82 developing	4.75	5.14	5.21
ق ق	Other 82 (excluding China and India)	2.41	2.82	2.77
ghted	China and India	7.06	7.43	<i>7</i> .61
fg o	25 Former Socialist	3.55	3.93	2.61
ion wei growth	7 FS - Top 2015 EFW group	4.54	5.13	3.81
2 6	9 FS - Middle 2015 EFW group	3.78	3.72	3.07
. <u>ē</u> _	9 FS - Bottom 2015 EFW group	3.30	3.83	2.22
<u> </u>	21 High-income	1.25	0.80	0.52
Population weighted average annual growth rate (percent)	16 High-income European	1.16	0.67	0.40
۾ _ه	Other 82 developing	4.75	5.14	5.21

Source: World Bank, World Development Indicators.

Notes: The 21 high income countries are Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Iceland, Iraly, Japan, Luxembourg, Netherlands, New Zealand, Norway, Spain, Sweden, Switzerland, United Kingdom, and United States. The 16 high-income European countries are comprised of the 21 high-income countries, minus Australia, Canada, Japan, New Zealand, and the United States. There were 123 countries with continuous EFW data from 1995 to 2015. The 21 High-income industrial countries and 14 FS economies are included in this group. Thus, the EFW data were available for 88 developing economies. However, the per capita GDP data of six of these countries (Venezuela, Syria, Papua New Guinea, Guyana, Haiti, and Taiwan) were unavailable in the World Bank data in either 1995 or 2015. Thus, the growth rate data from the World Bank were available for 82 non-FS developing economies.

Table 12 provides the annual growth rate of per capita GDP for the 21 countries in the high-income group, 16 high-income European countries, and for 82 developing economies. The per capita growth data are also provided for the 25 FS economies according to their 2015 EFW summary rating. Both the simple and population weighted mean growth rates are provided for three different time periods – 1995-2015, 2000-2015, and 2005-2015.

How do the growth rates of the FS groups compare to the other groups? As is implied by Table 12, the socialist economies grew more rapidly than the high-income countries throughout the 1995-2015 period. For example, the simple mean annual growth rate of the top, middle, and bottom groups (according to 2015 EFW ratings) were 5.36 percent, 3.23 percent, and 4.50 percent, respectively. Each of these rates were well above the simple mean of 1.50 percent for the world's 21 high-income countries and the 1.52 percent annual growth rate for the 16 high-income European countries. The population weighted mean annual growth rates for the top (most-free), middle, and bottom (least-free) socialist groups during 1995-2015 were 4.54 percent, 3.78 percent, and 3.30 percent, respectively. Again, these figures are all considerably higher than the 1.25 percent for the 21 high-income countries of the world and 1.16 percent for the 16 European countries. When these comparisons are also made for the 2000-2015 and 2005-2015 periods, the pattern of the results is the same: the growth rates for each of the socialist groups exceeds that of the high-income countries.

Turning to a comparison between the FS economies and the other 82 developing countries, the simple average annual growth rate of the socialist groups nearly always exceeds the simple average for the 82 developing economies. For example, the simple mean annual growth rate for 1995-2015 of the 82 developing economies was 2.03 percent, compared to the annual growth rates of 5.36 percent, 3.23 percent, and 4.50 percent for the top, middle, and bottom FS groups. The pattern was similar for the 15 and 10-year comparisons: the simple average annual growth rates of the FS economies were generally greater than the simple average for the 82 developing countries.

However, the pattern changes when the population weighted figures are used for the comparisons. The population weighted mean annual growth rates for the 82 developing economies are generally greater than the parallel rates for the FS countries. For example, the population weighted mean annual growth rate for the 82 developing countries during 1995-2015 was 4.75 percent compared to 4.54 percent, 3.78 percent, and 3.30 percent for the top, middle, and bottom groups among the FS economies. The population weighted growth rates for the 82 developing economies are driven by the high growth rates of China and India, the world's two most populace countries. When these two countries are omitted from the developing group, the mean annual growth rate of the remaining 80 countries is substantially lower. When the FS groups are com-

pared with the developing countries without China and India, the growth rates of the FS economies are generally higher than that of the 80 developing economies.

Summarizing, the growth rates of the FS economies are generally higher than the growth rates of the world's 21 high-income countries, the 16 high-income European economies, and the developing economies of the world, except for China and India. This pattern holds for both the simple average and the population weighted average growth rates and for each of the three periods. The next section will use regression analysis to analyze growth rates in more detail.

5. The Determinants of Economic Growth, 1995-2015: Regression Analysis

This section will consider the factors underlying the growth of the 128 countries of our study (the 21 high-income, 25 former socialist, and 82 developing countries) during 1995-2015. However, the 1995 EFW and per capita GDP data are unavailable for Montenegro, and the data for another variable included in this analysis (net fuel exports) are unavailable for five other countries -- Chad, Democratic Republic of Congo, Guinea-Bissau, Serbia, and Tajikistan. Thus, these countries must be omitted from this analysis. Therefore, our final data base consists of 122 countries. Unless otherwise noted, the World Bank (2017) is the source of all variables included in this analysis.

Regression analysis will be utilized to examine the determinants of growth. Table 13 presents the results of this analysis. The dependent variable is the annual growth rate of real GDP per capita over the periods 1995-2015 (panel A), 2000-2015 (panel B), and 2005-2015 (panel C). A brief description of the key independent variables included in our regression models:

- i. 1995 per Capita GDP. This variable is measured in 2011 international dollars and is in logarithmic form. It is expected to have a negative sign, indicating convergence. Holding everything else constant, countries with larger 1995 per capita GDP are expected to grow less rapidly.
- ii. Economic Freedom Summary Index. In equations 1, 2, and 3, both the 1995 Economic Freedom of the World summary rating and the change in the summary rating from 1995 to 2015 were included in the model. These variables are expected to have a positive sign, indicating that both the level and the change in economic freedom will foster higher rates of economic growth. Regressions 1, 2, and 3 were estimated using 114 observations instead of 122. The eight countries dropped are former socialist economies for which the 1995 EFW data were unavailable. These countries are Georgia, Armenia, Kazakhstan, Macedonia, Kyrgyz Republic, Bosnia and Herzegovina, Moldova, and Azerbaijan.

In equations 4, 5, and 6, the average EFW rating over the available observations in the period 1995-2015 was used. For the eight countries listed above, the EFW average covers the periods 2005, 2010, and 2015. For the other 114 countries, the EFW average covers the periods 1995, 2000, 2005, 2010, and 2015. This variable is expected to have a positive sign, reflecting the positive impact of economic freedom on growth. The advantage of using the average EFW – in equations 4, 5, and 6 – is that we reduce measurement error and we are able to utilize the full sample of 122 countries. The advantage of using EFW in 1995 and the change from 1995 to 2015 – in columns 1, 2, and 3 – is that we can measure the separate effects of both the level and the change in the quality of economic institutions over an extended period.

- iii. Population. This variable is measured in millions of people in 2015 and is in logarithmic form. Transaction costs are higher for trade across national boundaries, particularly when trade barriers are present and the trading partners utilize different currencies and/or speak different languages. Other things constant, larger countries (and integrated market areas) will derive more gains from trade allowing them to grow more rapidly. Therefore, we expect this variable to enter the equations with a positive sign.
- iv. Percentage of Female Population in Prime Age 25-59 Group. This variable is the percentage of female population between the ages 25 to 59 as a percentage of the total female population at the beginning of the period under consideration: That is, in the year 1995 for panel A, in the year 2000 for panel B, and in the year 2005 for panel C. Persons in the prime working age category will generally have higher skill levels, greater commitment to the labor market, and therefore higher productivity. The female population was chosen instead of total population because the former more accurately reflects the latent composition of the population which is sometimes contaminated by in-migration of workers, most of whom are males. We expect this variable to have a positive sign.
- v. Change in the Percentage of Female Population Age 25-59. This variable is the percentage of female population in the prime working age 25-59 group at the end of the period minus the corresponding figure at the beginning of the period. Thus, in panel A, it is the change from 1995 to 2015; in panel B, it is the change from 2000 to 2015; and in panel C, it is the change in the last decade, 2005-2015. An increase in the share of the population in the prime working age group will enhance productivity and economic growth. Therefore, we expect this variable to enter with a positive sign. However, the composition of the population will change slowly. As a result, this variable will exert a smaller impact over shorter time periods.

- vi. Net Foreign Direct Investment. This variable is the average net inflow of foreign direct investment as a percentage of GDP during the period under consideration: 1995-2015 (panel A), 2000-2015 (panel B), and 2005-2015 (panel C). Because foreign direct investment is a source of both capital financing and innovative ideas, we expect it to have a positive sign.
- vii. Net Fuel Exports. This variable is fuel exports minus fuel imports as a percentage of GDP, averaged over the period 1995-2015 (panel A), 2000-2015 (panel B), and 2005-2015 (panel C). Other things constant, the larger this variable, the greater the net revenues derived from the fuel exports (reflecting a combination of fuel prices and units sold). Increases in net fuel exports will enhance growth while larger expenditures on fuel imports will slow growth. Therefore, we expect this variable to have a positive sign.
- viii.Dummy for Six Middle-Eastern Oil Exporting Countries. This dummy is equal to one for the countries Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and United Arab Emirates, and zero otherwise. In contrast with most oil exporters, as these six countries have derived additional revenues from oil exports, their in-migration of workers, mostly prime age males, has increased rapidly. Some of the migrants are involved in the oil industry, but others are involved in construction and other domestic projects. Because the earnings of the migrants are low relative to the domestic population, their inflow reduces per capita GDP. Therefore, we expect this variable to have a negative sign.
- ix. Dummies for the 25 Former Socialist and the 82 Other Developing Economies. Dummy variables indicating developing countries and socialist economies (sometimes classified by EFW rating) were included in the model. This provides information on the growth rates of these economies in comparison with the 21 High-Income industrial countries.

Equations 1 and 4 are simple models that include the 1995 per capita income, EFW, and dummies for former socialist (FS) economies and for the other 82 developing countries. Equation 1 includes the 1995 EFW summary rating and the change during 1995-2015, while equation 4 includes only the average EFW summary rating during 1995-2015. As expected, the 1995 per capita GDP is always negative and highly significant while the EFW variables are always positive and highly significant. The dummy for the 82 developing countries is generally insignificant. However, the dummy for the FS economies is always positive and significant, indicating these economies grew more rapidly than the high income-based group. Even these simple models had R-squares between 26 percent to 38 percent across the three panels.

Table 13 – Panel A: Regression Analysis (1995-2015)

140) (140) (150) (Variable: 1.59*** (-4.29) 0.85*** (3.56) 0.73*** (2.81) 0.90 (1.36)	1.80** (2.42) 0.70 (2.27) (2.27) (2.27) (2.27)	-0.88*** (-5.27) 0.93*** (3.62) 2.45*** (5.07)	-1.70*** (-6.20) 0.93*** (3.32) 1.09 (1.62)	0.83*** (-5.64) 0.83*** (2.92) 1.75** (2.36) 0.83 (1.39) 0.23 (0.19) -0.08
(40) (0) (155) (155) (100) (10	(-4.29) 0.85*** (3.56) 0.73*** (2.81) 0.90 (1.36)	(-4.12) 0.71*** (2.92) 0.60** (2.27) 1.80** (2.42) 0.70 (1.23) -0.60 (-0.66)	(-5.27) 0.93*** (3.62) 2.45*** (5.07)	(-6.20) 0.93*** (3.32) 1.09 (1.62)	0.83*** (2.92) 1.75** (2.36) 0.83 (1.39) 0.23 (0.19)
**** 0 15) 15) 10) **** 14)	0.85*** (3.56) 0.73*** (2.81) 0.90 (1.36)	1.80** (2.42) 0.60** (2.27) 1.80** (2.42) 0.70 (1.23) -0.60 (-0.66)	0.93*** (3.62) 2.45*** (5.07)	0.93*** (3.32) 1.09 (1.62)	0.83*** (2.92) 1.75** (2.36) 0.83 (1.39) 0.23 (0.19)
0.55 0.00 0.00 0.00 0.00 0.00 0.00 0.00	(3.56) 0.73*** (2.81) 0.90 (1.36)	(2.92) 0.60** (2.27) 1.80** (2.42) 0.70 (1.23) -0.60 (-0.66)	(3.62) 2.45*** (5.07)	(3.32) 1.09 (1.62)	1.75** (2.36) 0.83 (1.39) 0.23 (0.19)
7** 0 (0)	0.73*** (2.81) 0.90 (1.36)	1.80** (2.42) 0.70 (1.23) -0.60 (-0.66)	(3.62) 2.45*** (5.07)	(3.32) 1.09 (1.62)	1.75** (2.36) 0.83 (1.39) 0.23 (0.19)
20) *** (4)	(2.81) 0.90 (1.36)	1.80** (2.42) 0.70 (1.23) -0.60 (-0.66)	(3.62) 2.45*** (5.07)	(3.32) 1.09 (1.62)	1.75** (2.36) 0.83 (1.39) 0.23 (0.19)
*** 44)	0.90 (1.36)	1.80** (2.42) 0.70 (1.23) -0.60 (-0.66)	(3.62) 2.45*** (5.07)	(3.32) 1.09 (1.62)	1.75** (2.36) 0.83 (1.39) 0.23 (0.19)
28 28 24) (-0.17	(2.42) 0.70 (1.23) -0.60 (-0.66)	(3.62) 2.45*** (5.07)	(3.32) 1.09 (1.62)	1.75** (2.36) 0.83 (1.39) 0.23 (0.19)
28 28 24) (-0.17	(2.42) 0.70 (1.23) -0.60 (-0.66)	2.45*** (5.07)	1.09 (1.62)	1.75** (2.36) 0.83 (1.39) 0.23 (0.19)
28 28 24) (-0.17	(2.42) 0.70 (1.23) -0.60 (-0.66)	(5.07)	(1.62)	(2.36) 0.83 (1.39) 0.23 (0.19)
28 (4) (-0.17	(2.42) 0.70 (1.23) -0.60 (-0.66)			(2.36) 0.83 (1.39) 0.23 (0.19)
' 4) ((2.42) 0.70 (1.23) -0.60 (-0.66)	0.22	0.04	(2.36) 0.83 (1.39) 0.23 (0.19)
' 4) (0.70 (1.23) -0.60 (-0.66)	0.22	0.04	0.83 (1.39) 0.23 (0.19)
' 4) ((1.23) -0.60 (-0.66)	0.22	0.04	(1.39) 0.23 (0.19)
' 4) (-0.60 (-0.66)	0.22	0.04	0.23 (0.19)
' 4) ((-0.66)	0.22	0.04	(0.19)
' 4) (, ,	0.22	0.04	
' 4) (-0.1 <i>7</i>	0.22	0.04	0.08
, ,	(034)		0.22	0.04	-0.08
	(-0.54)	(-0.34)	(0.56)	(80.0)	(-0.14)
	0.14*	0.18**		0.17**	0.18**
	(1.73)	(2.14)		(2.03)	(2.18)
0	0.21***	0.21***		0.21***	0.22***
	(3.58)	(3.62)		(3.88)	(3.87)
0	0.18***	0.18***		0.15***	0.16***
	(4.54)	(4.48)		(4.13)	(4.24)
(0.02**	0.03**		0.03**	0.03**
	(2.32)	(2.59)		(2.35)	(2.49)
0	0.05***	0.04***		0.06***	0.06***
	(3.15)	(3.02)		(5.10)	(4.75)
-2	2.54***	-2.47***		-2.60***	-2.60***
((-2.80)	(-2.70)		(-2.84)	(-2.76)
5** -1	3.32***	-12.61***	-4.64**	-14.19***	-13.85***
38) ((-5.25)	(-5.12)	(-2.34)	(-6.67)	(-6.21)
					122.00
					0.66
3	- -135** -1	0.02** (2.32) 0.05*** (3.15) -2.54*** (-2.80) -13.32*** 38) (-5.25)	0.02** 0.03** (2.32) (2.59) 0.05*** 0.04*** (3.15) (3.02) -2.54*** -2.47*** (-2.80) (-2.70) (-5** -13.32*** -12.61*** 38) (-5.25) (-5.12)	0.02** 0.03** (2.32) (2.59) 0.05*** 0.04*** (3.15) (3.02) -2.54*** -2.47*** (-2.80) (-2.70) (-5.25) (-5.12) (-2.34) 1.00 114.00 114.00 122.00	0.02** 0.03** 0.03** (2.35) (2.35) (2.35) 0.05*** 0.04*** 0.06*** (3.15) (3.02) (5.10) -2.54*** -2.47*** -2.60*** (-2.80) (-2.70) (-2.84) (-5.25) (-5.12) (-2.34) (-6.67) (-5.25) (-5.12) (-2.34) (-6.67) (-0.00) 114.00 114.00 122.00 122.00

Notes: Robust t statistics in parentheses. * p < 0.1, *** p < 0.05, *** p < 0.01. Top EFW Group: 2015 EFW > 7.50. Middle EFW Group: 2015 EFW between 7.00 and 7.50. Bottom EFW Group: 2015 EFW < 7.00. Net foreign direct investment and net fuel exports are the averages over the period.

Equations 2 and 5 present the results for the comprehensive model. In addition to the variables included in regressions 1 and 4, the comprehensive model also includes population, percentage of the female population in the prime working age 25-59 group at the beginning of the period, changes in the percentage of the population in this group over the period, net foreign direct investment, the net fuel exports, and a dummy for six Middle Eastern oil exporters. These variables have the expected sign and are significant at the 10 percent level or higher. In most cases, the continuous variables are significant at the 1 percent level. In panels A and B, the following variables are all significant at the 1 percent level: per capita income, EFW, percentage of the female population age 25-59 at the beginning of the period, the change in the percentage of this population during the period, and the net fuel exports. The dummy for the six middle eastern oil exporters was always negative and significant at the 5 percent level or higher.

Table 13 - Panel B: Regression Analysis (2000-2015)

	(1)	(2)	(3)	(4)	(5)	(6)
		ent Variable:				
Log of per capita GDP (2011 PPP \$) in 1995	-0.85***	-1.84***	-1.78***	-0.94***	-1. <i>75</i> ***	-1.78***
	(-3.59)	(-5.02)	(-4.84)	(-5.38)	(-5.72)	(-5.75)
Economic Freedom in 1995	0.79***	0.93***	0.83***			
	(3.55)	(3.92)	(3.29)			
Change in Econ. Freedom 1995-2015	0.62**	0.86***	0.76**			
	(2.08)	(3.01)	(2.55)			
Average Econ. Freedom 1995-2015				0.86***	1.00***	0.87***
				(3.11)	(3.44)	(2.90)
Dummy: Formerly Socialist (FS)	2.39***	1.34**		2.72***	1.72**	
	(4.54)	(1.99)		(5.44)	(2.46)	
FS Top EFW Group			2.18***			2.53***
			(2.92)			(3.49)
FS Middle EFW Group			1.06*			1.43**
			(1.74)			(2.28)
FS Bottom EFW Group			0.53			0.50
·			(0.59)			(0.45)
Dummy: Other Developing Economies	0.65	0.47	0.48	0.66	0.70	0.53
	(1.60)	(0.90)	(0.88)	(1.59)	(1.39)	(1.00)
Log of population in 2015		0.23**	0.26***		0.29***	0.31***
		(2.60)	(2.88)		(3.31)	(3.58)
% Female population age 25-59 in 2000		0.23***	0.23***		0.20***	0.22***
		(4.26)	(4.21)		(3.62)	(3.92)
Change in % of Fem. Pop. Age 25-59 from 2000 to 2015		0.15***	0.15***		0.12***	0.14***
		(3.83)	(3.67)		(3.54)	(3.54)
Net foreign direct investment (2000-2015)		0.02*	0.02**		0.02**	0.03***
, ,		(1.94)	(2.13)		(2.45)	(2.69)
Net fuel exports (2000-2015)		0.06***	0.06***		0.06***	0.06***
, , ,		(4.44)	(4.13)		(5.53)	(4.81)
Dummy: Middle East oil exporters		-2.53***	-2.48**		-2.78***	-2.80***
,		(-2.67)	(-2.59)		(-2.83)	(-2.72)
Intercept	-4.10**	-15.65***	-15.00***	-4.55**	-15.08***	-14.76***
•	(-2.38)	(-6.45)	(-6.21)	(-2.13)	(-7.19)	(-7.01)
Number of observations	114.00	114.00	114.00	122.00	122.00	122.00
R-squared	0.30	0.62	0.63	0.38	0.66	0.69

Notes: Robust t statistics in parentheses. * p < 0.1, ** p < 0.05, *** p < 0.01. Top EFW Group: 2015 EFW > 7.50. Middle EFW Group: 2015 EFW between 7.00 and 7.50. Bottom EFW Group: 2015 EFW < 7.00. Net foreign direct investment and net fuel exports are the averages over the period.

The explanatory power of the model is very high. The R-squares for equations 2 and 5 in panel A (1995-2015) were 0.57 and 0.65, respectively. In panel B (2000-2015) the R-squares for equations 2 and 5 were even higher: 0.62 and 0.66, respectively. Even in the shorter one-decade period of panel C, the R-squares were still 0.55 and 0.56. The slightly lower R-squares of panel C are not surprising because business cycle factors will reduce the precision of the growth figures for the shorter period.

The EFW coefficients are not only positive and significant but they are also large in magnitude. In column 2 of Table 13, Panel A (1995-2015), the coefficient of 0.81 for EFW in 1995 indicates that, all else constant, a one unit increase in the initial EFW summary rating enhanced the annual growth rate of per capita GDP by 0.81 percent during the two decades. Similarly, the coefficient of 0.73 for the change in EFW during 1995-2015 indicates that, other things constant, a one unit increase in EFW is associat-

Table 13 - Panel C: Regression Analysis (2005-2015)

	(2)	(3)	(4)	(5)	(6)
	lent Variable				
-1.15***	-1.71***	-1.68***	-1.11***	-1.55***	-1.65***
			(-6.00)	(-4.90)	(-5.06)
, ,		, ,			
(1.96)	(2.58)	(2.22)			
					0.95***
					(3.12)
(3.26)	(1.57)		(3.50)	(1.61)	
		1.61**			1.42*
		(2.11)			(1.90)
		1.14			1.15*
		(1.63)			(1.73)
		-0.50			-0.16
		(-0.53)			(-0.14)
0.82*	0.79	0.74	0.78*	0.91	0.71
(1.84)	(1.30)	(1.19)	(1.74)	(1.64)	(1.1 <i>7</i>)
	0.33***	0.36***		0.35***	0.36***
	(3.46)	(3.71)		(3.67)	(3.83)
	0.15***	0.16***		0.14***	0.15***
	(2.84)	(2.97)		(2.63)	(2.94)
	0.12**	0.12**		0.10*	0.12*
	(2.11)	(2.03)		(1.82)	(1.93)
	0.02**	0.02***		0.02***	0.02***
	(2.49)	(2.70)		(3.01)	(3.20)
	0.04**	0.04**		0.04***	0.04***
	(2.62)	(2.62)			(2.94)
	-2.64**	-2.59**		-2.85**	-2.85**
					(-2.17)
-5.73***	, ,		-5.12***		-13.06***
					(-5.73)
				, ,	122.00
					0.57
	(-4.66) 1.01*** (4.38) 0.61* (1.96) 1.68*** (3.26)	(-4.66) (-4.27) 1.01*** (1.5*** (4.38) (4.07) 0.61* 0.83** (1.96) (2.58) 1.68*** 1.11 (3.26) (1.57) 0.82* 0.79 (1.84) (1.30) 0.33*** (3.46) 0.15*** (2.84) 0.12** (2.11) 0.02** (2.49) 0.04** (2.62) -2.64** (-2.15) -5.73*** -14.30*** (-3.23) (-5.29) 114.00 0.32 0.55	(-4.66) (-4.27) (-4.25) 1.01*** 1.15*** 1.04*** (4.38) (4.07) (3.60) 0.61* 0.83** 0.73** (1.96) (2.58) (2.22) 1.68*** 1.11 (3.26) (1.57) 1.61** (2.11) 1.14 (1.63) -0.50 (-0.53) 0.82* 0.79 0.74 (1.84) (1.30) (1.19) 0.33*** 0.36*** (3.46) (3.71) 0.15*** 0.16*** (2.84) (2.97) 0.12** 0.12** (2.11) (2.03) 0.02** (2.49) (2.70) 0.04** (2.62) (2.62) -2.64** -2.59** (-3.23) (-5.29) (-5.22) 114.00 114.00 0.32 0.55 0.56	(-4.66) (-4.27) (-4.25) (-6.00) 1.01*** 1.15*** 1.04*** (4.38) (4.07) (3.60) 0.61* 0.83** 0.73** (1.96) (2.58) (2.22) 0.91*** (3.72) 1.68*** 1.11 1.67*** (2.11) 1.14 (1.63) -0.50 (-0.53) 0.74 0.78* (1.84) (1.30) (1.19) (1.74) 0.33*** 0.36*** (3.46) (3.71) 0.15*** 0.16*** (2.84) (2.97) 0.12** 0.12** (2.11) (2.03) 0.02** (2.49) (2.70) 0.04** (2.49) (2.70) 0.04** (2.62) (2.62) -2.64** -2.59** (-2.15) (-2.06) -5.73*** -14.30*** -13.79*** -5.12**** (-3.23) (-5.29) (-5.22) (-2.70) 114.00 114.00 114.00 122.00 0.32 0.55 0.56 0.34	(-4.66) (-4.27) (-4.25) (-6.00) (-4.90) 1.01*** 1.15*** 1.04*** (4.38) (4.07) (3.60) 0.61* 0.83** 0.73** (1.96) (2.58) (2.22)

Notes: Robust t statistics in parentheses. * p < 0.1, *** p < 0.05, *** p < 0.01. Top EFW Group: 2015 EFW > 7.50. Middle EFW Group: 2015 EFW between 7.00 and 7.50. Bottom EFW Group: 2015 EFW < 7.00. Net foreign direct investment and net fuel exports are the averages over the period.

ed with a 0.73 increase in the annual growth of per capita GDP during 1995-2015. In column 5 of Table 13, Panel A, the coefficient of 0.93 for the average EFW rating during 1995-2015 indicates that, ceteris paribus, a one unit increase in the average EFW summary rating during 1995-2015 increased the annual growth of per capita GDP by 0.93 percent during the two decades. Consider, for instance, Ukraine and Poland. The average EFW rating for Ukraine during 1995-2015 was 5.03. The parallel figure for Poland was 6.64. The difference of 1.61 units (6.64 minus 5.03) indicates that, all else equal, the predicted annual growth rate for Poland during the period would be 1.5 percent (1.61 multiplied by 0.93) larger than that of Ukraine. See Equation 5 of Table 13, Panel A. The differences in standard of living implied by an additional 1.5 percent annual growth rate over an extended period of time are substantial. For example, a 1.5 percent higher growth rate over a 30-year period will result in a 56 percent larger income. In the period 1995-2015, the actual annual growth rate for Poland was 2.15 percent larger than that of Ukraine (4.11 minus 1.96, see Table 3).

In the more comprehensive model, the dummy variable for the 82 developing economies was insignificant. This indicates that, after adjustment for the factors of the model, the growth rates of the developing economies were not significantly different than that of the 21 high income countries. The dummy for the FS economies was also insignificant, except in panel B.

In Table 13, equations 3 and 6 differ from equations 2 and 5 in that the dummy for the FS economies is now separated into three distinct groups (high, medium, and low 2015 summary EFW ratings). The pattern of the coefficients (and significance levels) for the continuous variables remains the same. The separation of the FS economies into three distinct groups increases the explanatory power of the model. The R-squares for equations 3 and 6 for the two-decade period (panel A) were 0.59 and 0.66, respectively. For the 15-year period (panel B), the R-squares were 0.63 and 0.69, respectively. For the 10-year period (panel C), the R-squares were 0.56 and 0.57, respectively.

The dummy for the FS group with a 2015 EFW rating above 7.5 was always significant, indicating that these economies grew more rapidly than the 21 countries in the high-income group. In contrast, the dummy for the FS group with the lowest EFW rating (less than 7 in 2015) was always insignificant. The dummy for the middle group was always positive but it was significant in only three of the six equations. Economic freedom exerted not only a positive impact on the growth rates of all economies but the pattern of the dummies for the FS countries is consistent with the view that higher EFW summary ratings exerted an additional positive impact on the growth rates of these economies.

Prior models of cross-country variation in economic growth have generally had R-squares of less than 50 percent (Barro 2001; Dawson 1998 and 2003; Gwartney, Lawson, and Holcombe 1999; Hall, Sobel, and Crowley 2010; Justesen 2008). The explanatory power of our model is substantially higher than is generally obtained for cross-country growth models. This is particularly true for the 15 and 20-year growth analysis. Measurement of the growth of per capita GDP over 15 and 20-year periods minimizes measurement error as a result of business cycle effects. Therefore, these growth rates are a more accurate measure of an economy's long-term sustainable growth rate. The variables of our model are factors that economic theory indicates will impact long-term growth. The sign, magnitude, and statistical significance of these variables are indicative of their importance as determinants of long-term growth. The economic freedom variable is always positive and highly significant, generally at the 1 percent level. This provides evidence that economic freedom exerts a strong and persistent impact on the long-term growth rate of per capita GDP.

6. Life Satisfaction, Economic Freedom, and the Former Socialist Economies

It is important to analyze the impact of economic freedom on economic growth and per capita income. But, life is about more than goods and services. At the most basic level, life is about making choices and controlling your life in a manner that generates satisfaction. Thus, it is highly important to examine factors, including economic freedom, that facilitate the ability of individuals to control their life and shape it in a manner that generates life satisfaction. In recent years, several researchers have addressed this topic. See Bjørnskov, Dreher, and Fischer (2010), Nikolaev (2014), Pitlik and Rode (2016), Rode (2013), and Verme (2009).

While communism reduced the ability of individuals to choose for themselves and control their life, its collapse resulted in disruptive changes, anxiety, and uncertainty about the future. This situation reduced the life satisfaction for many living in these countries. The data of the World Values Survey is consistent with this view.

The World Values Survey (WVS) contains the following question: "All things considered, how satisfied are you with your life as a whole these days?" Respondents answered on a ten-point scale, ranging from dissatisfied (1) to satisfied (10). This variable was used as a measure of life satisfaction.

The WVS has conducted six different survey waves since the 1980s. The surveys provide individual data on life satisfaction and numerous other personal variables for representative samples that generally include between 1,200 and 1,500 individuals from each country in the survey. Since the 1990s, each survey wave has typically included approximately 60 countries. In addition to the individual data from the WVS, country specific variables on real per capita GDP (measured in 2011 PPP dollars), mean summary EFW ratings, Polity IV measure of democracy, and ethnic and language fractionalization were also included in the data set. Dummy variables were also used to identify the survey wave period, Latin American countries, and the FS economies. These data were available for over 220,000 individuals.

Table 14 presents the results of regression analysis with life satisfaction as the dependent variable and a set of personal attributes and country specific measures as independent variables. The following variables representing individual characteristics are included in the model: Life control (10-point scale), employed (dummy = 1), relative income compared to others in the country (10-point scale), male (dummy = 1), age 13-29 (dummy = 1), age 60 and over (dummy = 1), married and living together (dummy = 1), divorced or separated (dummy = 1), self-employed (dummy = 1), and years of schooling. All of these individual specific variables are significant and have the expected sign. Regression 1 also includes country specific variables for per capita GDP, EFW, Polity IV measure of democracy, ethnic fractionalization, and language

Table 14 - Life Satisfaction. Regression Analysis

	"De	ependent Varial	ble: Life Satisfacti	on		
		(1) Dissatisfied. (10) Satisfied"				
	(Equation 1)		(Equation 2)			
	Coef.	t-ratio	Coef.	t-ratio		
Life control (10-point scale)	0.2988	152.83	0.3023	155.93		
Employed (dummy $= 1$)	0.0664	6.22	0.0916	8.66		
Relative income (10-point scale)	0.1757	83.65	0.1734	83.63		
Male (dummy = 1)	-0.1596	-1 <i>7</i> .15	-0.1670	-18.10		
Age $13-29 \text{ (dummy} = 1)$	0.2462	21.09	0.2319	20.02		
Age 60 and over ($dummy = 1$)	0.2428	16.60	0.2784	19.25		
Married/Living together (dummy = 1)	0.3160	28.51	0.3126	28.43		
Divorced/Separated (dummy = 1)	-0.2536	-11.65	-0.2266	-10.52		
Self employed (dummy = 1)	-0.0614	-4.05	-0.1114	-7.44		
Years of schooling	0.0130	10.29	0.0191	15.28		
Per capita GDP (thousands of 2011 PPP dollars)	0.0149	38.04				
Economic Freedom of the World index	0.0268	3.87	0.1723	30.11		
Polity measure of democracy (-10 to 10 scale)	0.0303	30.71	0.0282	28.82		
Ethnic fractionalization	0.4169	14.35	0.5543	19.35		
Language fractionalization	-0.4434	-16.95	-0.6980	-27.52		
Latin America (dummy = 1)	0.7002	40.46	0.5005	30.57		
Wave 3 (1995-1998) - Main Effect	-0.3764	-13.70	-0.4968	-18.15		
Wave 4 (1999-2004) - Main Effect	-0.7683	-27.81	-0.9548	-35.10		
Wave 5 (2005-2009) - Main Effect	-0.4290	-15.75	-0.5788	-21.42		
Wave 6 (2010-2014) - Main Effect	-0.5395	-19.95	-0.6357	-23.57		
Former socialist (Main Effect)	-1.3580	-50.87	-1.3141	-50.66		
Former socialist × Wave 4 (1999-2004)	0.3032	4.10	0.0776	1.06		
Former socialist × Wave 5 (2005-2009)	0.5128	14.87	0.3392	10.10		
Former socialist × Wave 6 (2010-2014)	1.2022	35.90	0.9808	30.46		
Intercept	3.2998	71.08	2.7434	62.47		
Number of observations	219,7	219,740		224,873		
R-squared	0.244		0.238			

Source: World Values Survey (WVS).

Notes: These regressions include WVS Waves 2, 3, 4, 5, and 6. The omitted category is Wave 2 (1990 - 1994). However, there were no former socialist (FS) countries in Wave 2. Therefore, the interactions between the FS economies and the different WVS waves are all relative to Wave 3 (1995-1998) which is captured by the FS main effect.

fractionalization. The ethnic fractionalization variable is positive and the language fractionalization negative. As expected, per capita GDP, economic freedom, and democracy all are positive and highly significant. The dummy indicator for Latin America is also positive and highly significant. This is consistent with the findings of other researchers that people living in Latin American countries have an elevated level of life satisfaction, particularly when account is taken for their relatively low-income status

Turning to the dummy for former socialist countries, the main effect of this variable is negative (1.358 units) and highly significant. This indicates that during the period of WVS survey wave 3 (1995-1998), holding all else constant, individuals in FS countries were significantly less satisfied with their life than individuals in other countries. However, this effect has been partially mitigated with the passage of time as indicated by the positive and increasingly significant interactions between the FS dummy and the subsequent WVS waves — waves 4 (1999-2004), 5 (2005-2009), and 6 (2010-2014) —. By 2010-2014 (wave 6) individuals living in FS economies are, on average, significantly more satisfied with their lives (1.2022 units) than was true during the

1995-1998 wave 3, and they are closing the gap relative to the life satisfaction enjoyed by individuals living in other countries.

Regression 2 of Table 14 drops out the country specific per capita GDP variable from the model. Note that this causes the size of the coefficient and significance of the EFW variable to increase sharply. The size and significance of the EFW coefficient rose from 0.0268 (t-ratio = 3.87) in regression 1 to 0.1723 (t-ratio = 30.11) in regression 2. This is because of the strong positive impact of economic freedom on per capita income. As a result, the coefficient size of EFW in regression 1 is depressed because a sizeable portion of its impact is reflected by the per capita income variable. Once the latter is omitted from the model, the EFW variable increases in both size and significance. However, omission of the per capita income variable does not alter the pattern of any of the other variables in the model, including the FS variables across time. Since wave 4 (1999-2004), the FS variable becomes larger and larger in magnitude and increasingly significant over time, partially mitigating the negative effect observed during wave 3 (1995-1998), just as was the case for regression 1.

The analysis of this section supplements our prior analysis of economic growth. It illustrates that economic freedom exerts a positive impact not only on the growth of real per capita GDP, but also on the life satisfaction of people. Further, it also shows that the life satisfaction of individuals in FS countries is more and more like that of those in other countries. During the most recent (2010-2014) World Values Survey, the earlier life satisfaction gap between individuals living in FS countries and similar individuals in other countries was virtually eliminated.

Area Ratings and Identifying the Strengths and Weaknesses of the FS Economies

In addition to the summary rating, the *Economic Freedom of the World* data provides country ratings for five areas: (1) size of government, (2) legal structure and protection of property rights, (3) access to sound money, (4) international exchange, and (5) regulation of credit, labor and business. The area ratings provide insight on both the strengths and weaknesses of economies. They also make it possible to track the source of changes in economic freedom of the FS economies and compare their ratings with other European countries.

Table 15 provides the mean area ratings in each of the five areas for both the FS economies and the 16 high-income European countries during 1995-2015. Look at the mean ratings for Areas 1, 3, 4, and 5. In each of these areas, the mean rating of the FS economies rose substantially during 1995-2015 and their ratings also improved relative to the 16 high-income European countries. The high-income countries have low

ratings in Area 1 (size of government). Thus, in this area, the mean rating for the FS economies was higher than the mean for the high-income European countries. Moreover, the difference expanded during the two decades. In 1995, the mean Area 1 rating gap (FS countries minus the European 16) was 0.46 (4.46 minus 4.00). By 2015, the comparable mean rating gap for Area 1 was 1.32 (6.26 minus 4.94).

In areas 3, 4, and 5 the mean ratings of the FS countries were persistently lower than those of the 16 high-income European economies. However, the mean rating of the FS countries rose steadily throughout 1995-2015 and the gap compared to the high-income European group narrowed. In Area 3 (Access to Sound Money) the rating improvement was huge and the narrowing of the gap dramatic. In 1995, the mean rating of the FS countries was only 3.27 compared to 9.63, a gap of 6.63 units. By 2015, however, the mean Area 3 rating of the FS countries had risen to 8.75 and the gap narrowed to only 0.76 units. While the gains were smaller for areas 4 (international exchange) and 5 (regulation), the pattern was the same: the mean rating of the FS group rose substantially and the gap compared with the high-income European countries narrowed. In contrast with the other 4 areas, the mean rating of the FS countries changed little in Area 2 (legal structure and protection of property rights). The mean Area 2 rating of the FS economies was 5.68 in 1995, 5.45 in 2005, and 5.48 in 2015. Further, the gap relative to the high-income European economies was 2.13 units in 1995, but it had expanded to 2.40 units in 2015.

Table 15: Mean area ratings for the 25 Former Socialist (FS) economies and the 16 high-income European countries, 1995-2015

Area	Set of countries	1995	2000	2005	2010	2015
Areal	25 FS	4.46	5.48	6.32	6.17	6.26
	16 high-income European	4	5.04	5.38	4.76	4.94
	Gap	-0.46	-0.43	-0.95	-1.41	-1.32
Area2	25 FS	5.68	5.81	5.45	5.6	5.48
	16 high-income European	7.8 1	8.08	8.13	<i>7</i> .91	7.88
	Gap	2.13	2.27	2.68	2.31	2.4
Area3	25 FS	3.27	6.4	8.1	8.58	8.75
	16 high-income European	9.63	9.52	9.48	9.34	9.51
	Gap	6.36	3.12	1.38	0.76	0.76
Area4	25 FS	7.36	7.55	7.25	7.33	7.8
	16 high-income European	8.83	8.98	8.16	8.01	8.14
	Gap	1.47	1.43	0.91	0.68	0.33
Area5	25 FS	4.89	6.41	<i>7</i> .01	7.21	7.39
	16 high-income European	6.7	7.58	7.8	7.63	7.98
	Gap	1.81	1.1 <i>7</i>	0.79	0.42	0.6

Source: 2017 Economic Freedom of the World Report.

Note: The five areas are: (1) size of government, (2) legal structure and protection of property rights, (3) access to sound money, (4) international exchange, and (5) regulation of credit, labor and business. The 16 high-income European countries are Austria, Belgium, Denmark, Finland, France, Germany, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Spain, Sweden, Switzerland, and United Kingdom.

Perhaps the patterns observed in Table 15 are unduly influenced by the FS countries that have largely failed to move toward liberalization. In order to see if this is the case, the mean area ratings were also derived for only the 11 FS countries that are now part of the European Union. These countries are: Czech Republic, Estonia, Hungary, Latvia, Lithuania, Slovak Republic, Slovenia, Poland, Romania, Bulgaria, and Croatia. These countries constitute four of the seven countries in the most-free FS group and seven of the nine countries in the middle group. None of these countries were in the least-free group of the FS countries. Thus, with only a few exceptions, these countries are the most economically liberal of the former socialist economies.

Table 16: Mean area ratings for the 11 Former Socialist (FS) economies that became members of the European Union, and the 16 high-income European countries, 1995-2015

Area	Set of countries	1995	2000	2005	2010	2015
Area1	11 FS (EU Members)	4.09	5.3	5.85	5.6	5.87
	16 high-income European	4	5.04	5.38	4.76	4.94
	Gap	-0.09	-0.25	-0.47	-0.85	-0.93
Area2	11 FS (EU Members)	5.97	6.04	6.06	6.06	6.09
	16 high-income European	7.81	8.08	8.13	7.9 1	7.88
	Gap	1.83	2.04	2.07	1.85	1.79
Area3	11 FS (EU Members)	3.75	6.94	8.91	9.32	9.51
	16 high-income European	9.63	9.52	9.48	9.34	9.51
	Gap	5.88	2.59	0.57	0.01	0
Area4	11 FS (EU Members)	7.64	7.92	7.86	7.86	8.19
	16 high-income European	8.83	8.98	8.16	8.01	8.14
	Gap	1.18	1.07	0.3	0.14	-0.06
Area5	11 FS (EU Members)	5.18	6.68	7.24	7.4	7.7
	16 high-income European	6.7	7.58	7.8	7.63	7.98
	Gap	1.53	0.9	0.55	0.23	0.28

Source: 2017 Economic Freedom of the World Report.

Note: The five areas are: (1) size of government, (2) legal structure and protection of property rights, (3) access to sound money, (4) international exchange, and (5) regulation of credit, labor and business. The 11 FS economies members of the EU are: Estonia, Lithuania, Latvia, Romania, Czech Republic, Bulgaria, Poland, Slovak Republic, Hungary, Croatia, and Slovenia. The 16 high-income European countries are Austria, Belgium, Denmark, Finland, France, Germany, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Spain, Sweden, Switzerland, and United Kingdom.

Table 16 presents the mean area ratings for the 11 FS countries that now belong to the European Union and compares them with the 16 high-income European countries. The pattern is the same as was observed in Table 16. The mean ratings of the FS economies increased substantially in Areas 1, 3, 4, and 5 and they improved relative to the high-income European countries. As in the case when all 25 of the FS economies were considered, the mean Area 1 rating of the 11 FS countries that are now part of the EU was higher than the mean Area 1 rating of the high-income European countries, and the gap widened during the two decades. Initially, the mean Area 3 and 4 ratings of the 11 FS economies were lower than those of the 16 high-income European countries, but this gap was totally eliminated by the end of the period. In 2015, the Area 3, and 4 mean ratings of the 11 FS economies were virtually identical with the

mean ratings of the high-income European countries. Similarly, the Area 5 gap was very small, 0.28 units in 2015, down from 1.53 units in 1995.

However, the situation for Area 2 was once again dramatically different. The mean Area 2 rating for the 11 FS countries that are now EU members changed only slightly during the two decades. The mean Area 2 rating for this group rose from 5.97 in 1995 to 6.06 in 2005 and 6.09 in 2015. Moreover, the Area 2 mean rating of these countries was approximately 2 units less than the figure for the high-income European countries throughout the two decades.

Weakness in the legal structure area is a major problem for almost all of the FS economies. Only one of the 25 FS economies had a 2015 Area 2 rating above 7. Estonia's Area 2 rating in 2015 was 7.51, but the next highest Area 2 rating among the FS group in 2015 was Georgia with a rating of 6.57. Only seven of the former socialist economies (Georgia, the three Baltic countries, Czech Republic, Hungary, and Slovenia) had Area 2 ratings of more than 6.0 in 2015. Thus, 18 of the 25 FS economies had Area 2 ratings of two or more units below the 16 high-income European countries.

Moreover, there is evidence the situation is worsening in several countries. For example, Poland's Area 2 rating in 2015 was 5.89, down from 6.21 in 2010. The Area 2 rating of the Slovak republic was 5.78 in 2010 and 5.64 in 2015, down from 6.63 in 2005. Hungary's Area 2 rating fell from 6.66 in 2005 to 6.04 in 2015.

As we have shown, the FS economies have grown rapidly and closed the income gap relative to the high-income countries of both Europe and the world. However, unless the deterioration in the legal structure of these countries is reversed and improved, it is unlikely these countries will continue to grow rapidly and close the income gap relative to high-income countries.

The legal system of a country is vitally important for sustained growth and achievement of a high per capita income. If investors – domestic as well as foreign – cannot count on protection of property rights and unbiased enforcement of contracts, they will be reluctant to undertake capital projects. In turn, weak investment will slow not only capital formation, but also entrepreneurial activities, dissemination of technology, and dynamic growth. There is already some evidence this is happening in the FS countries. Net foreign direct investment fell sharply during 2011-2015 (see Table 6). As Table 3 shows, the growth of per capita real GDP during the past five years has slowed. Perhaps these changes are caused by other factors, but they are precisely the outcomes one would expect from a poorly operating legal system.

8. Implications and Lessons for the Future

In many ways, the transition of the former socialist (FS) economies from socialism to markets has gone well. In 2015, seven of the 25 FS economies ranked in the top quartile of the 2015 EFW index and another nine were classified in the second quartile. Trade liberalization, more stable monetary regimes, lower marginal tax rates, and deregulation have all contributed to the movement of FS countries toward economic freedom. Further, the economic record of these countries is impressive. They have grown rapidly, achieved large increases in international trade, attracted substantial foreign investment, and made progress against poverty. During 1995-2015, ten of the world's 20 fastest growing countries were FS economies. The FS countries have closed the income gap relative to the high-income countries of Europe and the world. Moreover, with only a few exceptions, the FS countries are now functioning democracies and government corruption has declined.

However, the FS countries also have a major shortcoming: their legal systems are weak and little progress has been made in this area. Given their historic background, this is not surprising. Under socialism, legal systems are designed to serve the interests of the government. Judges, lawyers, and other judicial officials are trained and rewarded for serving governmental interests. Protection of the rights of individuals and private businesses and organizations is unimportant under socialism.

It is a major challenge to convert a socialist legal system into one that enforces contracts in an unbiased manner, protects property rights, permits markets to direct economic activity, and operates under rule of law principles. This is a political as well as economic issue. Economists have provided policy-makers with step by step directions about how to achieve monetary and price stability, liberalized trade regimes, and adopt tax structures more consistent with growth and prosperity. During recent decades, progress has been made in each of these areas. But, a recipe for developing a sound legal system is largely absent. We know what a sound legal system looks like, but we have failed to explain how it can be achieved. Going forward, economists and other researchers need to provide better direction in this area. Of course, development of a sound strategy to achieve a high-quality legal system does not mean that it will be adopted. However, without a strategy, it is a virtual certainty that the political process will choose a legal system characterized by arbitrary powers, corruption, and absence of the rule of law. In our judgment, development of a viable strategy to achieve a sound legal system is the most important challenge confronting those interested in the future prosperity of not only the FS economies, but others throughout the world.

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How Changes in Ownership of Companies Enabled Economic Growth in Poland

By Aleksander Łaszek*

The main aim of this paper is to explain how changes in the ownership structure of companies in Poland affected productivity and GDP growth. Despite only minor changes in employment, which was stable around the level of 5-6 million people, corporate sector (i.e. companies employing 10 persons and more) experienced enormous output growth during last 25 years. As a result, value added of Polish economy more than doubled and more than 2/3 of this growth can be attributed to rapid growth of private companies (both domestic- and foreign-owned) and the demise of state-owned companies. Such rapid growth was a result of both better incentives (profit-oriented private owners) and the opening of the Polish economy. The large inflow of foreign investors enabled for inflow of new technologies and know-how but also increased competition thus boosting the productivity of domestic companies. It also enabled the Polish companies to become part of global value chains. Despite huge success, there is still room for improvement in the Polish economy, as a stock of less productive, protected, state-owned enterprises remains significant.

Introduction

After 1989, Poland has been among fastest growing European economies, which marks a strong contrast with the previous trend of divergence between Poland and the West. Section 1 of the paper places the remarkable growth of Polish economy after 1989 into the wider perspective of three centuries. Sections 2 and 3 look at sources of economic growth after 1989 from the perspective of growth accounting and institutional sectors. As foreign investors played a substantial role in boosting the productivity of the Polish economy, section 4 points to both direct and indirect benefits of foreign direct investment (FDI) inflows and confronts them with their cost – income of investors flowing out of the country. The last section presents both lessons for the future and indicates on challenges still faced by the Polish economy and lessons for the future.

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1. Long-Term Trends in Development of Polish Economy

A quarter century after the beginning of free-market reforms of 1989 their outcomes should be viewed from a historical perspective as a turning point in convergence between Poland and Western Europe. Recently released update of the *Madison Project Database* documents how the gap in GDP per capita between Poland and technological leaders from West had been growing since the 18th century. Although there were temporal rebounds, wars and planned economy resulted in downward trend lasting till 1989 (See Figure 1).

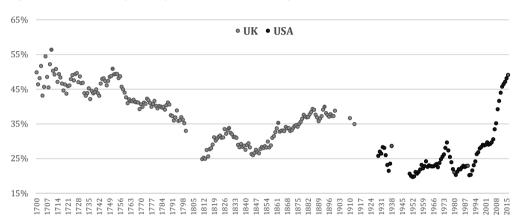


Figure 1. Polish GDP per Capita as % of Technological Leader (First the U.K., Later the U.S.)

Source: University of Groningen, Maddison Project Database 2018.

The victory of "Solidarity" movement in Poland enabled the beginning of liberal reforms in 1989. From an economic point of view, the main goal of reformers was to change socialist economy into a market one, but the most pressing need was to stabilize the economy. The milestone of transition was the Balcerowicz Plan¹, a packet of 10 acts designed to combat hyperinflation, limit privileges of state-owned companies and make doing business for private companies easier. Rapid and simultaneous introduction of all acts, along with stabilization fund provided by IMF, created synergies and paved the way for the success of the transition. As a result, an initial slump in Poland was shallower than in other transition countries and the economic growth restarted in 1992 (Łaszek et al. 2015, 31).

¹ Leszek Balcerowicz was deputy Prime Minister and Finance Minister in 1989 under Tadeusz Mazowiecki, Eastern Europe's first non-communist leader since the end of World War II. He has been widely credited with the economic transformation of Poland. In 2014, he received the Milton Friedman Prize for Advancing Liberty, a biennial award presented by Cato Institute to an individual for achievement in promoting freedom and individual liberty.

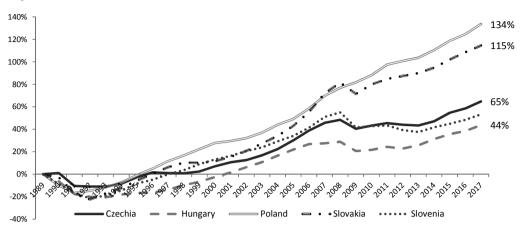


Figure 2: GDP Growth, 1989-2017

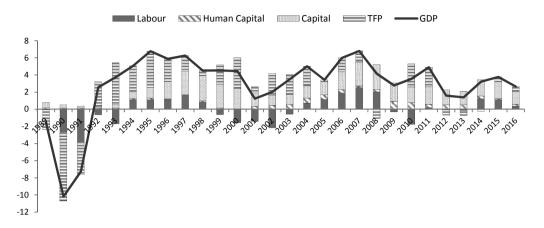
Source: The Conference Board, Total Economy Database™, November 2017.

Early reforms of the 1990s were followed by further institutional changes, as Poland was preparing to join the European Union (EU) and European Single Market. It should be noted that contrary to other New Member States post-accession boom in Poland was rather limited. Countries that started to liberalize their economies later were pursuing reforms more vigorously after 2000 and thus were attracting much more attention from investors, which coupled with lax macroeconomic policy paved the way for boom and subsequent bust (Bakker and Gulde 2010). Overall, although Poland was not among fastest growing economies after 2000, lack of recessions (Poland has not recorded a single year of recession since 1992) and premium for early reforms at the beginning of the 1990s resulted in 134% growth during the 1989-2017 period (See Figure 2).

2. Growth Accounting and Changes in Institutional Sectors

The main source of economic growth of the Polish economy after 1989 was growing labor productivity. Despite minor upswings and downswings during the same period, overall contribution of labour quantity was slightly negative, as in 2017 there were less working people than at the beginning of the transition in 1989. Although the quantity of labour was falling, its quality improved, what can explain up to 10% of the cumulated growth of the Polish economy. Remaining 90% of growth was due to capital deepening and growth of Total Factor Productivity (TFP), with the relative roles of these two factors changing over time. The initial fall in TFP should be interpreted with caution, as it can not be decided whether it was a genuine fall in productivity or just an exposure of inefficiencies inherited after the socialist economy. During the remaining part of the 1990s, TFP was the main economic growth-driving factor, but in the mid-2000s TFP growth slowed down and capital formation took over to become a major driver of economic growth (Laszek et al. 2015, 33; See Figure 3).

Figure 3: Growth Accounting, 1989-2016

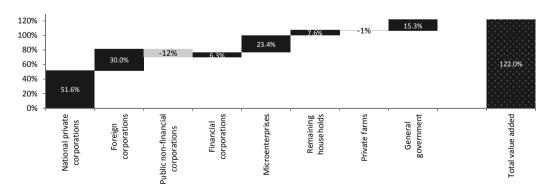


Source: The Conference Board, Total Economy Database™, November 2017.

3. National Accounts by Institutional Sectors

Knowing that labour productivity was a key driver of GDP growth for Poland since 1989, in the next step I inquire into institutional sectors looking for those, whose contribution to value added was the greatest. Unfortunately, division into institutional sectors is available only from 1995 (at current prices). Assuming that deflators for particular sectors are in line with overall GDP deflator, it is, however, possible to judge the importance of particular sectors, with private corporations, both domestic and foreign standing out as major drivers of economic growth (See Figure 4).

Figure 4: Growth of Value Added by Institutional Sectors, 1995-2015



Source: Author's calculations; Central Statistic Office, National Accounts by institutional sectors and sub-sectors.

The growth of the value added created in general government sector should be treated with caution, as estimates of value of non-market services are cost-based. In case of market services and industrial production, prices used to estimate value added are the outcome of the operation of market forces. Thus, in the longer run, intermediate consumption, wages and profits of companies cannot exceed prices that consumers are willing to pay. In case of work of most public servants, there is no market to verify the value of the outcomes and it is thus assumed that the value added there is equal to the cost. With raising labour productivity in the private sector in Poland, wages have also risen, creating a pressure for wage increases in public sector. In terms of national accounts, wage increases in the public sector were directly translated into value-added increases.

Putting aside general government, corporations contributed to nearly 2/3 of value-added increase in the 1995-2015 period (Central Statistic Office). Much of growth occurred in non-financial corporations that are companies employing more than 9 people. The growth of value added in this sector is particularly remarkable, considering that overall employment there was quite constant and amounted to around 5.5-6 million people. It was possible due to structural changes introduced by the Balcerowicz Plan which started privatization and also allowed inefficient state-owned companies to go bankrupt. As a result, most of public corporations were either privatized or went bankrupt (thus negative contribution of public corporations), to be replaced by more efficient private ones. First three bars of the Figure 3 show overall value-added in non-financial corporations, which contributed nearly 70 percentage points to the overall value-added growth in the analyzed period:

- -12 percentage points of the contribution of public corporations whose role in economy was shrinking;
- +30 percentage points of contribution of foreign companies that either were greenfield investments or privatized and modernized state-owned enterprises; and
- +52 percentage points of contribution of the domestic private companies that grew rapidly.

The rapid growth of the domestic private sector is also visible through the contribution of micro companies, that from the point of view of national accounts are part of the household sector. Their growth was possible because the reforms of 1989 paved a way for entrepreneurship boom. Although even before the socialist government in 1988 passed new law allowing for more freedom in doing business, it was the Balcerowicz Plan that made playing field for private and public companies more equal by applying the same tax rules for private and public companies and making international trade easier. The role of entrepreneurship in boosting economic growth was far larger than the contribution of micro companies presented in Figure 4, as many of micro companies grew and later were incorporated and thus were reclassified into the

corporate sector. It is estimated that in 1989 alone nearly 400 thousand enterprises were created, while in the 1990-2002 period between 250 and 300 thousand companies were registered annually (Wozniak 2009, 33-43).

Development of the Polish financial sector contributed to GDP growth in a twofold manner. Directly, the growth of value added in this sector alone contributed 6.3 percentage point to overall value-added growth, as the sector was privatized and modernized. An important role in the modernization was played by foreign investors, who by the end of 2015 controlled 59% of total banking assets in Poland (KNF, 2016). Indirect effects were also important, as the development of both banking sector and capital markets has allowed for the more efficient use of savings in the Polish economy, channeling them into most prospective companies and allowing them to expand rapidly. By 2014, Poland, compared to its regional peers, managed to establish reasonably developed banking sector and above average financial markets (World Bank, 2014).

Negative contribution of private farms to GDP is to a large extent a statistical artifact. Households are classified according to primary income source and in case of farmers, it included also imputed rents and income from non-agriculture work. As the number of households living mainly from agriculture fell, they were reclassified as remaining households together with all their incomes. Agriculture output alone rose substantially by more than 10% just between 2000 and 2015 (because of methodological changes older data are not fully comparable; Eurostat).

4. Importance of Foreign Investment

The opening of the Polish economy to foreign investors was one of the sources of success of transition. Though, recently many have questioned this factor. In his expose in December 2017, Prime Minister Morawiecki referred to the difference between Polish GDP and GNI of around 70 billion PLN (~17 billion EUR) as a "taboo" in public debate (Morawiecki 2017). Although the figure encompasses net income of all non-residents (direct investors, portfolio investors, foreign employees working in Poland) it is direct investment that comes with ownership and control of companies in Poland is most often criticized. 70 billion PLN alone may seem huge, it must be taken into account that between 1995 and 2016 Polish income grew by 980 billion zloty, while foreign residents' net income rose by less than 60 billion, which makes the accusations of exploitation less convincing (See Figure 5).

There are different channels through which foreign investment has affected the Polish economy. First, foreign capital allowed relatively high investment rate despite low saving rate in the Polish economy. Between 1995 and 2015 Poland had an investment rate of 21.5% despite the much lower saving rate of 18%. Annual inflow of foreign direct investment of over 3% GDP to a large extent covered that gap (IMF, WEO database). According to estimates by Trzeciakowski (Trzeciakowski 2016, 3), without

FDI Polish economy would be 10% smaller in 2015 only due to lower capital stock alone. Although it can be speculated that portfolio investment could be used instead of direct investment to finance capital accumulation, it would make the Polish economy much more fragile and put it at the risk of costly and sudden halts.

S Gross National Income ■ Net income of foreign residents

1500

1000

500

1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016

Figure 5: Polish Gross National Income (Zloty, Constant 2016 Prices)

Source: Author's calculations; Central Statistic Office.

Second, foreign investors brought not only capital but also know-how and technology that created positive spillovers in the Polish economy. The literature (lamsiraroj and Ulubaşoğlu 2015, 201-202) provides three ways of transferring know-how from foreign to domestic companies:

- Rotation of employees who, after gaining experience in foreign companies, move to work in domestic companies;
- Backward linkages foreign companies with higher quality norms exert pressure
 on their suppliers to increase quality of their inputs, often also by providing assistance; and
- Forward linkages foreign companies entering market often increase quality and quantity of inputs for domestic companies, thus enabling them to increase their productivity.

Third, the competitive pressure exerted by foreign companies incentivizes domestic companies to increase their productivity and the cooperation with multinational corporations allows for integration in global value creation chains and specialization. Besides this positive impact of foreign direct investment also negative one can be indicated, including distortions caused by heavy tax preferences or their monopolistic power. Usually, however, such negative effects can be expected in closed economies where competition is limited. Whether positive or negative effects prevail is an empirical question. Iamsiraroj and Ulubașoğlu (2015) conduct a meta-analysis of 108 empirical studies of the impact of foreign direct investment on economic growth and find evidence of a robust positive relationship, indicating that larger trade openness and

higher financial development increase absorption capacity of receiving country. Ichiro and Masahiro (2014) analyze a more limited set of 23 empirical studies that focus on transition economies and confirm a positive relationship between foreign investment and economic growth, but also find publication bias and indicate that further studies are needed to better quantify the strength of that relationship.

Considering all channels through which FDI affect economic growth, Czerniak and Blauth (2016, 21) estimated that in 2015 Polish GDP was 15.6% higher than it would be without them. This increase amounts to more than 270 billion PLN (\sim 65 billion EUR), which hugely exceeds 70 billion PLN (\sim 17 billion EUR) difference between GDP and GNI. To put it simply, although annual income of foreign investors from their enterprises in Poland is around 17 billion EUR, foreign investment also allowed to increase the income of Polish citizens by nearly 50 billion EUR.

Lessons for the Future

The transition from central planning to market economy in Poland was a huge success resulting in remarkable GDP growth. Not only economic, but also social indicators improved. As such, life expectancy went up, mortality of infants and pollution went down (Łaszek et al. 2015, 27-31). Reforms of the 1990s were successful because of their complex nature and synergies they created, allowing the more efficient use of inputs, and thus boosting of labour productivity. Productivity grew as more efficient private companies were replacing wasteful state-owned enterprises. The growth of the Polish economy was further enhanced by the opening to international trade and foreign investors that not only created more competition but also enabled inflow of technology, know-how and specialization.

Both Poland and foreign investors benefited from the inflow of FDI to Poland. Benefits of foreign investors are visible in the form of income they earn from their enterprises, while benefits of the society in the form of higher national income are more hidden. This often leads to unfortunate misinterpretation and popular belief of exploitation of the Polish economy by foreign capital that can be heard even from governmental officials. Ignoring benefits of foreign investment and trade openness can lead to dangerous public policies of protectionism and promotion of "national champions", which in practice means administration hand-picking winners and losers. It also means no more privatization, which is worrisome as despite 25 years of transition there are still too many state-owned enterprises in Poland in sectors like energy and finance that distort competition and harm economic growth. Bouis and Duval (2011) estimate that finishing privatization coupled with further deregulation of product markets could boost Polish GDP by additional 15%.

Making benefits of trade openness and foreign investment better known requires educating the public. More informed voters are the ultimate solution in the fight against harmful protectionist policies that can endanger the success of Polish transition.

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The Czech Story: Liberal-Equality and Changes Expected with the Upcoming Technological Revolution

By Kryštof Kruliš*

This paper takes a closer look at how the Czech Republic navigated through its transition from central planning to market oriented economy. It examines specific features that have influenced its performance during this transition and what could determine Czechia's economic growth in the upcoming technological revolution that will bring us to the worlds 4.0 and beyond.

Introduction

The Czech Republic entered the year 2018 as a country with the lowest unemployment rate in the European Union (EU). It has been able to preserve a relatively high level of social cohesion over the decades of economic transformation with infrequent strikes, an adequately functioning social net and a low level of poverty (measured relative to country's standards). At the same time, the Czech Republic is a highly integrated part of the internal market of the EU and an open economy with a high level of exports and imports relative to its gross domestic product (GDP). This paper will examine how the Czech Republic navigated through its transition from central planning to a market-oriented economy. It will also focus on a highly possible change of the economic growth paradigm. As such, the paradigm that has been based on the economic transition towards a market economy and attraction of foreign investments with a low cost of labour is gradually substituted by a growth paradigm oriented on the implementation of new technologies.

Navigation Through Transformation and Beyond

In the planned economy of the Czechoslovak Socialist Republic (a predecessor of the Czech and Slovak Federative Republics and the Czech Republic since 1993), all economic activity from manufacturing and retail of goods to a provision of services was

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reserved to state enterprises or to cooperatives. Individuals nor corporations were allowed to engage in any private business activity, even at the micro level. In the 1990s, the Czech Republic and its federal predecessors made intense transformation changes including development of liberal democratic institutions and a large-scale privatization program that brought gradual acceptance of private ownership in the economy. In 2015, the general government spending (i.e. the entire spending by central and local governments and not only their business operations) in the Czech Republic reached 41,6% of the GDP, which is slightly more than 41,5% in Poland and slightly less than 42.8% in the United Kingdom (OECD 2017a). Enterprises that today remain in the hands of the state (i.e. mostly strategic enterprises in energy, transportation, and various other utilities) are only a fragment of the full state control of the business in place under the socialist regime before the year 1989.

The gradual acceptance of private ownership in the economy has been a result of the restitution of the assets nationalized by the communist regime to its original owners and their successors, along with a large-scale privatization of previously state-owned enterprises and open arms attitude to foreign direct investment (FDI).

Privatization used different routes, depending on the character of the privatized assets. The "small privatization" utilized public auctions to privatize micro enterprises including individual stores and individual business premises for the provision of services. In contrast, the "large privatization" focused on privatization of medium and large enterprises. To proceed quickly, an emphasis was put on privatization through coupons, which the Czech citizens could exchange for shares of newly established corporations. Only a fraction of medium and large enterprises was privatized through other routes. Among them, selling strategic shares in the most thriving businesses to a business partner preselected by the government.

The inflow of FDI into the transforming Czech economy was the primary source of stimulating its much needed technological and productivity growth. Securing this inflow, the perspective of the Czech membership in the EU and its internal market played a vital role. The reasons for such a high importance of the EU's perspective for the Czech Republic were a reduction of the risk premia (Breuss 2002, 255), the guarantee of an internationally comprehensible regulation of a whole range of policies ranging from free movement of capital (including dividend payments) to free movement of workers (including managers overseeing the investment in the host country) and free movement of goods (including shipments of semi-finished products and parts allowing cross-border collaboration of the manufacturing industry).²

¹ For further details on the current scope of state-owned enterprises in the Czech economy see Kruliš (2017). 2 See also Kruliš (2014), 5-6.

Some of the FDI entered the Czech economy through the sale of the previously state-owned companies, such as in cases of the acquisition of the biggest Czech car manufacturer Škoda Auto by the German Volkswagen group, or of the Czech main telecommunication operator Český Telecom by Spanish Telefónica.

Greenfield foreign direct investments aimed primarily at developing a brand new manufacturing base, mainly for export-oriented production. As such, new car manufacturing plants TPCA and Hyundai were founded, as well as a tire manufacturing plant Nexen and two electronics plants Foxconn. Greenfield FDI is considered "freer" in choosing its final target destination, and the most generous incentive schemes may therefore be selected by the investor (Medve-Bálint 2014, 43-4). Competing for FDI with other Central and Eastern European countries, the Czech Republic has been offering generous incentives in the form of tax holidays and subsidies for newly created jobs.³

Most of the investment incentive schemes in the Czech Republic targeted only large investments, and as a result, were accessible only to big foreign investors. Such policy contributed to the following state of ownership in the industrial sectors in 2015: 98% of industry enterprises sectors were owned by Czech nationals, while the remaining 2% of foreign-owned enterprises represented 58.9% of total industrial turnover, 50% of the added value and 45.1% of employees in the industrial sector (Ernest 2015). The automotive industry was and still is the sector which is most dominated by foreignowned enterprises). The industrial sector in the Czech Republic traditionally represents a large share in the overall Gross Value Added (31% in 2012, the biggest share in the EU) and its influence on the overall condition of the Czech economy is significant. It also employs a substantial share of the workforce in the country (38.3% in 2011, the highest share of the industrial sector in the EU, Doležalová 2014). There is a significant foreign ownership also in other sectors. Indeed, a research institution Bisnode (2015) estimated that in 2015 the aggregate registered capital of the whole corporate sector in the Czech Republic amounted to 2.65 trillion CZK, of which 50% (1.32 trillion CZK) was held by the Czech citizens and 40% (1.06 trillion CZK) by foreigners (of which 0.43 trillion CZK was held by holdings in tax havens) and the remaining 10% belonged to undisclosed holders.

The gradual "aging" of the FDI in the Czech Republic (i.e. a natural maturing of investments after overcoming the initial acquisition phase) is related to a general trend of increasing repatriation of dividends to the detriment of profit reinvestment. This trend was further worsened during the financial crisis, when the parent companies drew liquidity from their foreign subsidiaries (Czech National Bank 2012). The Czech Ministry of Trade and Industry reacted to this situation by adjusting investment incentive

³ For an overview of the incentive's conditions in force since 2000 see, for instance, CMS (2000).

schemes, especially in the manufacturing sector, while trying to increase motivation for profit reinvestment. As a result, in 2013, around 80% of new projects administered by the Czech Invest (an agency under the Ministry of Trade and Industry) were categorized as profit reinvestments (Ministry of Trade and Industry 2014). Despite this endeavour, the repatriation of dividends continued. Based on the Eurostat data on national accounts and the budget series of the EU in the period 2010-2016, Piketty (2018) has calculated the annual outflow of profits and incomes from the foreignowned property in the Czech Republic to be 7.6% of GDP. The outflow of profits from the Czech Republic is the highest in the region, leaving behind Hungary (7.2% of GDP), Poland (4.7% of GDP) and the Slovak Republic (4.2% of GDP). The amount of outflow in neither country of the region is compensated by transfers within the budget of the EU. In the period 2010-2016, the Czech Republic received the annual net transfers from the EU at an average rate 1.9 % of GDP (Piketty 2018). This indicates that the methods of further modernization of the Czech economy should focus on proactive policies that can win hearts and minds of investors and persuade them to consider the Czech Republic worthy of investments into economic activities with higher added value.

At the beginning of the economic transformation, the Czech Republic was, by its GDP per capita, significantly ahead of the rest of the peloton of Central and Eastern European economies, all undergoing an economic transformation (with exception of Slovenia whose GDP per capita surpassed the Czech's values). This comfortable head start, however, shrunk considerably and, in the case of Slovakia, the long-term difference between the two parts of the former federation has now been almost fully erased. One of the aspects that influenced this trend was the global financial crisis that represented a severe stress test for the Czech economy. In 2009, the economy shrunk by 4.8% (Czech Statistic Office 2017). At that time, the Czech economy had already become highly internationalised, extremely export-oriented and dependent on foreign financing, which went hand in hand with significant foreign ownership of banks and most of the industrial players. The two years following the crisis (i.e. 2010 and 2011) offered only a mild GDP growth, and in 2012 and 2013 the Czech Republic witnessed a return to recession, declining by 0.8% and 0,5% respectively (Czech Statistic Office 2017). The Czech economic recession thus took the shape of a W-dip, with deep first V and a wide second V. This contrasted with Polish continual growth over the whole decade and the situation in Slovakia, where only a simple V-shape recession occurred.

Instead of accelerating growth through debt in the wake of the financial crisis, the Czech Republic opted for keeping sound public finances. Th level of the public debt in the Czech Republic was under 35 % of the gross domestic product at the end of 2017 (comparably lower than in other countries in the region, but despite the claimed austerity measures significantly higher than the 28% of the gross domestic product in

2008). This relatively good result provides the Czech Republic with low costs on financing public debt and opens up space for financing infrastructural project in future. Despite the economic crisis, the savings of Czech households increased by approximately one third during the five years of the economic crisis (Kruliš 2015, 9).

The Czech Republic also maintained relatively low unemployment even during the economic recession at the beginning of the second decade (See Figure 1). The unemployment rate was at its peak in January and February 2010 but did not exceed 7.8 %. Since May 2000, the unemployment rate has been lower in the Czech Republic than the EU average. In January 2016 the Czech unemployment rate dropped below that of Germany and has been the lowest in the whole EU ever since. In November 2017 it fell to its record low of 2.5 %, with the number of available jobs in the country almost matching the number of the unemployed. Taking into consideration the share of the labour force that emigrated from the region (mainly to the United Kingdom) after the accession to the EU, the Czech labour market fares even better when compared to neighbouring Slovakia and Poland. The number of people who left the country for work (in proportion to the remaining home population) has been significantly lower in the Czech Republic than in Poland and Slovakia. Despite the fact that a greater share of the Czech labour force remains in the domestic labour market than in neighbouring Poland and Slovakia and thus competes for available jobs at home, it still has better statistical opportunities for employment (Kruliš 2015, 9). The industrial sector has struggled with a lack of employees with specific technical education ever since the end of the economic recession (Czech Invest 2012).

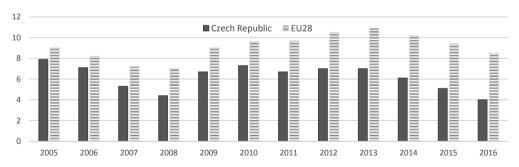


Figure 1: Unemployment Rate, Czech Republic and EU28, 2005-2016

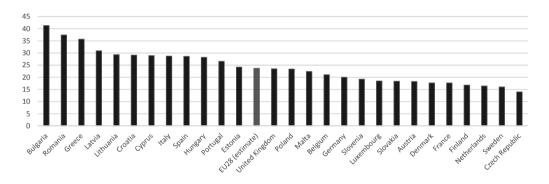
Source: Eurostat, http://ec.europa.eu/eurostat/statistics-explained/index.php.

Besides the record low level of unemployment, the Czech Republic regularly ranks also among the countries with the lowest indicators of the poverty rate. The percentage of people living in a household at risk of poverty or social exclusion in the Czech

⁴ For data of labour force migration to the United Kingdom, see Gower, Hawkins (2013), p. 9.

Republic was 14.0 % in 2015, the lowest from all countries of the EU (See Figure 2). Only Iceland, with 13,0 % of people living in a household at risk of poverty or social exclusion, has lower percentage within the European Economic Area. The average indicator for the whole EU is 23.7 %. The Czech Republic has such good position in all age categories and in at-risk-of-poverty rates both "before" and "after" social transfers. These poverty rates are relative measures of poverty. The poverty thresholds that are utilized for their calculations vary greatly between individual member states of the EU. They cannot be used for comparison of wealth between individual countries. Nevertheless, they could signal potential risks and social deprivations. The Czech Republic has the gross domestic product per capita and average gross salary sill significantly under the EU's average. Despite this Czechia's economic and social system could have sustained a more cohesive society without excessive deprivations than much richer states of the EU.

Figure 2: Share of People Living in a Household at Risk of Poverty or Social Exclusion, EU, 2015



Source: Eurostat, http://ec.europa.eu/eurostat/statistics-explained/index.php.

The high level of employment together with criticized but functioning social net brought the Czech economy into a state that could be designated as a state of "liberal-equality". It is a relatively well-balanced system that can provide work to anyone who is interested in working. At the same time, it burdens the income of employees with taxation (including payments for social and health security) to enable pensions and social net to lift living standards of most of those in need just above the poverty levels. It is possible to speak also about a growth paradigm that has been based on the attraction of FDI with the low cost of relatively well skilled and reliable labour force with the traditionally low tendency for strikes (Dostál 2017).

The scarcity of employees affects all sectors of the economy, enabling employees to push for significant pay rises. In the third quarter of 2017, the average gross salary in the Czech Republic reached CZK 29,050 (approximately EUR 1,100), a nominal

increase by 6.8% from the third quarter of the previous year and a real increase (after deduction of 2.5% inflation) by 4.2%. The middle value (median) pay in the third quarter of 2017 was CZK 25,181 (approximately EUR 970). This trend is generally expected to continue. There are, however, several obstacles on the trajectory of continuous salary rises in the Czech Republic. At the first place it is the inadequate rate of average labour productivity to average labour costs. In case of the Czech Republic, this rate has been traditionally worse than in the other countries in the region (Kruliš 2015b, 13). In 2014, the average hourly productivity outcome of a Czech worker was worth EUR 13 (Pícl et al. 2014, p. 11). This was similar to the average hourly productivity outcome of a Slovak worker, but the costs of a work-hour in the Czech Republic was higher (EUR 10.3) in comparison to the hourly wage of EUR 8.1 in the Slovak Republic (Pícl et al. 2014, p. 11). The partial comparative advantage of the Czech economy remained in the manufacturing sectors, the automotive sector in particular, but the most other sectors lagged behind (Pícl et al. 2014, p. 11). According to the OECD data for 2017, the GDP increase per hour of work (hourly economic output of labour) in Germany is EUR 53, while it is just CZK 511.4 (approximately EUR 19.4) in the Czech Republic (OECD 2018b). The average cost of labour per hour is EUR 33 in Germany and 10.2 EUR in the Czech Republic (Eurostat 2017b). This means that average net economic output per hour of work of an employee after deduction of salary is EUR 20 in Germany and only EUR 9.2 in the Czech Republic.

Since the Czech economy is at almost full employment, the growth paradigm of low wage economy has come to an end. The economy cannot grow further only by adding new production in newly built manufacturing plants. With scarcity of employees in the country, the newly opened positions will only have a chance if they are more attractive than the current positions already available in the labour market. For the first time in the history of its transition, the Czech Republic is in a situation in which it can focus only on the attraction of investments with higher added value and higher productivity.

Post-Transition Future

The growth paradigm that is based on the attraction of FDI with a low cost labour has, in the Czech Republic, been almost fully exhausted. The new sources of potential growth will be in automation, artificial intelligence and machine learning, industry 4.0 and various new ways of using the internet in everyday life. Good news is that these technologies can substantially improve the productivity of Czech labour and allow Czech economy to shift toward higher-earning economies. It is also positive that the Czech Republic is entering this era in a state of almost full employment. Scarcity of employees puts employers under pressure to be quicker at introducing new technologies. The bad news is that development of industry 4.0 can set up production elsewhere. Emerging regions with the quicker adoption of new production technologies

may wipe out existing production in the Czech Republic. So far, the adoption rate of new technologies has been led by the automotive industry and large manufacturing plants in the Czech Republic. Small and medium-size enterprises wait for new technologies becoming cheaper, though their adoption will be necessary for staying in the existing supply chains.

The industry 4.0 introduction to the internal market will be influenced by the uneven distribution of relevant skills in the EU. The reform of the education system, that has been considered as acute in discussions in the Czech Republic over past several years, will become unavoidable. Introduction of new technologies may result in an increasing tendency to develop clusters not only in industry but also in trade and services. The automotive industry with its fast rate of adoption of new technologies has a potential to become a source of crucial data for development of the 4.0 solutions also in other sectors. This can be a chance to enhance the development of own 4.0 solutions in the Czech Republic and even export them.

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Fast Though Fragile: A Roller-Coaster Ride of the Slovak Economy

By Martin Vlachynský*

Following Slovakia's independence in 1993, its economy has experienced two notable cycles of bust and boom. The first decline occurred during the authoritative rule in the mid-nineties when Slovakia was an unpopular place for investors and its economy was ravaged by incompetent local privatizers, who syphoned resources out of the companies destined to go bankrupt.

The 1998-2006 era introduced us to a "Tatra Tiger", as a centre-right ruling coalition undergone several reforms. Banking, tax, pension, labor code, healthcare, and other reforms attracted foreign investors and kick-started the sleeping economy.

The economy nosedived in the 2009-2010 period, as the new centre-left government openly resented the market reforms of its predecessor, reacting to the crisis with higher taxes and more regulations. This crisis showed that without perpetual reform efforts and prudent government, a small open economy can quickly succumb to external economic factors, especially those influencing biggest trade partners.

The economic situation improved once more since 2015, with new investors coming to Slovakia and unemployment dropping to 5,94% in December 2017. Yet once again, the government is not trying to size the opportunity of the good times and implement needed reforms, such as the pension reform, healthcare reform, and education reform.

Introduction

Following almost 50 years of communism and central planning, Slovak economy turned into a market economy at the beginning of the 1990s. In 1991, the country took three significant steps: price liberalization, macroeconomic stabilization, and widespread privatization. Czechoslovakia dissolved in 1992 and since 1993, the independent Slovak republic failed to follow its former "sister" in both political and economic terms. Both countries suffered economic declines during the early stages of the transforma-

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tions, but Czechs were able to start catching up with Western Europe, thanks to more competitive (less arms- and agriculture -oriented) industry, better executed privatization and healthies economic policies. Slovakia, on the other hand, stagnated.

The Stagnation: 1990-1998

During the first half of the 1990s, privatization of a vast amount of state-owned property was under way in Slovakia, which exerted a significant pressure on top decision makers of the era. Along with the nationalistic Slovak National Party (SNS), the authoritarian Vladimír Mečiar, who was leading the strongest Slovak political party the Movement For Democratic Slovakia (HZDS), was pushing for "creation of a Slovak capital class." (Morvay et al., 2005) This period was characterized by non-standard political processes, non-transparent privatization decisions, and abuse of state banks and enterprises to the benefit of groups close to the political power. The non-standard government practices of that time led to political instability and Slovakia's international isolation. Slovak economy lacked investments, and key foreign investors were avoiding the country, rather investing in the neighboring countries. The wrong path the economy was taking was not immediately obvious, as the average growth reached solid 5.4 % of gross domestic product (GDP) in the period 1994-1998. However, it became clear in light of expansive fiscal policy with annual deficits running around 6% of GDP annually. Unlike the Czech Republic, Hungary, or Poland, Slovakia was utterly failing to lure foreign capital to the country. In 1993-1998, foreign direct investment (FDI) average was 1.6 % of GDP while our neighbors were reaching multiples of this level. Instead, the industry was handed over to the political clique surrounding the prime minister. With a few exceptions, having no capital and being unable to reform an extremely inefficient heritage of socialism, the new owners (very often close acquaintances of the government members, or even the government members themselves¹) were trying to pull cash out of these businesses as fast as possible. In 1998, these companies were failing, and Slovak economy was in a dangerous downslide. Economic growth slowed down to 4.2 %, and in 1999 it even fell down to 1.5 %, which was significantly lower than in Hungary or Poland (See Figure 1).

¹ For example the minister of Transport Alexander Rezeš, who privatized the biggest Slovak company to be privatized, the steel mill VSŽ (now US Steel).

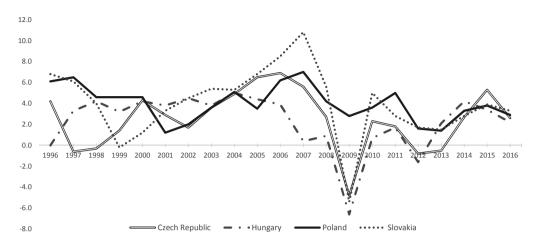


Figure 1: GDP Growth in Slovakia, Czech Republic, Hungary, and Poland (1996-2016)

Source: Eurostat, ec.europa.eu/eurostat/data/database.

The First Boom: 1998-2006

In 1998, the authoritarian prime minister Vladimír Mečiar and his HZDS party lost the parliamentary election and a new broad coalition replaced him. The coalition under the Prime Minister Mikuláš Dzurinda took power in 1998 and immediately started implementing revitalizing, restrictive, and stabilizing economic measures (Mikloš, 2008). The series of reforms spanned through two terms of the government (1998-2002-2006).

The first and very important measure of new government cleaned the balance sheets of Slovak banks from the debris of failed loans, which were made on the political basis to fund local oligarchs. It was an extremely costly reform (almost 4 billion euro in 2000 prices, or 12% of Slovak GDP – compare with Spanish bank bailout of 2012, which cost around 10% of GDP), but necessary to attract foreign investors into the banking sector (Makúch, 2016).

Following the privatization of banks, the Dzurinda cabinet privatized shares in several large companies (Cigáňová, 2007). Among them was the utility sector, which suffered from mismanagement by politically appointed executives, who enabled utilities companies being used as "cash cows" for political elite and reported huge losses. The same companies became profitable within a short period after Dzurinda's privatization (Javorský, 2004).

The privatization was especially under way during the second Dzurinda's term (2002-2006) when numerous other reforms were introduced. These included pension reform introducing a private pillar or healthcare reform transforming a number of public pro-

viders into separate legal entities, which helped slow down the ballooning debt. Importantly, a broad tax reform was implemented introducing flat tax rate of 19% for personal incomes (instead of several brackets), corporate tax, and also 19% VAT on all products and services. Besides the tax reform, fiscal management was reshaped. The Debt and Liquidity Management Agency was established, with the intention to professionalize management of debt and liquidity of public finance. ESA95 (European system of national and regional accounts, an internationally compatible accounting framework) with accrual (next to cash) budgeting was implemented and mid-term budgeting was included. Financing of municipal budgets, as a part of decentralization process, was simplified; former regular budget negotiations were substituted by direct transfers of a defined share of personal income tax. Last but not least, a labor code reform improving market flexibility with less rigid rules for working hours, part-time contracts, and diminished influence of the unions was pushed through.

The most important reform, at least from foreign investors' perspective, was implementation of flat tax in 2004. Following Estonia, Lithuania, Latvia, and Russia, Slovakia became the fifth country in Europe to introduce flat tax into its legislation. This flagship project had a broad scope in Slovakia. First, quintuple of personal income tax rates spreading from 10% to 38% was unified to 19%.² Second, corporate tax rate exemptions were swept away, and the basic rate was slashed from 25% to 19%. Third, two VAT rates of 14% and 20% were unified at 19% level. Fourth, dividend tax³, inheritance tax, and gift tax were abolished (Mikloš, 2008).

The political change in 1998 and the related political stabilization in the following years brought about standardization of the Slovak economic environment, as well as the country's integration into the Western structures – NATO (1999) and European Union (2004). This development had a significantly positive influence on foreign investors' interest in Slovakia, resulting in total volume of FDI in the country doubling between 1999 and 2000 alone (See Figure 2). While prior to 1999 foreign investors showed only a minimal interest in Slovakia, economic stabilization and the later tax and labor-law reforms, combined with the low labor costs, turned Slovakia into an appealing location for foreign investors.

² Nonetheless, thanks to higher non-taxable income limit (which has been maintained on the level of approximately half of the average income until today) the majority of low and middle-income workers pays no income tax, the effective personal income tax rate remains very progressive.

³ Abolishing the dividend tax was an important part of the tax reform, as it removed the double taxation from capital investments, which made Slovakia attractive to capital-demanding investments.

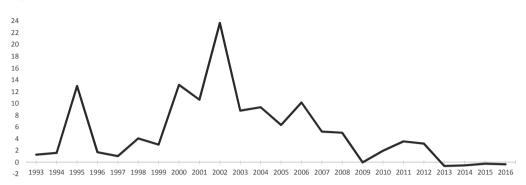


Figure 2: FDI inflows, Slovakia, 1998-2016

Source: UNCTAD, http://unctad.org/en/Pages/DIAE/FDI%20Statistics/FDI-Statistics.aspx.

Moreover, the Slovak government supported FDI by providing direct (financial stimulus) and indirect (tax breaks) help to greenfield investors (Vlachynsky, 2017). In consequence, two big automakers (KIA and PSA) came to Slovakia in the mid-2000s. Together with a growing production in the Volkswagen factory in Bratislava, Slovakia became (along with Czech Republic) the East European automotive hubs. As a matter of fact, Slovakia became the biggest per capita car producer in the world. There has been a trend of moving automobile industry to Central Europe, with the Czech Republic being an attractive option for the investors as well. Along with the car-making industry, Slovakia has also developed food, chemistry, metallurgy, steel, and energy industries. FDI grew eleven-fold nominally just between 1999 and 2002 (See Figure 2). While not being a sole source of success, the idea of flat tax worked as a great marketing tool for the whole package of reforms both internally and externally. It was presented as a modern economic tool, which will finally decouple Slovak economy from its communist past, with both citizens and foreign investors listening. Slovak's entry into the European Union in 2004 played a significant role as well. It made European markets more accessible for products of the Slovak companies, as well as created opportunities abroad for the Slovak workers. According to estimates (there is no hard data available), number of Slovaks working abroad tripled between 2000-2006 and reached 6.9% of all employed persons (Divinský, Popjaková, 2007). Finally, the government engaged in fiscal stimulus by granting investment subsidies to investors, especially in its second term of 2002-2006 when it granted 68 subsidies totaling over 800 million euro (Vlachynsky, 2013).

High growth rate contributed to public expenses dropping from levels over 50% of GDP in 2000 to below 30% of GDP in 2008. This happened not so much because of a prudent government, but thanks to the high growth and also for a specific reason: While in the European Union wages contribute to around half of the GDP on average, in Slovakia the number has been much lower, in the range of only 35% - 40% of GDP. That made a large part of the newly created GDP "non-taxable" since it has been

produced mainly by capital. Subsequently, economy is more vulnerable to capital outflows and government has a considerably less maneuvering space for finding new sources of revenues, which forces it to keep closer control on the spending side.

Unemployment rate has been fluctuation considerably during the 1998-2006 era. Initially, unemployment rate jumped from around 13% in 1998 to close to 20% in 2001 and then turned into a steep decline. It reached 13% in 2006 and continued dropping also during the following two years of the new government to drop below 10%, according to the data of central Office of Labour, Social Affairs and Family.

GDP growth intensified following 1999, Slovakia outperformed the neighboring Czech Republic, Hungary, and Poland in 2002 (See Figure 1). The growth was continuous until 2008 with double-digit peak in 2007.

The beginning of this period around the turn of the millennium was marked y a higher inflation. It was not for the first time in the last decade: the price deregulation of the early 1990s resulted in steep price increase approaching two-digit levels (MESA10, 1995). Consequently, the price growth rate in the economy decreased in the second half of the 1990s. The second large increase in consumer prices at the level of as much as 10.6 %, respectively 12 % came in 1999 and 2000, which was mainly caused by price deregulation of electricity, gas, and water for households and enterprises and secondly by an increase of the reduced VAT tax from 6 % to 10 % (See Figure 3). After this short period, prices growth rate decreased. In 2002, the consumer prices were growing at an annual rate of 3.3 %. Inflation increased again in 2003 and 2004 but did not reach the two-digit level. This increase was caused by a significant increase in consumption taxes in August 2003, as well as by a gradual increase of the reduced and basic VAT tax rates to 19 % in 2004. At that time, inflation was also influenced by the Slovak economy's real income growth. The noticeable real income plunges of 1999, 2000, and 2003 (with annual decline as high as 5%) were related to an accelerated price growth of consumer goods in those years (EuroEkonom.sk, 2016).

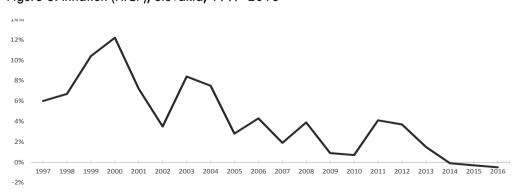


Figure 3: Inflation (HICP), Slovakia, 1997-2016

Source: Slovak Statistical Office, www.statistics.sk.

Falling Once Again: 2006-2013

After significant increase of economic freedom in Slovakia during the 1998-2006 period, paternalism again got the upper hand in Slovakia in the period that followed, showing that pro-market approach is not in charge for good. As SMER – Social Democrats won the national elections in 2006 and formed a coalition with Slovak Nationalist Party and Movement for Democratic Slovakia, the populist leader of Social Democrats Robert Fico became Prime Minister and immediately announced reversion of successful pro-market reforms (Hospodárske noviny, 2006).⁴ Without any real analysis or a viable alternative, the new center-left government attack on the pension system by changing the conditions for saving, by which, as an example, savers older than 45 years were forced to leave the second 'capital' pillar and move their savings back to the Pay As You Go (PAYG) system.

Despite the significant reduction in the unemployment rate (from 19,2% in 1999 to 9,4% in 2006, according to the Office of Labour, Social Affairs and Family) and improvements in the labor market (the average real wage grew by 6,3% in 2005 and 3,3% in 2006 [INEKO, 2010]), Fico's government decided to make substantial changes in labour code in 2008, and later again in 2011. This attitude was based on rumored low protection of employees and excessive liberal character of the labour code, as well as it was a result of pre-election co-operation and support of trade unions (Aktuality.sk, 2011). After a long legislation process accompanied by many comments from employers' unions, other resorts, and the general public, some changes that strengthened the trade unions position and limited the employers' rights were adopted (Aktuality.sk, 2011). Even though many substantial changes did not pass into the law and many other were softened, the approved changes provided for higher employers' costs and reduction in the flexibility of labor market. The negative impact of this anti-reforms on the creation of new jobs and the competitiveness of Slovak entrepreneurs in global market were to be seen sooner than anybody expected.

Fortunately, despite his pre-election rhetoric, Fico's government has not made substantial changes to the tax system during his first term in 2006-2010 (Pravda, 2010). Fico's government did though—by reducing deductibles—introduce so-called millionaire tax, which, in contrast with its name, affected mainly upper middle-class (SITA, 2012). Further, privatization of remaining assets was stopped.⁵ During the same period, the government enjoyed the fruits of the previous reforms with strong GDP growth, falling unemployment, and improving fiscal situation, but not for long.

⁴ Fortunately, the apprehensions were much stronger than the actual steps taken.

⁵ For a description of the current situation of SOEs in Slovakia, see Vlachynsky, M., 2017, "The Slovak State as an Entrepreneur," *4liberty.eu Review* 7.

Slovak economy was enjoying 10,4% growth in 2007 (See Figure 1). In the summer of that year, ECB was already propping failing financial sector with 150 hundred-billioneuro emergency liquidity injection and Bear Sterns was collapsing on the other side of Atlantic. While this news hardly reached the general population, the 2008 collapse of Lehman Brothers was broadly noticed by almost everybody, except the Slovak government. Both Ministry of Finance and the National Bank of Slovakia in autumn 2008 predicted that the economy would repeat the 5% growth of 2008 also in 2009 (SITA, 2009). The reality was catastrophic. Instead of 5% growth, the economy contracted 5,1%. The government had no plans for adverse scenario and ended up the fiscal year 2009 with staggering 7,8% deficit and the year 2010 with 7,5% deficit, according to Eurostat data. Further, unemployment, which was the lowest at 8% in 2007, rose to 14,5% in 2012, according to Office of Labour, Social Affairs and Family. Similarly, Slovak public debt reached bottom in 2008 with 27,8% of GDP but doubled its relative size by 2013. GDP growth revived in 2010, but then fell below 2% in 2012 and 2013, based on Eurostat data. FDI (followed by UNCTAD database) dropped close to 0% GDP in 2009 and it has not gone over the 4% GDP level ever again in the 2009-2016 period. Only thanks to the restructuring process in 2000-2001 were Slovak banks able to withstand the crisis unharmed.

The main response to the situation was in raising tax rates and the introduction of new taxes. During the 2011-2016 period, 22 new or increased taxes were introduced by the governments (author's calculations). With 22% corporate tax rate, Slovakia became a country with the highest rate among the Central and Eastern European countries. The avalanche of new taxes hit hard the middle and higher income employees, especially those self-employed. Larger investors were not hit by the new rules so heavily, except some sectors (banking), yet some big investors from the early post-2000 decided to exit (Enel) or started considering the exit (US Steel). Regulatory environment worsened for big retailers, and for some industrial producers as well, due to high electricity prices resulting from political decisions. The worsening of business environment in Slovakia resulted in lower rankings in Doing Business, the World Competitiveness Index, and the Global Competitiveness Index (See Figure 4).

⁶ A center-right government followed the first Fico government after the election in 2010. However, this government dissolved in 2011, achieving little of its program. However, it was responsible for raising VAT rate from 19% to 20%. The second Fico government, this time with his Smer-SD being the only party that stayed in coalition, followed with a full 2012-2016 term.

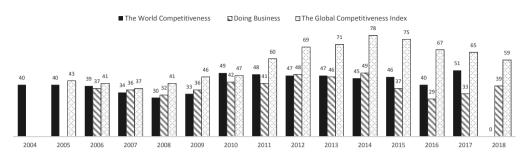


Figure 4: Competitiveness (rankings), Slovakia, 1994-2018

Sources: Doing Business, doingbusiness.org; IMD, imd.org; World Economic Forum, weforum.org.

The Second Boom: 2013-2017

The situation started to stabilize after 2013. Economic growth revived on the levels of 2% and more, unemployment peaked and started to fall once again. The Visegrad Four region started to enjoy a local economic boom, with several investors choosing one of these countries. The key moment came in 2015 when Jaguar Land Rover announced the decision to build a new car factory in Slovakia (Liptaková, 2015), In 2016, the third Fico's government took reign, but since Fico's party lost substantial ground it had to join forces with the populist Slovak National Party once again and welcome the Slovak-Hungarian liberal centre-right party Most. The economy recorded strong performance in 2017, with unemployment reaching historic lows on a national level and numerous counties in the western part of the country reaching unemployment even below 3% to the point that they were reporting lack of workforce (The Slovak Spectator, 2017). At the same time, the relative national debt level stopped growing. Real wages grew almost 4% annually and started to overcome productivity growth.

The situation resembles the 2006-2008 period. Eurozone economy is under a non-standard monetary rule, with several potential economic and political threats hanging above. Slovak government is enjoying the boom but does little to prepare for an adverse scenario. Despite living in a fiscal "golden times", there has been no improvement of the pension reform⁷, no reform of the public healthcare system, which continues to generate debts, or no reform of the education system will mean bigger expenses in the future. The last four deficits one after another failed to meet targets set in the budget plans by the Ministry of finance and the government keeps consuming most of any additional revenue, which is generated by a strong economy. Slovak economy is largely dependent on the automotive sector and therefore on the external environment. A strong external shock can bring an abrupt halt to the current success story.

⁷ Slovakia is one of the fastest ageing countries in the EU.

Implication for the Future

A small and open economy can earn quick gains from well-executed reforms. But the work is never done. Sound reforms mean rather a continuous process, not a one-time event. Slovakia did not follow this rule. It abandoned its reform efforts in the most successful years and was quickly punished for doing so during the economic and financial crisis. Good economic times are an ideal time to implement costly reforms. In the case of Slovakia, this especially means reforms in the pension, social, and health care system since the population is ageing quickly and the systems are generating losses even now when the ratio of contributors and beneficiaries is much more advantageous than it will be in the future. Education system reform is already lagging a decade behind, which is why the labor market lacks skilled workers today, while the new students may finish schools in 10 years at best. The government also underestimates the need to get its spending under control and cut the national debt. Political parties are competing to offer more promises to the voters, paid by the volatile money of the "golden times". It seems, that without a serious crisis, there is always time to postpone any serious reforms.

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Basic Forward, Basic Back, Turn Left: Slovenia's Polka-Step Transition

By Jure Stojan*

During 1995–2015, Slovenia saw substantial improvements in overall economic freedom. Progress, however, was far from uniform and even laced with outright reversals. Measured with the Economic Freedom of the World ratings framework, Slovenia's situation in 2015 was inferior, relative to 1995, in several areas. Notably, regarding government consumption, private sector credit, the legal system, and property rights – even though problems in the latter area are to be found in several former socialist economies, as emphasized by Gwartney and Montesinos in this issue¹.

This paper aims at situating Slovenia in a wider context. Section 1 discusses the partial "backsliding" of Slovenia along several dimensions of economic freedom. Section 2 compares the Slovene experience with that of other former Yugoslav countries. Section 3 finally reviews the major explanations put forward for the worsening performance of the Slovene legal system.

1. The Travails of Slovene Transitioning

Economic transition is a loaded term. At its most broadly conceived, it describes economic regime change (either a gradual or a revolutionary/'shock-therapy' process) whereby an economy moves from one type of economic system, say "A", to a new one, say "B". Note the metaphorical dimension of space – the economic transition is usually conceptualised as a unidirectional movement from one distinct point of departure to another point of destination. In the specific case of Central and Eastern Europe, "A" clearly refers to a centrally-planned socialist system and "B" to an economy of the free-market type (See Figure 1).

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¹ Gwartney and Montesinos, "An Examination of the Former Socialist Economies 25 Years After the Fall of Communism," 1-38.

Figure 1: Transition in Central and Eastern Europe²



Moreover, the economic transition is usually dated to the early 1990s and is supposed to have concluded, at least in broad strides and in most of the countries throughout the region, by the early twenty-first century. But this is subject to uncertainty. Differently put, economic transition properly belongs to the realm of 'unfinished history'. It is as much a thing of the recent past as it is of the present, despite a plethora of potential historical signposts. In the case of Slovenia, economic transition has been repeatedly declared accomplished with the country's entry into the European Union (in 2004),³ or the European Monetary Union (in 2007)⁴.

But has Slovenia indeed transitioned? A simple metric (by no means conclusive) is to compare the country's performance on a multi-dimensional ranking (i.e. along several dimensions of economic change) between the 1990s and today (See Table 1). Using the *Economic Freedom of the World* framework, two conclusions stand out. Firstly, Slovenia did indeed experience significant progress on its way towards a free market economy. The overall summary ranking improved from 5.31 in 1995 (87th place) to 7.00 in 2015 (73rd place) – unfortunately, data availability issues prevent us from examining the crucial first years in the transition in the early 1990s.⁵ Secondly, the transition has been far from unidirectional. Table 1 lists the dimensions where Slovenia's performance in 2015 was markedly worse than twenty years earlier (it excludes the likely insignificant drop – of a mere 0,5 % – associated with the military interference in rule of law and politics).

Except for government consumption, all areas of Slovene reversal – private sector credit regulation, as well as the legal system and property rights – can be subsumed under a wider heading, that of the "Rule of Law".

² Following the IMF, Central and Eastern Europe (CEE) is defined to include former communist states over five regions: Baltics (Estonia, Latvia, Lithuania), Central Europe (Czech Republic, Hungary, Poland, Slovak Republic, Slovenia), CIS (Belarus, Moldova, Russian Federation, Ukraine, Southeast Europe EU members (Bulgaria, Croatia, Romania), and Western Balkans (Albania, Bosnia and Herzegovina, Kosovo, FYR Macedonia, Montenegro, Serbia). See Roaf et al., 25 Years of Transition, vi.

³ Most explicitly in a Slovene government brochure: "membership of the Union is the ultimate proof that transition has been accomplished" ("Slovenia Entering the EU – April 2004," Urad vlade za komuniciranje).

⁴ This milestone is implied, for instance, in Callado and Utrero, "Towards economic and monetary union."

⁵ Gwartney, Lawson, and Hall, Economic Freedom of the World: 2017 Annual Report: EFW 2017 data by countries tables.

Table 1: Components of Economic Freedom where Slovenia Markedly Deteriorated

1 A. Government consumption	4.17	4.01	-3.8%
2. Legal System & Property Rights	8.42	6.32	-24.9%
B. Impartial courts	7.02	3.57	-49.1%
E. Integrity of the legal system	10	7.5	-25.0%
D. (ii) Capital controls	5	3.08	-38.4%
5. A. (ii) Private sector credit regulations	9.94	8.78	-11.7%

Source: Gwartney, Lawson, and Hall, Economic Freedom of the World: 2017 Annual Report: EFW 2017 data by countries tables.

This is worrying since the long-run effects of Rule of Law are not easily picked-up by annual indices, even though there is a wide-ranging consensus among political economists that rule of law does matter. To cite an influential paper: "We find that democracy and the rule of law are both good for economic performance, but the latter has a much stronger impact on incomes. [...] Rule of law and democracy tend to be mutually reinforcing."

Moreover, the finding of Slovenia's deterioration in rule of law appears robust to the instrument used to measure it. It has been noted by several scholars, using a variety of methods, in various fields of inquiry. The legal scholars Bojan Bugarič and Alenka Kuhelj, for instance, "argue that the Slovenian case represents a very subtle form of democratic regression where competitive political elites control democracy in an opaque and non-transparent manner. Since the rule of law and political competition still exist, although in a quite rudimentary form, Slovenia is better described as a diminished form of democracy rather than a diminished version of authoritarianism."

The political scientist Béla Greskovits differentiates between two types of reversals in the transition process of ten East- and Central European EU member states. "The first of these refers to the general European problem of declining popular involvement in politics, termed hollowing of democracy," while the second challenge is "captured by the term backsliding, which suggests destabilization or even a reversal in the direction of democratic development. Backsliding is usually traced to the radicalization of sizeable groups within the remaining active citizenry, and the weakening loyalty of political elites to democratic principles."

⁶ Rigobon and Rodrik, "Rule of law, democracy, openness, and income: Estimating the interrelationships," 533.

⁷ Greskovits, "The Hollowing and Backsliding of Democracy in East Central Europe," 28.

As Greskovits clarifies, both types of reversals can be dated. The hollowing of East Central European refers to the period 2000–2007, while their backsliding is dated to 2009–2013/14.8 Like Hungary, Slovenia has been characterized as a case of "low hollowing/high backsliding". In other words, in Slovenia, the destination point "B" of economic transition turned out to include many aspects of the departure point "A".

2. Slovenian Exceptionalism or Yugoslav Heritage?

What is at fault, the transition process as such, or the actual point "A" – the path-dependent institutional heritage the transition process was meant to transform? Indeed, before 1991, Slovenia was part of Yugoslavia, a socialist state that experimented with elements of market economics and encouraged mass consumption among its citizens – and which therefore developed unique institutions among the communist regimes of that time.⁹

Unfortunately, the point "A" is unobservable within the Economic Freedom of the World framework which currently covers only two of the six former Yugoslav republics, Slovenia and Croatia, in sufficient detail. World Bank's Worldwide Governance Indicators project, in contrast, has the geographic reach but falls short on the temporal front – it starts with 1996 (in the case of Montenegro, with 1998). This means that we can only compare the former Yugoslav institutions during the economic transition, not at its starting point.

Still, the great variety of initial values and trend lines in Figure 2 argue against common Yugoslav heritage as a coherent explanation of Slovenia's backsliding. Of all the former Yugoslav countries, Slovenia has persistently enjoyed the highest levels of rule of law and comparatively low volatility. But Slovene performance has been far from satisfactory. The estimates for 2015 represent a decline of 23.0% from the peak in the 1990s. Despite an improvement from the previous year, the 2016 levels were still 14.3% below 1998 values.

⁸ Greskovits, "The Hollowing and Backsliding of Democracy," 32.

⁹ Patterson, Bought and Sold, xvii.

¹⁰ Gwartney, Lawson, and Hall, Economic Freedom of the World: 2017 Annual Report: EFW 2017 data by countries tables, accessed February 1, 2018, https://www.fraserinstitute.org/resource-file?nid=11606&fid=7542.

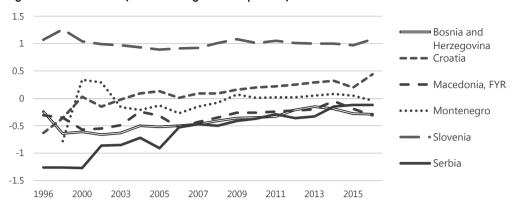


Figure 2: Rule of Law, Former Yugoslav Republics, 1996–2015

Source: World Bank, The Worldwide Governance Indicators 2017.

3. The Softening of the Budget Constraints

If Yugoslav heritage falls short as an explanation for Slovenia's multidirectional economic transition, where else can we look?

In literature, the search for explanations has been mostly carried out by legal scholars. Bugarič and Kuhelj suggest there are two principal reasons for the "apparent decline of the Slovenian model." First, they blame the "relatively privileged position vis-a-vis other East-Central European countries" for Slovenia being "a reluctant reformer, doing very little to actually change its institutional setup from the communist past." Put differently, Slovenia had not actually aspired to move from "A" to "B" but targeted a mixed system instead, say, "AB" (See Figure 3).

Figure 3: Transition in Slovenia



Second, Bugarič and Kuhelj point to reform implementation and accuse Slovenia of being "an uncritical model-taker" of Western policy models. "This mimicry was done in a fairly top-down, bureaucratic way, creating institutions without deep enough roots in society, and without necessary trial and error style usually needed for successful evaluation of proposed reforms."¹¹

¹¹ Bugarič and Kuhelj, "Slovenia in crisis," 273.

These two hypotheses point towards "Slovenian exceptionalism" as an explanation for the defects in its transition. An alternative hypothesis blames the local manifestations of a universal phenomenon in political economy – the pernicious influence of rent-seeking:

The capture of the state by various political and informal groups has progressed to such a dramatic extent that it is undermining the independence and credibility of almost all rule-of-law institutions in the country, with the exception of the Constitutional Court. Formal democratic rules and institutions often operate in the shadow of informal networks and practices. A myriad of interest groups, political parties and individuals use these networks and practices to extract resources from the state. One of the most troubling aspects revealed by the economic crisis is the ease with which the politically installed managers of public enterprises, banks, insurance companies, public universities, and the national broadcaster distribute money and other non-pecuniary gains (jobs, privileges) to their political friends, relatives, etc. Quite often, this extraction of public resources was carried out to the letter of the law, but in sharp contrast to its spirit.¹²

But why was it precisely the economic crisis that had revealed the "troubling aspects" of Slovene transition? Why did it take years if not decades into the transition for the interest groups to finally capture the Slovene state? If, instead, Slovenia had been captured from the start, why did it become apparent only after 2009? Therefore, an economic explanation for Slovenia's transition must not only account for practices on the intersection of State and the economy, but also for the link to economic crises and economic dynamics.

The theory of the soft budget constraint (SBC) seem to fit the bill. First proposed by János Kornai in 1979, the "theory of the SBC focuses on a special type of intervention designed to ensure the survival of an enterprise, or a whole industry, that would otherwise succumb to the processes of market selection and cease to exist."¹³

The firms' budget is not hard in the sense that all expenditure must be paid out of income and endowment, but soft in the sense that all financial shortfall will be covered by an external authority (rather than lead, as in a pure free-market system, to bankruptcy). Moreover, SBC refers to the economy at large, not an individual firm. "The decisive question in this respect is this: what was the regular experience of a larger number of firms over a longer period in the past? And can it be expected, that similar experiences will occur in the future?" In other words, public expectations (including voters' expectations) are the key enablers of the SBC.

¹² Berend and Bugarič, "Unfinished Europe: Transition from Communism to Democracy in Central and Eastern Europe," 778.

¹³ Kornai, "The Place of the Soft Budget Constraint Syndrome in Economic Theory," 16.

¹⁴ Kornai, "The Soft Budget Constraint,"7.

While the SBC can be found in a capitalist economy as well, Kornai maintains "that the phenomenon is far more common and far more damaging in a socialist or post-socialist economy than in a consolidated market economy." In the case of Slovenia, what has made the country especially vulnerable to the SBC syndrome is its extent of state ownership in the economy (See Table 2).

Table 2: Sectoral composition of state-owned enterprises in Slovenia on December 31, 2017

Sector	Number of state-owned enterprises (SOE) in bankruptcy and/or liq- uidation	Total number of companies with state ownership share within the sector	Mean state partici- pation in SOE share structure in %
Manufacturing	13	22	40.2
Energy	0	12	71.0
Logistics, transport, infrastructure	0	8	83.0
Financial holdings	3	7	20.3
Business services	2	7	41.8
Tourism	3	6	47.4
Utilities	0	5	40.0
Gambling	1	5	22.1
Banking	0	4	74.9
Private equity	0	4	49.0
Disability employment companies	1	3	62.8
Post and telecommunications	0	2	83.4
Insurance	0	2	45.2
Food processing	0	1	0.0
Regional development	0	1	5.9
Total	23	89	49.2

Sources: Author's calculations; Slovenian Sovereign Holding, Seznam neposrednih naložb RS in SDH na dan 31. 12. 2017.

Note that because of past privatization campaigns, the state is no longer the sole shareholder in most state-owned enterprises (SOE). But it still acts as the dominant shareholder, with the Slovene government of the day in effect appointing the firms' management teams (even though, from a strict legal perspective, personnel decisions are taken by the notionally independent sovereign wealth fund).

International measures are taken in by such national idiosyncrasies that mask the true persistence of the SBC. In the relevant Economic Freedom of the World sub-rankings (1 C. Government enterprises and investment), for instance, Slovenia has achieved stellar improvement, from a score of 0.00 in 1995 to 6.00 in 2015.

¹⁵ Kornai, "The Place of the Soft Budget Constraint," 12.

¹⁶ Gwartney, Lawson, and Hall, Economic Freedom of the World: 2017 Annual Report: EFW 2017 data by countries tables.

In 1980, Kornai described four major ways to soften budget constraints: (1) soft subsidies, (2) soft taxation, (3) soft credit, and (4) soft administrative prices (while discussing the case of then Yugoslavia, he also cited soft payment discipline).¹⁷ Which was the main softening channel in Slovenia in 2016? Figure 4 presents statistical data on the stock of non-performing loans provided by European governments. Normalized by gross domestic product (GDP), Slovenia's figures stand out internationally, and are consistent with the soft credit channel (See Figure 4).

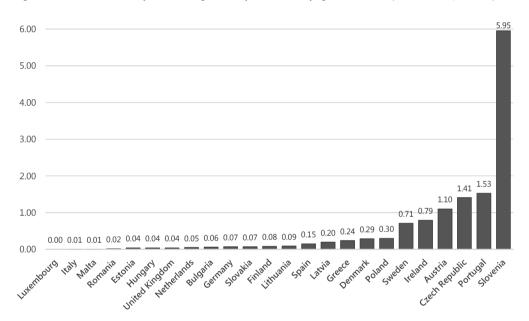


Figure 4: Stock of non-performing loans provided by government (% of GDP, 2016)

Source: Eurostat, Government finance statistics and EDP statistics: Contingent liabilities.

Note: Data not available for Belgium, France, Croatia, and Cyprus.

What does soft credit mean? "For example, loans may be offered to financially troubled firms that would not be eligible for credit were standard conservative lending criteria applied. Alternatively, firms that have already borrowed may have the servicing and repayment terms in their loan contracts relaxed. Of course, credit per se is consistent with an HBC [hard budget constraint]. But under the SBC syndrome, too much credit is extended from the standpoint of economic efficiency [...]." It should be noted that the SBC implies discretion on the decision makers' part that stands in stark contrast with the principles of rule of law.

¹⁷ Kornai, "The Soft Budget Constraint," 26.

¹⁸ Kornai, Maskin, and Roland, "Understanding the Soft Budget Constraint," 1102.

Soft credit is also consistent with the performance of the Slovene banking sector (See Figure 5). Before the financial crisis, the percentage of loans given out by Slovene banks that had turned sour (non-performing loans or NPL) was only slightly above Eurozone average. During the crisis, however, the percentage of non-performing bank loans in Slovenia increased to levels much higher than elsewhere. This implies that the SBC may not necessarily be discernible in NPL levels during the growth phases of the business cycle. Rather, the SBC manifests itself in recessions, when it acts as an amplifier to the shocks to the banking sector.

Euro area Slovenia

Figure 5: Bank non-performing loans to total gross loans (%)

Source: World Bank, World Development Indicators.

Conclusion

Slovenia was a markedly freer country overall in 2015 than it was in 1995. But Slovenia's performance deteriorated in a particularly dangerous area, namely that of the rule of law. While several explanations for this have been put forward, the old theory of the soft budget constraint offers new avenues of inquiry. It not only explains why it should have been the financial crisis that exposed backtracking in the transition process but also provides a link between policy outcomes and public expectations.

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The Bulgarian Currency Board — A Relic from a Turbulent Past or a Necessary Tool for Economic Stability?

By Adrian Nikolov*

This paper aims to explore the history, structure, and economic consequences of the currency board in Bulgaria, which was introduced as an emergency measure to combat the late-nineties economic crisis, though has stayed in place ever since. The paper provides a brief description of the general theory of currency boards, followed by a detailed analysis of the various aspects of the economic crisis during the Videnov government, resulting from the return to centralized and state-led economic policies: high inflation, shrinking of household incomes and savings, deterioration of trust in the banking system, collapse of the baking system and national budget crisis. Then, the paper explores the currency board introduced to remedy the crisis, as well as its consequences for the reshuffling of the institutional setting and the stabilization of Bulgaria's economy, in terms of inflation, gross domestic product, investment, public debt and stability of the banking system. A comparison with similar instruments put in place in the Baltic countries and their role in those countries in the process of accession to the Eurozone is also provided. Finally, it attempts to contribute to the current debate on whether the Bulgarian currency board should be scrapped, arguing that the tradeoff between economic and fiscal stability and freedom of monetary policy has so far been well worth it and there is little need for reform at the current point given the country's trajectory towards adopting the euro in the near future.

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1. The Travails of Slovene Transitioning

Bulgaria is among the countries which have spent a relatively long period under a currency board arrangement – the fixed exchange rate regime has been in place since mid-1997. In the past few years, however, there have been voices advocating for its scraping claiming that the regime has served its purpose, but now has become a constraint on conducting independent monetary policy. Given the political trajectory of Bulgaria towards adopting the euro and the wide consensus that the board will stay in place until the country joins the euro area, the board will likely be removed in the following decade at the earliest. This paper examines the economic realities before and after the introduction of the Bulgarian currency board. It also provides its consequences and importance for the economic development of the country in the past two decades, as well as compares its trajectory with other countries that have similar instruments and have since adopted the common European currency.

2. What is a Currency Board?

Though commonly used as an institution of monetary policy, we shall define the term "currency board", if only to limit its meaning and use in this case. In this paper, a currency board means both the regime of maintaining a fixed exchange rate with a foreign currency and certain coverage of money supply with foreign reserves, and the authority in charge of enforcing this policy. As this paper is concerned primarily with the effects and consequences of the policy, unless specified, "currency board" refers to the exchange rate regime.

In a nutshell, under a currency board, a country's government and central bank give up their power to control the price and supply of currency, and thus commit to maintaining an exchange rate peg to a foreign currency. The latter is most often one that is considered to be stable, one of the most desired reserve currencies, these usually being the US dollar or the euro. In consequence, the central bank gives up its ability to mint new currency, unless it has sufficient reserve of the one that it is pegged to. Such a regime is usually applied when a country wishes to put an end to a period of economic instability, especially as a measure to rein in galloping inflation and provide an external signal that it intends to keep a sound and strong monetary policy (a rather exhaustive compilation of studies on currency boards is available in Gross et al. 2012).

3. The state of the Bulgarian economy before the introduction of the currency board

One could say that adopting a currency board was hardly a choice for the caretaker government that temporarily took power after the resignation of prime minister Videnov and before the organizing of the next election, led by Stefan Sofiyanski and put in pow-

er in the winter of 1997. At that time, the political landscape of the country was changing dramatically. Public support was shifting from the Bulgarian Socialist Party (BSP) to the Union of Democratic Forces (UDF), as a result of a significant economic downturn during the Videnov government. In the 1995-97 period, the socialist government had all but halted the economic transition towards a market economy and attempted to reverse the trajectory of the reforms toward a softer central planning via a so-called "socially oriented economic policy" (Kalinova 2006, 291–8). In 1996 the share of government-controlled prices surpassed just over half of the products, leading to major imbalances between the supply and demand of products. This, combined with the failures of mass privatization, foiled by the concentration of privatization bonds in unstable or outright criminal privatization funds, the "draining" of state-owned enterprises and a sharp drop in trust in the banking system set the stage for economic collapse.

Reviewing the key macroeconomic indicators for the period before and during the socialist government reveals the severity of the economic conditions. Probably the most telling indicator for the real-world dimension of the economic crisis is inflation, as measured by the consumer prices index. According to the World Bank data (preferred here as the data series published by the Bulgarian National Statistical Institute (NSI) do not allow for comparisons with the period before the economic crisis as they do not cover the entire democratic history of the country), the annual inflation in Bulgaria rose from 62% in 1995 to 1058% in 1997, which was considered uncontrollable by the experts and government alike (See Figure 1). To make things worse, in year 1997 the highest inflation rate was recorded in the cost of the food basket (1094% according to NSI data, including the most commonly used food groups such as meat, vegetables, fruit, oils, bread), the highest being inflation rate in price of meat (1411%) and price of vegetables (1444%), thus affecting the basic capability of many to sustain themselves and their families.

1200 1000 800 400 200 0 1989 1990 1991 1992 1993 1994 1995 1996 1997

Figure 1: Annual Change in HICP inflation (%), Bulgaria, 1989-1997

Source: World Bank, http://www.worldbank.org/.

At the same time, there was a significant decline in GDP per capita, as it slid from 1554 USD in year 1995 to 1345 in year 1997. The effect of this extreme decline is

evident in the sharp drop in household final consumption expenditure, from 74% of GDP in year 1994 to 58% in year 1998. Evidently, the crisis significantly reduced the ability of households to spend. The rapid rise of inflation also meant that household savings were losing their value at an alarming rate.

Meanwhile, public finances were not doing well either. In year 1997, the debt of the national government reached almost a 100% of GDP, and GDP itself was declining rapidly, especially in the first quarters of the year. Foreign trade also experienced a setback, declining by about 15% in a single year. Furthermore, central bank reserves were being depleted in an unsuccessful attempt to support the exchange rate of the Bulgarian lev. The banking system was failing, as the devaluation of deposits and sharp drop in trust, resulting in almost a third of the banks going under in the years of the crisis (See Figure 2) (Nenovsky and Rizopoulos 2003, 909).

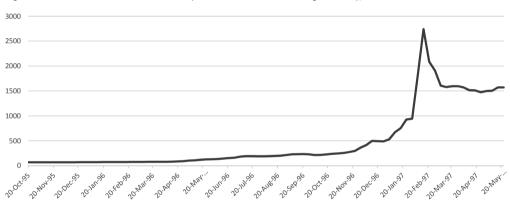


Figure 2: Devaluation of the Lev (BGN to USD Exchange Rate), 1995-1997

Source: OANDA, oanda.com.

The economic failure coincided with political upheaval in the winter of 1996, and the introduction of extraordinary measures for economic stabilization, together with the reversal of many of the Videnov government's disastrous economic policies. Thus, the currency board was introduced.

4. The Conditions of the Bulgarian Currency Board

The late-nineties economic crisis is not the first time that an introduction of a currency board was considered in Bulgaria. Similar mechanisms, aiming at reducing the risk of inflation and economic instability, were proposed right after the transition to democracy and market capitalism. This was done in the so-called Rahn-Utt Plan for the transition, and also voiced by Steve Hanke and Kurt Schuler (Hanke and Shuler, 1991). At that time, however, both the newly-former democratic forces and the socialist op-

position deemed a currency board to be too harsh and constraining measure, which is why they opposed its introduction.

While the currency board introduced in the summer of 1997 shares most of the characteristics of both the typical arrangements and the early-nineties proposals, it has some unique characteristics. Below are the features of the currency board in Bulgaria, broadly following the description provided by Chobanov and Angelov (2003, 51-2). The currency board:

- has an obligation to buy and sell the foreign reserve currency without restriction;
- maintains a currency reserve to cover for the local currency in circulation, and issues local currency only if it can be covered by the reserve;
- extends no loans to the government;
- does not conduct monetary policy;
- invests in low-risk assets denominated in its reserve currency; and
- in practice, redirects the monetary policy to the reserve currency country.

These features follow the standard currency board formula. The Bulgarian version of it has several distinctive characteristics:

- the Bulgarian national bank may hold deposits by state institutions on the liabilities side of the balance sheet of the currency board. This ensures a higher than 100% coverage of the monetary base with foreign reserves;
- mandatory minimum reserves of commercial banks; and
- in cases of systematic risk for the banking system the Bulgarian national bank may act as a lender of the last resort.

With these features, the Bulgarian currency board qualifies as a second-generation or a quasi-currency board, where some of the traditional central bank functions are maintained, together with the restraining mechanisms.

Originally, when the currency board was introduced, the reserve currency was the German mark, as it was viewed to be among the most stable currencies of the countries that were about to introduce the euro, at a 1:1 exchange rate. The U.S. dollar or a basket of reserve currencies were also considered, but the political goal of the country to become an EU member in the future and the geographical proximity of the common market weighed on the decision to peg the currency only to the mark. After the adoption of the euro by the original 11 members of the Eurozone, as the German mark was no longer in use the Bulgarian lev became pegged to the common currency at the same exchange rate as the German mark - at 1.96:1. This rate has been held constant ever since.

5. The Immediate Consequences of the Currency Board

The first and most obvious consequence of the introduction of the currency board was the institutional reshuffling, new powers, and limitations to the legal capabilities of various government bodies. As Nenovsky and Rizopoulos (2003, 915-23) demonstrate, the board completely restructured the dynamics of the relations between the main players concerned with Bulgarian monetary affairs: on one hand, the foreign creditors of the country, most notably the International Monetary Fund, the government and the central bank, commercial banks, private companies and households as creditors; and on the other hand, state-owned, subsidized or crony banks and businesses as debtors. According to Nenovsky and Rizopoulos (Ibid., 925-6), the new monetary regime shifted (in the broadest sense) the institutional structure in favour of the interests of private companies and commercial banks, to the detriment of crony structures and at the expense of the decision-making power of the government and the central bank. From a political perspective, at the peak of the crisis, a broad consensus existed in favour of the introduction of the currency board, but later it was repackaged as a part of the debate for the general political and economic trajectory of the country, with euro-optimist forces supporting the maintenance of the board and euro-sceptic ones opposing it.

That said, the most important consequences of the profound institutional change are the macroeconomic stability and economic policy predictability in Bulgaria. Generally, it is pretty hard to predict the impact of any policy (and the currency board in particular), but the currency board is one of the few policy examples where there can be no debate about its vastly beneficial effect on the economy and economic policy (see, inter alia, Nenovsky and Hristov, 2002, 70-1). Probably the most important consequence of its introduction was the almost immediate reining in of the inflation and its reduction to trivial levels, indicative of healthy economic development. Compared to the 1058% inflation in 1997, 1998 had a 18.7% increase in the prices of items included in the consumer basket, which was not low, but still the lowest since the begging of the economic transition. In the following decade, inflation in the country averaged 6.4%, which was significantly higher than in most Western European countries, but in no way indicative of economic instability. Rather, those inflation rates were an artefact of the rapid economic catch-up development during the period of Bulgaria's accession to the EU and prior to the crisis. The same trend is mirrored in the growth of the country's gross domestic product - while the first years of transition were characterized by overall economic decline, the decade before the 2008 economic crisis are ones of rather rapid growth, averaging 4.6% per annum (5.8%, should we exclude the decline in 1999).

A key indicator of economic stability is investment. Companies rarely direct funds to countries with unstable economic environment and unpredictable economic policies. Unlike the previous two indicators, foreign direct investment (FDI) did not decline du-

ring the late 1990s' economic crisis, mostly because it was very low to begin with. Net FDI inflows started picking up only a few years after the introduction of the currency board, reaching a total of 13.9 billion USD in 2007, up from 500 million in 1997 (See Figure 3). While FDI took a major hit from the 2008-09 crisis, its dynamics in the past two decades clearly demonstrate clearly that the currency board is a more than appropriate tool for signaling stability and predictability to investors. Being pegged to the euro also resulted in a significant stabilization of the exchange rate of Bulgarian lev towards third currencies, as in practice it adopted the exchange rate of the euro. While in 1997 the rate reached heights of more than 2000 leva for a dollar, in the following decade it fluctuated around 1.5.

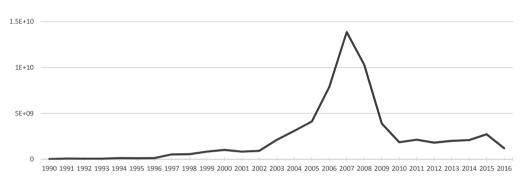


Figure 3: FDI Net Inflow, Bulgaria, 1990-2016

Source: World Bank, http://www.worldbank.org/.

The key statistics of the central government are also favourable of the board. While government debt had reached an all-time high of 97% of GDP in 1997, it has since been declining, all the way to 13% of GDP in 2008. Overall, thanks to prudent economic policy, Bulgaria has been among the EU countries with the lowest debt-to-GDP ratio. Budgetary performance in terms of deficit has been more mixed. Despite that, deficit levels as low as 1996's 9.9% were never experienced again, and before the onset of the 2008 crisis the mean balance for the decade stood at 0.7% surplus, allowing for some savings and filling of the fiscal reserve. With the data available by the Ministry of Finance only starts from 2003, at the end of that year the fiscal reserve stood at 3,85 million leva and reached 8,4 billion leva (or 9% of GDP) just five years later at the end of year 2008. This sum allowed for significant cushioning of the inevitable hit that government spending took during the economic crisis.

Since the banking system and household deposits were among those experiencing the worst hit in the crisis of the late 1990s, it is well worth investigating how they fared after the introduction of the currency board. There were no failures of banks after 1997 until the Corporate Commercial Bank bankruptcy in 2014. It could be argued that this case was due to specific reasons (Ponzy-type of operation of the bank, close links to

government, failure of supervision, etc.) rather than economic instability (Ganev 2017, p. 3-5). The trust in the banking system returned after the run on banks in the 1995-96 period, which, together with the rapid growth of household income, led to significant increases in the total volume of deposits. According to central bank data, they grew by about 30% annually in the pre-crisis period. Afterwards, the growth of deposits continued, albeit at a slower rate.

6. Currency Board and the Adoption of the Euro

The broad political consensus in Bulgaria (along with the EU member-state obligations – all members are expected to adopt the common currency at some point after their accession, unless they explicitly opt out, which Bulgaria has not done) is that the country will adopt the euro as its currency at some point in the future and consequently abandon the currency board in favour of monetary policy of the European Central Bank. Yet, only a few concrete steps have been taken in this direction. It is likely that the trajectory that the Bulgarian monetary institutional setting will take during this upcoming process of euro adoption will be like the ones in the several other Central and Eastern Europe (CEE) countries with similar currency boards which have already become part of the common currency area, such as Estonia and Latvia.

Discussing the role of the Estonian currency board in the process of adopting the euro, Kattai (2004, 202) demonstrates that the currency board is instrumental in maintaining low inflation rate and as such meeting the Maastricht criteria (they include maintaining low inflation, among other things such as low deficit, manageable debt and low interest rates), which is a condition for the entrance in the ERM-2 and the consequent adoption of the euro. Kattai's counterfactual models also demonstrate that modelled future inflation is the lowest under a currency board as compared with other monetary policy instruments. His findings are broadly corroborated by De Haan et al. (2001), who examine the currency board structures in the Baltic countries and compare the Estonian euro-pegged currency board and the Lithuanian one, which pegged the currency to the dollar. They find (Ibid., 238-40) that the Estonian choice turned out to the superior one in terms of meeting the macroeconomic and monetary goals of the two countries, primarily because of the pegging of the national currency to that of a country with a more similar economic cycle and closer levels of economic development. A final argument is provided by Gulde-Wolf and Keller (2002), who point out that at the time of the adoption of the currency boards in the CEE, the ERM-2 did not accept countries with currencies pegged to reserve currencies other than the euro, which in turn made it the default choice for those on track of eventually joining the European monetary union.

The following success of all the Baltic countries in adopting the euro confirms the expectations of earlier researchers that their currency boards lead to sufficient macroeconomic stability. This in turn means that there is little motivation for Bulgaria to

abandon its currency board before adopting the euro. Based on previous experience it can only serve as an additional assurance that the country will meet its obligations. Given that Bulgaria has met all the formal criteria, it is primarily a matter of political will—both from the European commission and the Bulgarian government—to start the formal process of the Bulgarian accession to the Eurozone.

7. Key Takeaways and Policy Lessons

It is rather curious that in recent years a discussion on the dismantling of the currency board has remerged in Bulgaria. This discussion is interestingly led by the former Prime Minister Ivan Kostov whose government finalized its introduction twenty years ago. The arguments presented in this paper, however, show little need for that. On the contrary, surrendering monetary discretion has done little to hamper the economic development of Bulgaria. All the data and evidence provided above demonstrate that the currency board has been instrumental in the stabilization, recovery, and growth of Bulgaria during its decades of economic transitions.

Here we have demonstrated that currency boards are an effective tool for combating economic crises and therefore should always be taken into consideration as an option for reining in inflation that is spiraling out of control and stopping major economic downturns. A comparison with different setups of the Baltic countries shows that this solution is far from a silver bullet and needs to be designed so that it reflects the needs and current conditions of the economy in question.

Furthermore, currency boards come handy in the process of accession to the Eurozone, both as a tool for maintaining the required stability and a signal for the candidate country's commitment to sound money and predictable and reliable economic policy.

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