

LESSONS FROM EUROPE FOR ECONOMIC POLICY IN SMALL STATES

A Focus Study on Estonia, Iceland, Ireland, Luxembourg, and Slovenia

Mark Roland Thomas* and Gaobo Pang
Economic Policy and Debt Department
The World Bank

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Abstract

While small economies (population less than two million) outside Europe have slowed relative to other countries, Europe's smallest economies have been remarkably successful. The paper examines performance and policies in Europe's small independent states – Iceland, Luxembourg, Cyprus, Estonia, and Slovenia – plus (stretching our definition) Ireland, looking for lessons for other small states and suggesting case studies. Slovenia and Estonia endured transition-related recession in the early 1990s, and then grew strongly. Iceland, Luxembourg, and Ireland had steadier performance over the entire period examined (1981-2004). Cyprus performed less strongly. Slovenia and Ireland's growth has seen manufacturing maintain its share, also reflected in a greater reliance on physical investment in a growth accounting analysis. Common strategies across most of these countries were fiscal and monetary discipline; openness to trade through low tariffs and regional blocks; the strategic pursuit of certain geographical markets; infrastructure investments driven by trade objectives; openness to inward investment through low corporate taxation and FDI promotion; some industrial policy; activist policy towards internet connectivity and e-business; innovative approaches to higher education, including foreign study; and measures to promote multilingualism. Possible case studies within this set of countries relating to economic integration, specialization, and efficiency in public-sector service provision are proposed.

* Corresponding author: mthomas1@worldbank.org

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1. CONTEXT AND SCOPE

CONTEXT

1. This paper is part of a larger research activity led by the World Bank focusing on the economic management of small states and the resulting outcomes. For the purpose of the broad research, the threshold for the definition of such a “small state” is a population of two million people – rather than discuss the merits of this definition here we shall take it as given. The overall research has three layers: regional papers setting out some stylized facts about small states, their policies, and the associated economic outcomes; case studies of particular public policy responses to the challenges faced by small states; and third, a synthesis in book form, also encompassing discussion in conferences and workshops.
2. The present paper is one part of the first of these layers. Since it focuses on Europe, its emphasis is somewhat different from that of, say, papers that might focus on South Pacific Islands or small states of the Caribbean. This follows from the fact that the small states we shall focus on have in fact been markedly successful in terms of economic outcomes since the early nineties. This fact has been accompanied by a general decline in the relative fortunes of small states elsewhere in the world. The main aim of the present paper is therefore one of relating the forms in which success has come, and seeking some of its causes.

TOPICAL COVERAGE

3. Leaving to one side the question of whether or not small states economically under-perform countries in general,¹ what is the “problem” with being small? For our purposes here (and setting aside any possible economic advantages to being small), there are essentially three answers to this question.
4. First, small countries may face economies of scale in the provision of both public and private goods. In the public sphere, this may translate into higher costs of government and public services (both defined broadly): there may be fixed costs to setting up and maintaining armed forces, for example. In the private sphere, this may manifest itself as a lack of competition in certain sectors of the economy, leading to higher costs.
5. Second, some small states may be particularly isolated from the rest of the world, increasing the cost of trading with other countries and therefore decreasing the potential gains from trade. Island nations provide the most obvious example of this, but small countries having their own language might constitute a different but analogous example.

¹ The overall evidence is that they do not seem to systematically do any worse in a statistical sense. See Favaro (2004).

6. Third, it is well established that small states are subject to greater economic volatility than larger countries. Volatility comes in two basic forms. The economic effects of natural disasters are felt particularly severely by small states: for example, the damage done by Hurricane Ivan to Grenada is estimated to have been in excess of two hundred percent of GDP, unthinkable in a large country. Small states also tend to have less diversified economies, which makes them more vulnerable to other forms of economic shock, such as random fluctuations in the terms of trade.
7. It is clear that in Europe not all of these potential problems come into play with equal vigor, indeed sufficiently clear that we will not take time in this paper establishing the fact. On one hand, economies of scale are in principle an equally valid consideration in Luxembourg as in Tonga. On the other, geographic isolation is limited in our sample to one country – Iceland – and therefore we shall only discuss it with relation to that country. Linguistic isolation may play a greater role, and will be discussed. Finally, none of our European small states are particularly exposed to volatility, in the form either of natural disasters or of terms of trade shocks through, for instance, commodity price fluctuations, which are an important factor in other regions.
8. Each problem suggests certain kinds of solution. Geographic isolation suggests specialization in economic activities that are not sensitive to transport costs as well as (possible) measures to reduce transport costs in key sectors. Linguistic or cultural isolation may encourage the use of education, particularly further or higher education, as a tool to increase cultural or linguistic integration with neighbors. Lack of scale in public services may suggest joint institutions or greater attention to efficiency in provision. Lack of scale or competition in private sector activities may suggest greater specialization, with the possible tradeoff that this could increase exposure to economic volatility.
9. Based on the discussion so far, there will be four principal threads running through the analysis of this paper. The first is integration – broadly defined – to address different forms of isolation that small states may experience: geographical, linguistic, or cultural. This broad definition of integration encompasses not only the traditional notion of trade in goods and services, but also telecommunications, education (e.g. through student exchange or travel), and harmonization of standards (through, for example the EU).
10. The second theme is economic diversification versus specialization. Diversification is often viewed as a strategy for reducing risk, whereas in the context of small economies specialization may be viewed as generating efficiency benefits from within-industry scale or from competition. The third theme is economies of scale in public sector provision, and measures taken to maintain the size of the state commensurate with that in larger economies. The fourth theme is best posed as a question: are there small state growth strategies that we may infer from the policies pursued in any of these countries?

COUNTRY COVERAGE

11. The criterion by which a country is considered “small” for the purposes of the broader study has been defined as a population of less than two million inhabitants. Applying this criterion to European and Central Asian countries, and eliminating smaller entities that in many cases are not fully fledged sovereign states (such as the Channel Islands), suggests a set of five countries (Table 1): Iceland, Luxembourg, Cyprus, Estonia, and Slovenia. As we shall see, with the exception of Cyprus, these are countries that have dealt rather well with the challenges of small-statehood, underlying the sense that we are looking to learn by positive examples from this paper. Extending the population threshold higher was considered, but the type of country this admits is somewhat different – post-conflict Macedonia, central Asian Armenia, and Albania, countries with policy experiences we are arguably less able to generalize from. The two-million threshold was therefore adhered to.

Table 1
Countries and Sovereign Entities in Europe and Central Asia
by Population

Country	2004 Population (thousands)
San Marino	28
Monaco	33
Liechtenstein	34
Faeroe Islands	48
Greenland	57
Andorra	66
Isle of Man	77
Channel Islands	149
Iceland	290
Luxembourg	450
Cyprus	776
Estonia	1,350
Slovenia	2,000
Macedonia	2,060
Latvia	2,300
Armenia	3,050
Albania	3,190
Lithuania	3,440
Ireland	4,020
Moldova	4,220
Croatia	4,510
Georgia	4,520
Norway	4,580

Source: World Development Indicators, 2005

12. One exception to this rule has been allowed however, which is the inclusion of a discussion of Ireland, with a population of just over 4 million. We have treated Ireland as an exception because its recent growth experience has been truly

exceptional for a country of its level of development. Since Ireland has followed a strategy we believe to be relevant to other small states, of enthusiastic integration by a variety of definitions, we include it as a specific case study apart.



2. COMPARATIVE ANALYSIS OF ECONOMIC GROWTH

OVERALL PERFORMANCE

13. All six of the countries we are analyzing have posted healthy economic growth rates in the 1990s. As Table 2 shows, per-capita GDP growth in all six countries has been above two percent on average since 1996. In the four countries that did not undergo the break with soviet economic planning that occurred in Estonia and Slovenia, the long-run growth rate since 1981 has ranged between 2.8 percent (for Iceland) and 5.5 percent (for Ireland): these are fairly impressive numbers.
14. Moreover, these growth rates exceed those of relevant comparison groups. For example, median economic growth in small states around the world (using the two million population definition) was 2.9 percent in 1996-2000 and 2.9 percent again in 2001-04. For comparison, economic growth in the European Union in these two periods was 4.0 percent and 2.8 percent respectively – matched or exceeded by all but Cyprus in 1996-2000 and by all but Luxembourg in 2001-04.

Table 2
GDP Growth Rates

Country	1981-85	1986-90	1991-95	1996-00	2001-04	Average	Standard Deviation
Iceland	2.3	3.2	0.3	5.1	2.8	2.8	2.9
Luxembourg	2.5	7.5	4.0	7.1	2.4	4.7	3.2
Cyprus	5.6	7.0	4.6	3.8	2.9	4.8	2.6
Estonia	2.8	0.7	-6.4	5.6	6.2	1.8	6.7
Slovenia	n/a	n/a	-0.4	4.2	3.3	2.4	4.2
Ireland	2.6	4.7	4.7	9.8	5.4	5.5	3.3

Source: World Development Indicators, 2005

Table 3
Per Capita GDP Growth Rates

Country	1981-85	1986-90	1991-95	1996-00	2001-04	Average	Standard Deviation
Iceland	1.2	2.1	-0.7	4.1	2.0	1.7	3.0
Luxembourg	2.4	6.7	2.5	5.7	1.7	3.8	3.0
Cyprus	4.3	5.9	3.1	3.1	2.3	3.7	2.5
Estonia	2.1	0.2	-4.8	6.6	6.7	2.2	6.5
Slovenia	n/a	n/a	-0.3	4.2	3.2	2.4	4.1
Ireland	1.7	5.0	4.1	8.6	4.1	4.7	3.2

Source: World Development Indicators, 2005

15. As mentioned above, these numbers hardly suggest that small European states have had difficulty in managing their economies as a result of their size. Some care is therefore needed in framing the question we are asking by focusing on this subset of countries and their experience. Rather than starting from an assumption that smallness is a problem to be overcome, it is perhaps more appropriate to say that small economies by their nature face certain circumstances, and therefore need to tailor their economic strategies to those circumstances. How have our selected economies been so successful in tailoring such growth strategies?
16. As suggested in the introduction, economic isolation does not appear to be an overriding consideration for this sample of countries, and this is established by the trade ratios reported in Table 3. Perhaps unsurprisingly, Iceland has significantly lower trade as a proportion of GDP than the others, although perhaps more surprisingly neither its imports nor its exports in goods and services have increased significantly in relation to GDP since the beginning of the 1980s. All the other five countries, however, have trade ratios (as measured by exports plus imports as a fraction of GDP) in the region of or above 100 percent. There has been a general trend of increasing trade over time in most countries, although this increase is most marked in Luxembourg, the most open of all our cases and in Ireland, whose exports increased steadily from about half of GDP in the early 1980s to nearly 100 percent over the past five years. Estonia, the country with the strongest recent growth performance (Table 2), has not achieved this through a dramatic increase in trade, although Estonian imports and exports have both increased as a share of GDP since the early 1990s.

Table 3
Trade Ratios (percent of GDP)

Country	1981-85			1986-90			1991-95			1996-00			2001-04		
	X	M	X+M	X	M	X+M	X	M	X+M	X	M	X+M	X	M	X+M
Iceland	37	38	74	35	34	69	34	32	66	36	39	75	39	39	78
Luxmbg.	100	101	201	104	101	205	105	97	201	129	114	243	147	129	275
Cyprus	51	64	115	49	54	103	48	53	100	46	51	97	n/a	n/a	n/a
Estonia	n/a	n/a	n/a	n/a	n/a	n/a	67	71	137	74	82	157	77	84	161
Slovenia	n/a	n/a	n/a	n/a	n/a	n/a	64	60	124	56	58	114	59	58	117
Ireland	50	56	106	56	52	108	66	58	114	86	73	159	96	79	175

Source: World Development Indicators, 2005

17. The share of government spending in GDP gives an idea of whether these countries face a larger burden of government, possibly owing to economies of scale in certain government services, than larger countries. Table 4 shows that the share of government varies in these countries between about 28 percent (in Estonia) to about 40 percent in Luxembourg. The share of government shows no systematic trend across countries: it has increased in Cyprus, decreased monotonically and quite dramatically in Ireland, and not moved in any persistent direction in the other countries. Moreover, these ratios are not high in comparison

with larger countries. An average for the 25 EU members for 1996-2000 gives a government share of 38 percent.

Table 4
Share of Central Government Spending in GDP (percent)

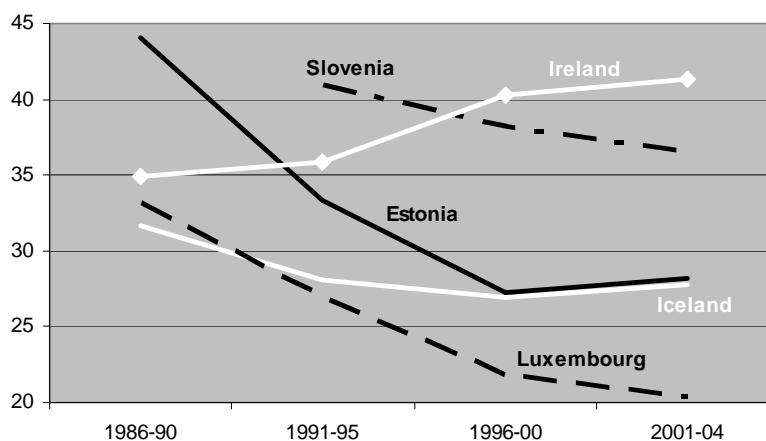
Country	1981-85	1986-90	1991-95	1996-00	2001-04
Iceland	26.6	31.6	33.5	30.9	n/a
Luxembourg	42.7	37.6	39.7	39.1	n/a
Cyprus	31.0	30.9	32.6	35.8	n/a
Estonia	n/a	n/a	27.5	31.0	28.0
Slovenia	n/a	n/a	39.1	37.5	38.7
Ireland	48.0	42.6	38.9	33.8	n/a

Source: World Development Indicators, 2005

PATTERNS OF GROWTH

18. The patterns of growth – as revealed by decomposing growth by main sector and also through Solow-style growth accounting – show considerable variation across the six countries.
19. Consider first the share of industry (including manufacturing) in the economy over time. Figure 1 graphs this share for the five countries in our sample with robust growth performance from the 1990s onwards (since Cyprus has shown a relative decline to mediocre economic performance, it will not be included in many of the comparisons from here on in the paper). Table 5 gives the corresponding numbers.

Figure 1
Industry Share (percent), 1986-2004



20. Estonia and Luxembourg show a marked decline in industry, although Luxembourg starts from a considerably lower level in the 1980s. Slovenia and Iceland, while their industry share declines, it does so less precipitously. In the case of Slovenia the structure of the economy remains quite industrial, with an industry share greater than one third. In the case of Iceland, the industry share has remained roughly constant since the early 1990s. Finally, Ireland, the most successful economy in the group, has increased its industry share, with a particularly marked rise from about 35 percent to about 40 percent, through the 1990s. While all five countries have shown robust growth, therefore, they seem to have pursued quite different growth strategies.
21. The agricultural sector has also behaved very differently between these five countries (Table 6). Estonia and Ireland have both shown a marked decline in the share of agriculture in their national income since the late 1980s, the decline being particularly steep in the case of Estonia. Luxembourg had virtually no agriculture at the beginning of the period and Slovenia very little. Iceland, on the other hand, has retained a very significant agricultural share in its economic structure until the present day, with over a quarter of GDP coming from agricultural activities.

Table 5
Industry Shares (percent), 1986-2004

	1986-90	1991-95	1996-00	2001-04
Iceland	31.7	28.1	26.9	27.8
Luxembourg	33.2	26.9	21.8	20.4
Estonia	44.1	33.4	27.3	28.2
Slovenia	n/a	40.9	38.1	36.5
Ireland	34.9	35.9	40.3	41.3

Table 6
Agriculture Shares (percent), 1986-2004

	1986-90	1991-95	1996-00	2001-04
Iceland	12.0	11.8	10.2	9.6
Luxembourg	2.0	1.3	0.9	0.7
Estonia	19.8	11.9	6.8	4.8
Slovenia	n/a	5.1	4.1	3.2
Ireland	10.3	8.2	5.0	3.4

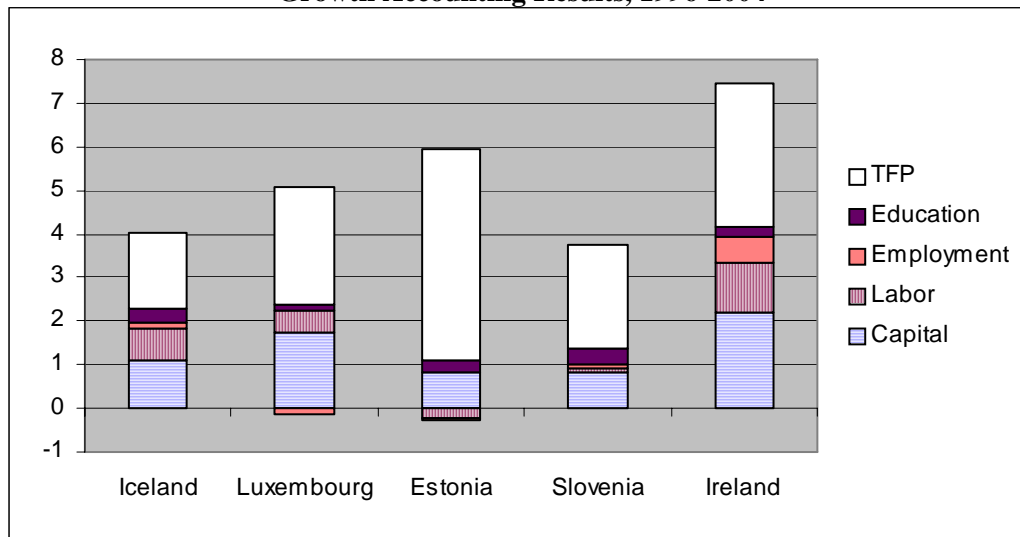
Table 7
Services Shares (percent), 1986-2004

	1986-90	1991-95	1996-00	2001-04
Iceland	56.3	60.1	62.8	62.7
Luxembourg	64.8	71.8	77.3	79.0
Estonia	36.1	54.7	65.9	67.0
Slovenia	n/a	54.0	57.8	60.3
Ireland	54.7	55.9	54.7	55.3

Source for Tables 5-7: World Development Indicators, 2005

22. As in the world at large, the services sector has grown in all five countries since the 1980s, although at widely differing rates between countries (Table 7). Estonia, where both industry and agriculture have declined in importance, consequently shows the fastest growth in the share of services in the economy, with spectacular growth from just over one-third to over two-thirds of national income. Luxembourg, where industry has also declined rapidly in share, saw services replace lost industrial activity, though the transformation has not been as sudden or complete as Estonia's, since Luxembourg has obviously not undergone the deep change in social model that Estonia has in the wake of the collapse of the Soviet Union. In Iceland, Slovenia, and Ireland, the increase in the share of services has been gradually and not always monotonic, with Ireland in particular showing no marked increasing trend at all.
23. These differences are reflected in the results of a growth accounting exercise. One might expect that in the countries where industry has been most robust – Ireland and Slovenia in particular – one would see a stronger reliance on capital accumulation as a source of GDP growth, and indeed this is largely born out by our analysis. Figure 2 and Table 8 show the results.

Figure 2
Growth Accounting Results, 1996-2004



Source: Authors' analysis

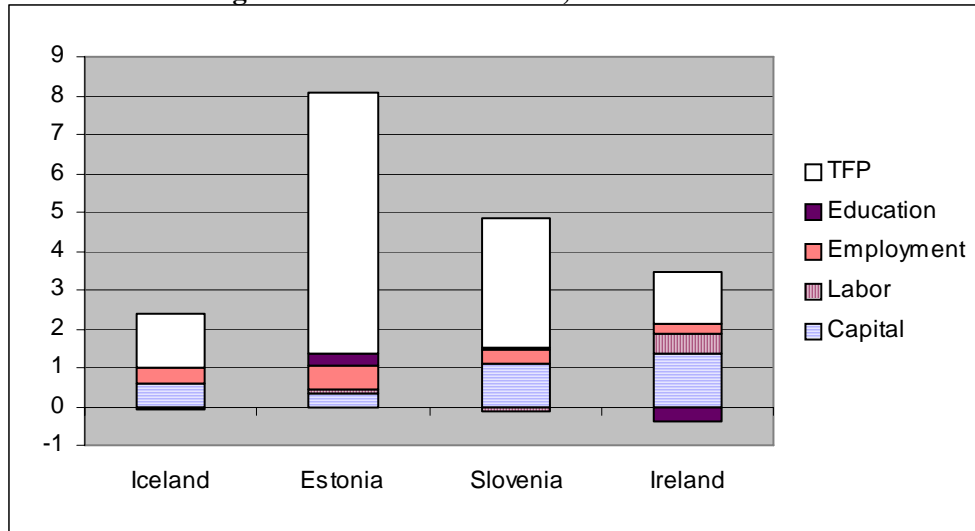
24. Figure 2 shows the growth accounting decomposition of average aggregate growth over the period 1996-2004 (the longer period is more appropriate for the growth accounting methodology).² As usually occurs in such analysis, the bulk of

² The Solow-style growth accounting assumes a Cobb-Douglas production function, i.e.,

$Y_t = A_t K_t^\alpha (E_t L_t H_t)^{1-\alpha}$, where Y , A , K , E , L and H are respectively output, total factor productivity (TFP), physical capital stock, the employment rate, labor supply, and human capital. Physical capital stock

GDP growth is “accounted for” by total factor productivity (TFP), which in this methodology is essentially a residual that is left unexplained by the accumulation of the other measurable factors, capital, labor (the combined outcome of changes in the labor force and in unemployment), and education. Ireland, which recall was the only country which increased its industrial share over the period 1986-2004, is also the county that shows the highest growth accounted for by capital accumulation.

Figure 3
Accounting for Growth Acceleration, 1996-2004 versus 1986-95



Source: Authors’ analysis

25. Figure 3, rather than decomposing growth, decomposes the growth pickup in the second decade of our time period (1996-2004) versus the first (1986-1995). For this analysis we exclude Luxembourg, for which growth slowed slightly in the second period relative to the first, and restrict attention to the four countries that posted higher – in all cases significantly higher – growth in the second period than in the first. Here the results capture more closely the structural changes recorded

is estimated by $K_t = K_{t-1}(1 - d) + I_t$, where d is depreciation rate and I gross investment. Human capital is measured by $H_t = \exp(\phi(S_t))$, where S is the years of schooling. These relations imply that $y_t = a_t + \alpha k_t + (1 - \alpha)l_t + (1 - \alpha)e_t + (1 - \alpha)h_t$, where lower case letters indicate the growth rate of corresponding upper case variables, e.g., $y_t = \ln(Y_t / Y_{t-1})$. This equation attributes output growth y_t to physical investment αk_t , labor supply change $(1 - \alpha)l_t$, employment change $(1 - \alpha)e_t$, human capital accumulation $(1 - \alpha)h_t$, and TFP as a residual. Parameters are calibrated based on the related literature. It is assumed that $d = 5\%$, $\alpha = 0.35$ following Bosworth and Collins (2003), and that the derivative $\phi'(S_t)$, the marginal return to schooling, is piecewise linear following Hall and Jones (1999) who set it equal to 13.4% for first 4 years of education, 10.1% for the next 4 years, and 6.8% beyond 8 years, based on Psacharopoulos (1994). The data for output, investment, labor force, and the employment rate are from World Bank WDI, and years of schooling are from Barro and Lee (2000).

by sector: in both Ireland and Slovenia more than one percentage point of the growth pickup is explained by a pickup in capital investment. Estonia's spectacular growth turnaround (from -2.4 percent in 1986-95 to 5.7 percent in 1996-2004), on the other hand, is almost wholly unexplained by factor accumulation, and is therefore attributable to a dramatic increase in productivity.

Table 8
Growth Accounting (percentage points), 1986-2004

	Iceland		Luxembourg		Estonia		Slovenia		Ireland	
	86-95	96-04	86-95	96-04	86-95	96-04	86-95	96-04	86-95	96-04
Capital	0.54	1.12	1.69	1.75	0.50	0.82	-0.28	0.82	0.84	2.18
Labor Force	0.76	0.72	0.50	0.49	-0.36	-0.23	0.26	0.11	0.60	1.15
Employment	-0.28	0.15	-0.09	-0.11	-0.62	-0.02	-0.28	0.09	0.39	0.61
Education	0.36	0.31	0.17	0.15	-0.04	0.26	0.29	0.35	0.63	0.24
TFP	0.33	1.72	3.50	2.70	-1.85	4.86	-0.94	2.39	1.89	3.26
GDP Growth	1.71	4.01	5.78	4.99	-2.38	5.69	-0.95	3.77	4.35	7.43

Source: Authors' analysis

26. Of course such general analysis can only take one so far in terms of understanding countries' policies and strategies at the detailed level. Recognizing this, the next section will give more detail on each country's economic trajectory in recent years. Nonetheless, and to set the stage for these national narratives, as we reach the end of this section it is worth encapsulating the main descriptive findings of the analysis so far.

- Overall economic performance in these countries has been strong, and their growth paths divide them into two groups. Slovenia and Estonia endured stagnation or recession, related to transition from communism, in the early 1990s, and then recovered strongly. Iceland, Luxembourg and Ireland had steadier performance over the entire period (although Iceland also endured some difficulties related to the Scandinavian slowdown in the early 1990s).
- All the economies have built the foundations of their performance in trade integration. Luxembourg, Estonia, and Ireland have seen very fast trade growth. Slovenia and Iceland have seen slower trade growth and face greater physical challenges to integration. Iceland's trade share in particular is much lower than the other four countries'.
- Ireland and Slovenia, although quite different economies from one another, have seen a growth acceleration more strongly rooted in their industrial sectors and in capital accumulation than have Iceland, Estonia, and Luxembourg. Of the five, Luxembourg is the only economy that slowed down in the late 1990s and 2000s relative to the 1980s and early 1990s.



3. NATIONAL NARRATIVES

27. We now turn to country specific accounts. It is not the purpose of this paper to give comprehensive descriptions of these countries' trajectories – there are many other sources for such accounts – but rather to focus on elements of country experience that may offer lessons for other small countries. Despite this general aim, the specificity of countries' development policy experiences makes it necessary to bring a degree of country-level detail into the story.

ESTONIA

28. Estonia, with a small population of 1.3 million, has achieved remarkable economic accomplishments in the fourteen years since its independence. The average annual growth rate of GDP per capita reached 6.6 percent after the severe recession associated with transition in the early 1990s. Estonia has been portrayed by *The Economist* as “beautifully successful”³ and was ranked fourth on the Heritage Foundation/Wall Street Journal “2005 Index of Economic Freedom” – ahead of many more developed countries, including the US and the UK.
29. As a small, former Soviet-bloc state, Estonia after independence faced an urgent need to regenerate its economy, confronted with the suddenly disappearance of both its main export market and its main supplier of raw materials, the former Soviet Union. Today, Estonia has transformed from central planning to become one of the most flexible and open economies.
30. Estonia's success is attributable to many factors. The most important include commitment to privatization and the promotion of free market policies, fiscal discipline and restoration of macroeconomic stability, and an effective diversification of traded goods and exports markets.
31. Estonia's efforts to replace planning with markets in fact began before 1991, and the economic transition was then intensified by sweeping reforms after independence. The first post-independence government developed consensus on its free-market orientation, restoring property rights and allowing trading of land. Following the “East German” model, Estonia sold large and small companies through distinct government agencies by means of “voucher privatization”. The process was speedy and notable for its efficiency and relative absence of corruption, with smaller businesses mainly sold to the occupiers or operators while larger companies were tendered to international strategic investors with the necessary know-how. By 2001, the Estonian private sector contributed more than 85 percent of GDP, one of the highest proportions in Eastern Europe.

³ *The Economist*, October 15, 2005.

32. Estonia has also taken measures to promote a favorable investment climate: reducing corporate tax and shunning tariffs and restrictions on foreign ownership. Foreign direct investment has been significant. The trade regime is liberal, with the weighted average tariff rate and non-tariff barriers virtually nonexistent. Integration of trade and investment has thus been both cause and effect of a more modernized industrial sector than most of its neighbors. For instance, Estonia has developed a significant presence in electronics, information technology, and internet services.
33. The structural changes of Estonia's economy have accelerated in the last decade. Growth has come through rapid expansion in the previously neglected services sector, particularly retail trade, transport, communications, and real estate services. The share of services increased from 36 percent of GDP over 1986-90 to 67 percent over 2001-04 (Table 7). Electronics and telecommunications are the country's strongest industries, benefiting from early privatization and subsequent FDI. Telecommunications are among the best in the region – Estonians had a fixed-line telephone density of 33 per 100 inhabitants at the end of 2003 and the number of mobile subscribers has grown rapidly. Estonia now ranks as the best connected country in the region on most indicators of internet access.
34. As a small open economy, Estonia has adopted strategies to diversify the goods it exports as well as its markets. Growth since the late 1990s has primarily been supported by strong exports of wood, metal, telecom, and electronics products. Estonia has also oriented its exports away from the former communist block towards the richer and more stable Scandinavian and EU markets.
35. At the same time, Estonia has pursued tight fiscal policy, streamlined taxation, and used a currency board to support the introduction of a new currency (the kroon) in 1992 and rein in high inflation. Total government expenditure has remained below 30 percent of GDP and the public sector has achieved positive overall balance on average for the past 15 years. As a result, public debt is now lower than it has ever been in Estonia. Estonia has become somewhat renowned for its commitment to “flat taxes” – both personal and corporate income taxes are levied at a flat rate of 24 percent. In 2000, the government abolished corporate income tax on reinvested profits and on employment or social projects, although it remains payable on dividends and distributed profits.
36. Despite the Russian financial crisis, Estonia enjoyed an economic growth rate of close to 6 percent over 1996-2004. The driving force behind this performance has been productivity gains; modest physical capital formation has been financed to a significant extent by FDI (Figure 3 and Table 8).
37. Labor force growth has not contributed to this high GDP growth. Estonia's population is both shrinking and aging, one of the major challenges for future development. This population trend owes not only to the population fall from net emigration of Russians and other nationalities in the wake of the severe

- contraction during transition, but also to a low birth rate and declining total fertility.
38. Estonia has a strong tradition of education and educational rights are enshrined in the constitution. Estonians receive compulsory education from seven to 17. Literacy is 99 percent, among the highest in the world. 2001-04 gross secondary school enrollment was more than 96 percent. Higher education has become increasingly popular in response to labor market demands, with tertiary school enrollment increasing from 27 percent in 1986-90 to 65 percent in 2001-04. Although the system is predominantly public, private education is increasing, in many cases offering cheap, multilingual courses, which attract both domestic and foreign students.
 39. Despite strong growth and good educational performance, unemployment rose sharply after independence, peaking in 2000 at 13.7 percent. This has fallen steadily and reached 9.9 percent at end-2004. Factors include falling labor participation and the creation of new jobs, notably in manufacturing, construction, and – despite limited public spending – public administration. Unemployment remains significant, with the highest rate in the industrialized north-east where structural change continues to cause job losses. Here many of the long-term unemployed lack the skills necessary in the new growth industries.
 40. Estonia's economic strategy embodies two elements that may be interpreted as a response to the challenges faced by small states:
 - (a) Streamlining the state. Not only is Estonia the most-cited example of a country pursuing a "flat-tax" regime, but the government has explicitly targeted a limited role for itself in the economy, not only as a means to an attractive investment climate, but also to address the need to control the costs of government administration, in relation to the overall economy, given scale effects.
 - (b) Emphasis on technology. Estonia has pursued internet connectivity through active government investment to become one of the best connected economies in the region.
 - (c) Reorientation of trade patterns. Estonian policy has explicitly recognized that the economy has more to gain in the foreseeable future from trade relations to the west than to the east.

SLOVENIA

41. Slovenia is one of the best economic performers in central and eastern Europe, with 4 percent annual GDP growth over 1996-2004. With GDP per capita in 2004 of about US\$16,000, Slovenia is the richest post-communist country in the region. Macroeconomic stability, fiscal balance, and accession to the EU have gained Slovenia the highest credit rating among the transition economies. Traditionally

- strong links with the West (as a “trading arm” of Yugoslavia) have brought technology and trade.
42. In contrast with Estonia, Slovenia adopted a deliberate, gradualist approach to reforms after its independence. With emphasis on consensus over speed, Slovenia has seen slow privatization and delays of tax reforms. Privatization began in 1992 and used myriad measures, including management and employee buyouts, voucher privatization via investment funds, and direct sales. Yet three quarters of privatized enterprises were still controlled by “insiders” in 1998. Lack of competition and a low level of foreign participation have led to slow restructuring and moderate productivity improvement since privatization.
 43. Nonetheless, Slovenia’s economic structure has evolved with its transition to a market economy and its increased integration with western countries. Agriculture has diminished in importance, industrial production as a share of GDP has fallen from a high of 46 percent of GDP in 1991 to 37 percent in 2004, and traditional industries, such as textiles and truck-making, have contracted sharply while there has been an increase in light manufacturing and in higher value-added sectors such as pharmaceuticals and electrical engineering.
 44. To circumvent the constraint of a small domestic market, Slovenia has pursued integration into Western and transatlantic institutions. Its strong market ties to the West can be traced back to when Slovenia accounted for one-third of Yugoslav exports. This integration gained momentum after independence. Slovenia joined the Central European Free Trade Agreement (CEFTA) in 1996, and participates in SECI, the Central European Initiative, as well as the Black Sea Economic Council. It became a new EU member state in 2004.
 45. Slovenia’s economic management is largely sound. Public finances have shown modest deficits in recent years, and the country is well within the Maastricht criteria of public debt and deficits. Slovenia’s public debt was 29 percent of GDP at the end of 2004. The current account balance has improved through strong exports. Inflation has fallen from over 200 percent in 1992 to under 4 percent in 2004.
 46. As a small and highly open economy, Slovenia’s growth depends on foreign trade. Total exports and imports of goods and services have been well above 100 percent of GDP for the past 15 years. About three quarters of all manufacturing production is exported. This openness makes Slovenia sensitive to economic conditions in its trading partners and to price fluctuations. Currently about two-thirds of Slovenia’s trade is with the EU, a figure expected to rise further following accession. The country has achieved success in penetrating eastern and southern European markets. Exports are also shifting towards higher value-added sectors, in part thanks to a well-trained labor force. Nonetheless, a hope-for trade boom has not materialized, perhaps owing to a reluctance towards foreign ownership.

47. Slovenia is improving its physical connections with Europe through ambitious motorway construction. Slovenia has a well developed rail and road network connecting its major towns with the former Yugoslav republics. The motorway construction program through the EU Trans-European Network, in particular Corridor V (linking Hungary with Austria and Italy) and Corridor X (linking Austria and Croatia), will align Slovenia with Western European transport communications and increase its importance as a transit country.
48. Slovenia, like Estonia, has experienced TFP-led growth since the mid-1990s (Table 8). This is not surprising given Slovenia's increasing integration with the EU and participation in international competition. But Slovenia's transition has been slower, and its growth turnaround since recession in the early 1990s owes as much to capital accumulation as to productivity. Slovenia has also benefited from a historically well-educated and productive work force – Slovenia has a stronger educational system than most of the other transition countries. Higher education has expanded dramatically in the past decade. Tertiary enrollment increased from 25 percent in the late 1980s to over 67 percent in 2004. The government has also scaled up its support for job skills training, leading to growth in post-secondary vocational training. Finally, a secular decline in fertility and deaths outpacing births mean that Slovenia's positive population growth is attributable to migration from other former Yugoslav republics.
49. From this account, the main ingredient of Slovenia's economic strategy that may be interpreted as a response to its small population size and hence domestic market is its physical integration – through concentrated (and subsidized, by the EU) investment in transport infrastructure – with the main east-west trading axis of the EU. A further question is whether this shift is likely to affect Slovenia's export mix significantly, perhaps towards higher technology sectors or higher value-added goods and services.⁴

LUXEMBOURG

50. Luxembourg is one of the smallest countries by surface area and population size, and among the richest in terms of GDP per capita, which in 2003 was over double the EU average.⁵ Luxembourg achieved high economic performance over many years before a recent growth slowdown (Table 2: GDP per capita growth fell from 5.7 percent in 1996-00 to 1.7 percent in 2001-04).
51. Luxembourg's geographical proximity to several countries obviously facilitates economic connections with neighboring markets. Luxembourg's economic performance consequently appears to be embedded in specialization in certain

⁴ This is an aspect of trade policy that has recently received increased emphasis from researchers. See for example Hausmann, Hwang, and Rodrik (2005) and Rodrik (2006).

⁵ GDP per capita may be over-estimated due to large numbers of cross-border workers in Luxembourg, who contribute to GDP but are not counted in the population. Eurostat estimates Luxembourg's per capita GDP at 2.13 times that of the EU.

- niche businesses, high mobility of factors of production, and complete integration with European countries.
52. Luxembourg's economy is specialized and its structure has evolved rapidly over the last two decades. Until the mid 1970s, steel dominated the country's industrial structure, accounting for over one-quarter of GDP in 1974, and owing its origins to iron deposits in the south of the country. Since the 1970s, the steel industry – and manufacturing more generally – has been on a declining trend, yielding to financial services the role of leading contributor to growth. The value-added share of GDP from industry has fallen by more than 13 percentage points since the early 1980s (from 35 percent to about 20 percent today). Over the same period, services increased their contribution from 63 percent to 79 percent. Financial services accounted for over 22 percent of total value added in 2001-03, with an indirect effect of up to twice this figure, according to the EIU.
 53. The difficulties of the 1970s stimulated a radical restructuring towards high-technology specializations, a trend that has continued to the present. Luxembourg's steel industry initially faced substantially reduced demand, the emergence of substitutes, increasing international competition, and the cost effects of the two oil crises. Iron and steel production slumped by 28 percent in one year from 1974 to 1975. Its geographical location also placed the Luxembourg steel industry at a disadvantage compared to coastal steel plants. The government's response was to abandon standard products and specialize increasingly in high-quality products using cutting edge technologies.
 54. Despite its declining share of GDP, Luxembourg's manufacturing has adapted relatively successfully. A second industrial pole has emerged around chemicals and materials technology (rubbers, plastics) and Luxembourg remains the seat of Arcelor, the largest metallurgical group in the world, created in 2001 from the merger of Arbed, Acelalia and Usinor. At this point it is worth recalling the results of the growth accounting exercise of the previous section, which showed that in 1996-2004 Luxembourg had the second highest contribution of capital accumulation to GDP growth of the five countries discussed here (behind Ireland, discussed below).
 55. At the same time as undergoing this industrial transformation, Luxembourg has grown to be the European leader in private banking, the administration of mutual funds, and pension services. The financial sector has thus served as the key to Luxembourg's continuing prosperity and absorbs approximately ten percent of total internal employment. There are 161 banks based in Luxembourg, from over 20 different countries. Thirty of the world's 50 leading institutions have subsidiaries there. The success of the financial sector reflects legal and cultural

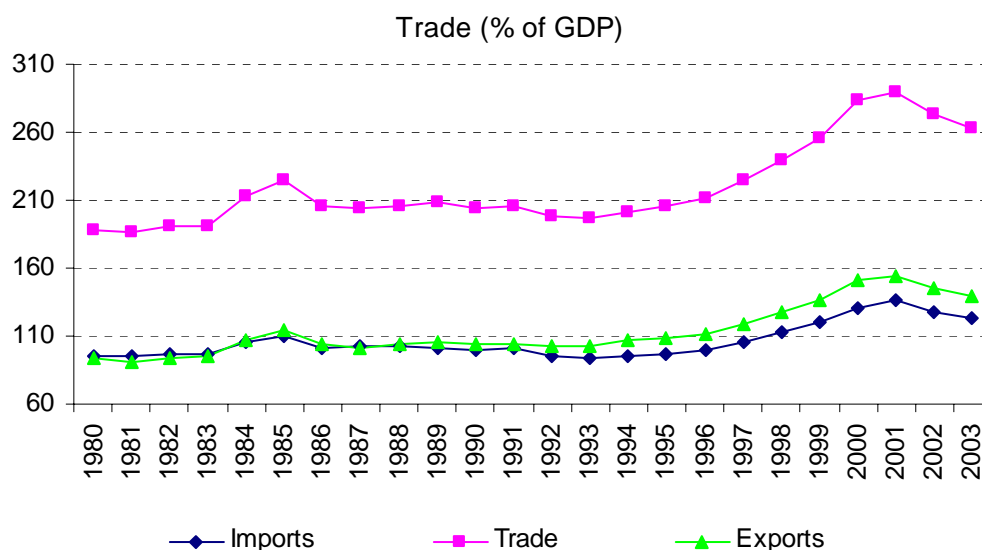
- factors: banking secrecy rules, a zero tax rate on savings,⁶ historical banking expertise, a multilingual workforce, and its membership of the EU.
56. E-commerce constitutes another new growth sector. The external impetus for the development is an EU directive, which requires e-businesses to be registered in at least one member state for tax purposes. A further important factors resides in Luxembourg's multilingual workforce and the quality of its information technology infrastructure. Finally, Luxembourg's attraction is to some extent attributable to tax cuts introduced in 2001-02: Luxembourg has lower income and corporate tax rates than most of its European competitors. Companies registered in Luxembourg, such as Amazon, AOL, Microsoft and Skype, can sell products in all EU members. The EIU estimates that in 2004 e-commerce generated tax revenues to Luxembourg of about 200 million euros, or over 2.5 percent of its tax income in 2004.
 57. Luxembourg's economic development relies on factor mobility: both foreign capital investment and labor force movement. Luxembourg's resident population is 0.1 percent of the EU total. Foreign citizens account for nearly 40 percent of its resident population and its foreign population rose by 54 percent from 1991 to 2004 while total population rose by 17 percent. In addition to foreign residents, cross-border workers (mainly from the France, Belgium and Germany) account for 37 percent of the workforce. Every weekday, about 112,000 workers commute across Luxembourg's borders by road and rail. In 2004, cross-border workers filled three in every four new jobs.
 58. A further aspect of Luxembourg's competitiveness is multilingualism, which is enshrined in its legislation and is a key to its economic success. The majority of the population is fluent in the local *Lëtzebuergesch*, French, and German, and also has a good knowledge of English. This is partly due to all school subjects being taught in all three national languages. Most Luxembourgers reach a high standard of education, either of an academic or a vocational nature, although immigrants face some resulting linguistic disadvantages in employment.
 59. Seemingly paradoxically, higher education in Luxembourg to some degree lags behind other small states in the region – the gross tertiary enrollment was about 12 percent for 2001-04, which may in part explain the recent skills shortages in the Grand Duchy, particularly in the IT sector and accounting functions. Indeed, those Luxembourgers attending higher education have historically gone overseas – Belgium, France, and Germany being the top three destinations in order of popularity – and the University of Luxembourg is in fact a very recent creation (founded in 2003). In this sense Luxembourg could be said to have largely subcontracted its higher education to neighboring countries' systems. Even the newly established national university restricts its main objectives to research and

⁶ The EU is now seeking to end banking secrecy and to combat savings tax avoidance. It is not clear how Luxembourg and other private banking sectors will respond.

postgraduate study, with a limited undergraduate program that expressly requires students to spend some time abroad.

60. Luxembourg is thus a small but very open economy. Luxembourg's trade has been above 180 percent of GDP for decades, and both exports and imports were growing strongly during the late 1990s. Three quarters of Luxembourg's trade in goods is with its three bordering countries, and over 90 percent is with the EU. Exports of services, especially financial services and e-commerce, constitutes the largest share of exports and rose by an average 24 percent per year between 1997 and 2000 (with imports also rising by 22 percent over the same period). Manufactured exports also remain important.

Figure 4
Luxembourg Trade



61. Luxembourg has followed generally sound fiscal policies, keeping public debt at low levels overall. However, the fiscal position has recently deteriorated, with public expenditure rising faster than economic growth. The tax cuts introduced in 2001-02 have also been associated with the recent shift of the overall government balance from surplus to deficit.
62. Luxembourg adopts various egalitarian social and economic policies, particularly as regards the salary structure and pension system. Public-sector salaries are indexed to inflation, and the minimum wage for skilled workers is among the highest in the OECD. Employers groups have expressed increasing concern that the rising unit labor costs are eroding competitiveness. The pensions system is generous. Nonetheless, the main political parties, unions, and employer organizations agreed in 2001 to increase pension benefits by 3.9 percent: the International Labor Organization assessed this increase to be unsustainable.

63. The account in this section suggests that Luxembourg has adopted three policies that may be interpreted as a specific response to its circumstances as a small state surrounded by wealthy and accessible neighboring markets:
- (a) Economic specialization. The role of the state in developing niche activities both in industrial manufacturing (steel, chemicals, materials technology) and in services (specialized financial sector products) is worthy of further analysis.
 - (b) Low taxation of economic activity through income and corporate taxation. Luxembourg has recognized the potential for “underpricing” its neighbors through light taxation in order to attract certain “footloose” economic activities. How does the country succeed in providing government services at correspondingly low prices?
 - (c) “Subcontracting” parts of higher education. The strategy underlying the recent establishment of the University of Luxembourg explicitly recognizes that this institution should play a specialized role.

ICELAND

64. Iceland is the smallest country in the OECD by population (293,577 at end of 2004), with the country’s population density being among the lowest in the world. It has a successful economic record, achieving high growth in the past two decades, despite a period of slow growth from the late 1980s through the early 1990s.
65. Iceland’s prosperity is a success story of circumventing many of the challenges common to small states. To combat geographical isolation, Iceland has promoted an “information society” and developed world class maritime and air transportation capacity. To address its small domestic market and lack of scale in public service, the country has effectively integrated with Europe. And the economy is steadily diversifying from a long tradition of overdependence on the fishing sector.
66. As a sparsely populated and island remote from any significant continental economy, Iceland clearly needs an effective strategy to access other markets. Iceland cooperates internationally in a variety of fields, particularly in economic affairs. Iceland is a member of the Nordic Council and joined the European Economic Area (EEA) free trade zone. Without its own armed forces, Iceland obtains security by virtue of its membership of NATO and through a bilateral defense agreement with the US. In addition, Iceland realizes income and employment from leasing military bases to other countries.
67. Iceland has harnessed both traditional and new means of trade integration. The traditional route is through air and sea transport. Maritime transport handles almost all imports and exports of goods, and Iceland boasts large-capacity vessels and harbors. Air transport not only serves domestic demand from passengers, but

- operates international services to a large number of destinations across Europe and North America. High-end Reykjavik stopovers for transatlantic passengers have become a popular offering of Iceland Air and airline revenue is a significant export, second only to fisheries and seafood.
68. More recently, government policy has pursued IT as a priority, aiming at establishing an “information society in Iceland.” First, the government has invested to adopt advanced technologies and modernize information infrastructure. According to the EIU, Iceland was the “first country in the world to adopt a fully digital telephone system and it now has some of the lowest landline and mobile phone tariffs in the OECD.” Second, market competition has been encouraged by liberalization in the telecommunications sector, although this has come somewhat later than in many industrialized countries (the late 1990s), and Iceland Telecom, still a dominant domestic player, was only expected to be fully privatized in 2005. Over 85 percent of the population has regular access to the internet, and 95 percent of households have the capability to receive broadband services. To what extent these numbers are the results of deliberate public policy is a question that may be worthy of deeper scrutiny.
 69. Iceland’s modernization was closely associated with the exploitation of its natural resources in particular a booming fishery industry. With limited land suitable for farming (about 20 percent of its surface area), Iceland’s agriculture is one of the most heavily subsidized and tariff-protected in the world and the sector has been declining in GDP share. The introduction of motorized fishing vessels at the turn of the Twentieth Century played a critical role in the expanding fishing. Fisheries have remained the mainstay of the economy ever since.
 70. However, dependency on fishing has exposed Iceland to price and quantity supply shocks. Iceland has therefore adopted strategies to encourage other sectors and fisheries have declined in share from 17 percent of GDP in 1980 to about 8 percent today.
 71. First, manufacturing – especially energy-intensive activities – is gaining in share of the economy. The development of aluminum and ferrosilicon smelting has been actively encouraged, and these products are principally for foreign markets: Iceland is well-positioned in these exports by virtue of its vast hydroelectric and geothermal resources.
 72. Second, tourism is growing and is now a major source of foreign revenue. Ecotourism (including whale-watching) is a major pole. In terms of policy, Iceland’s undertook an aggressive marketing campaign in the 1990s. Confronted with a fundamental challenge in tourism – only three summer months suitable for sightseeing – Iceland markets itself as a short-break destination. The number of foreign visitors rose on average by 9 percent a year between 1990 and 2004 and over 360,000 foreign visitors traveled to Iceland in 2004.

73. Third, financial service is another growth industry, especially since 1994 when Iceland signed the EEA agreement and liberalized its financial markets. The government encouraged financial restructuring and competition by withdrawing from commercial banking services and now restricts itself to a supervisory role.
74. Finally, economic growth was also attributable macroeconomic stability achieved by virtue of fiscal consolidation and price stabilization. After running budget deficits for more than ten years after 1985, the Icelandic government introduced measures in 1997 to balance the budget and reduce public debt. Gross public debt has fallen from a peak of 61 percent of GDP in 1995 to 37 percent of GDP in 2004.⁷ Inflation had been persistent, peaking at 80 percent in 1983. Voluntary wage restraint contributed to bringing this problem under control: inflation averaged about 4 percent in 2001-04.
75. Recalling the growth accounting exercise above (Table 8) it is not surprising that physical capital formation contributed to growth, given investment in energy-intensive industries. But technological improvement and efficiency gains appear the key force over 1996-2004, most likely a result of the market liberalization and integration with Europe since the early 1990s.
76. Finally, expansions of labor supply and employment have played a larger role in Iceland's economic growth than in the other four countries. Iceland has one of the lowest unemployment rates in the OECD and its labor participation rate is one of the highest in the world, at 82 percent of the working-age population. With low unemployment and rising labor demand, employers increasingly recruit foreign labor, especially for heavy industry projects in the east of Iceland.
77. Among the countries surveyed for this paper, Iceland is perhaps the most archetypal small economy: it is the smallest and geographically the most remote of those in our sample, and it suffers from a historical dependence on a single extractive industry, with the vulnerability to shocks that this entails. As such, it is perhaps the most hopeful source of lessons for other small economies. From the discussion in this section, four elements of Icelandic economic strategy appear worth highlighting as responses to the challenges faced by small states:
- (a) Like Estonia, Iceland has specifically targeted "connectedness" as a means of minimizing the impact of geographical or cultural isolation. In the case of Iceland, the evidence is clear that there were government measures at the heart of the accelerated adoption of advanced technologies. The details of these policies and investments may merit further study.
 - (b) Like Slovenia, there is an element of physical investment in Iceland's approach to addressing the constraints imposed by a small domestic market. In Iceland's case it is maritime infrastructure that has received priority, for obvious reasons.

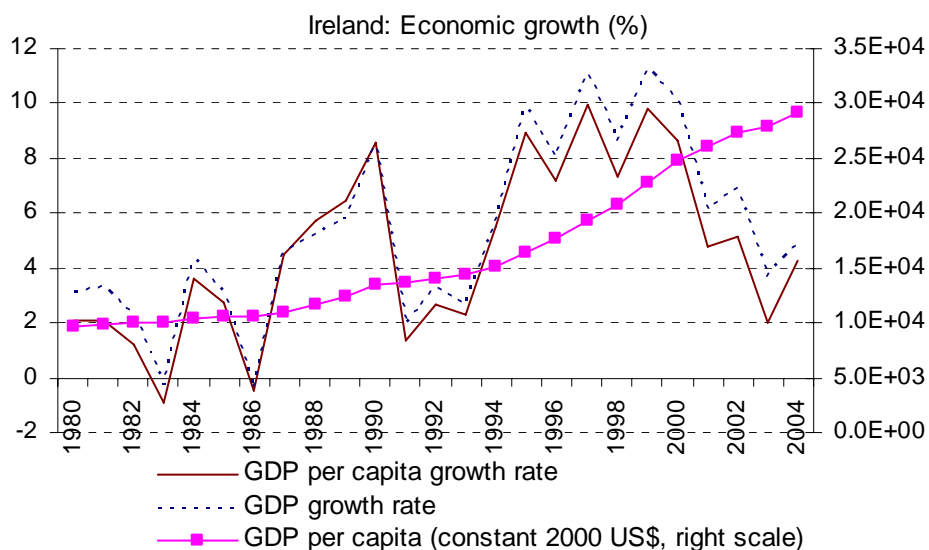
⁷ IMF World Economic Outlook, 2005.

- (c) Other than its geographic isolation, Iceland exhibits another feature that marks it out clearly from the other four countries that form the focus of our discussion, and that is its decision to pursue economic integration outside the institutional framework provided by full EU membership. Membership of the related EEA is a partial substitute, but the details of Iceland's decision, its costs and benefits, may shed light on its approach to integration.
- (d) The fourth element anticipates and ingredient of Ireland's success, discussed below, and this is an element of "national marketing" in the government's strategy, most obviously embodied in the approach to tourism in Iceland, which has succeeded in the face of obvious challenges. There is of course a problem with inferring too much causality here – successful economies do benefit their national images, and a certain amount of success in tourism may be thought of as "exogenous" or "driven by endowments" – but there is enough evidence of forethought behind Iceland's success to warrant further research.

IRELAND

78. Ireland is a small, modern, trade-dependent nation with a population of just over four million. It has achieved remarkable economic performance in the past two decades: as shown in Figure 5, real GDP per capita in 2004 measured in constant US dollars was three times its level in 1980. This was the result of eighteen years of uninterrupted economic growth averaging 4 percent since 1986, and approaching ten percent in the late 1990s boom. What lessons can be drawn from this Irish "miracle"?

Figure 5

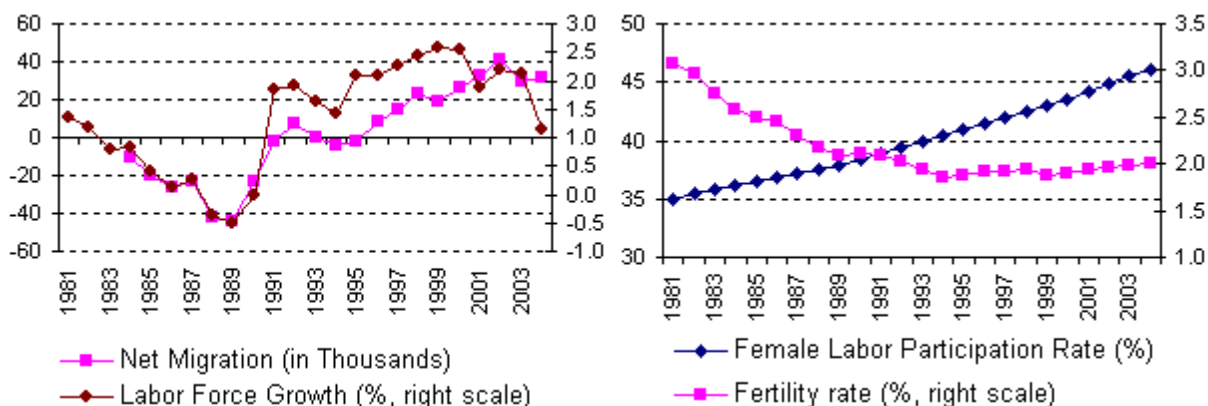


Source: World Development Indicators, 2005

79. Ireland started from a position of relatively high per capita income on independence from Great Britain in 1922. It then pursued a protectionist policy of industrialization, with domestic industry protected by high tariffs well into the 1950s, and with ever poorer results. A stagnant economy and low confidence in Ireland's long-term economic viability triggered emigration: more than 40,000 Irish left during the years 1951-61.
80. Partly as a result of the softening of some of these policies, Ireland in the 1960s and 1970s began to narrow its income gap with other developed countries and net emigration was reversed. A more open stance toward economic integration was adopted: foreign investment, particularly in exporting industries, was encouraged; new investors received fifteen years' tax exemption on profits from exports; restrictions on foreign ownership were phased out; and tariffs fell. Nonetheless, loose fiscal and monetary policies that persisted into the 1980s proved costly. Inflation started the 1980s at 20 percent and public debt rose above 100 percent of GDP by the mid 1980s. Ireland's economic performance trailed European averages considerably.
81. By the late 1980s, Ireland had shifted policy. Government spending came under control, falling from 48 percent of GDP in 1981-85 to 33 percent in 2004. Twin objectives became economic stability and an environment conducive to private enterprise. On the first of these, the overall fiscal deficit of 12 percent of GDP on average in the first half of 1980s was turned to small surplus throughout 2001-04 and the debt/GDP ratio fell from 109 percent in 1987 to 30 percent in 2004, the lowest in the EU.
82. The figures in Section 2 (Table 8) attest to the resulting effects on employment and migration. Ireland is the only country in our sample that for two decades (1986-95 and 1996-2004) had positive contributions to economic growth from labor force growth, the employment rate, and average education. Important factors here have been rising labor participation rates among females, and several years of new and return immigration (see Figure 6). Peak unemployment of over 17 percent in 1985 fell to 4.5 percent in 2004.
83. Labor market management since 1987 has been abetted by the multi-year "Program for National Recovery" negotiated between government, employers, unions, and other "social partners." The essence of this program consisted of a ceiling on pay increases, modest tax relief to enterprise, and a government promise to hold constant the real value of publicly-funded benefits. These agreements dampened wage pressures and thus aided competitiveness. Some observers have emphasized these labor market factors, and the attendant increase in labor market participation, as the main driver behind Ireland's dramatic economic rise. Today, with the economy arguably at full employment, wages and inflation are under greater pressure and the potential of such a national partnership to suppress wage growth is diminishing.

84. In the 1990s the Irish economy took off, expanding by almost 10 percent a year in the second half of the 1990s, the highest growth rate in the OECD. As described in Section 2 (Figures 2 and 3 and Table 8), Ireland's growth accounts are marked by a role of capital accumulation in the growth process, even in the presence of high TFP growth, partly explained by a booming construction sector. This has been particularly true since 1996, with high foreign investment into high-technology sectors such as information technology, chemicals and pharmaceuticals, in part attracted by a low corporation tax (Ireland has the lowest corporate taxes in the OECD), good geographic location, and a responsive regulatory environment.

Figure 6
Ireland: Labor Force Dynamics



Source: World Bank WDI 2005, and Central Statistics Office, Ireland, Population and Migration Estimates.

85. The role of capital and of industry needs to be kept in context. In their detailed study of Irish growth, Honohan and Walsh (2002) state “we do not see [capital accumulation] as part of the story behind the boom... Indeed, having touched 30 percent of GDP in 1979, gross domestic capital formation declined sharply, averaging only 17 percent of GDP during the recovery period 1986-95, much of the decline due to the shrinking importance of the public capital program... Even in 1996-2000, the investment ratio was well below the figures recorded by the other rapidly expanding economies of the 1990s in the Far East. Furthermore, less than one-seventh of the total was attributable to manufacturing.”⁸ Nonetheless, our results suggest that capital formation was an important element of Irish growth *relative to other European countries*. Note also that in 1996-2000 grew annually at over 14 percent to reach a level of about 23 percent, where it stands today, and manufacturing grew from 27.7 percent of GDP in 1991-95 to 31.7 percent in 1996-2000. It therefore seems fair to conclude that physical investment

⁸ Page 22.

- has been an important element of Ireland's *sustained* success into the new century.
86. Ireland has been one of the most enthusiastic supporters of European integration and indeed the timing of its EU accession made it highly beneficial (Ireland joined the EU in 1986 at the same time as Spain and Portugal, two other countries that have used accession to enormous benefit). Both imports and exports have risen considerably (imports from 56 percent of GDP in 1981-85 to 79 percent in 2001-04; exports even faster, from 50 percent to 96 percent over the same period). Exports have been the primary engine of the Irish economy, dominated by export-oriented multinationals in high-technology sectors. Ireland's performance following the technology slump reflected this reliance: growth fell to two percent in 2003, its lowest rate in more than a decade (Figure 4).
 87. A further feature of EU accession has been infrastructure subsidies from Brussels, although opinions differ about the magnitude of their impact. Given that these subsidies in fact predated accession, and therefore predated Ireland's growth pickup in the 1990s, it is fair to question their overall importance. A reasonable upper bound might be approximately half the physical capital accumulation contribution to growth from our estimates in Section 2 for the period 1986-95 (0.86 percentage points, Table 8), which suggests that no more than about 0.4 percent of Ireland's growth performance came from inward EU subsidies.
 88. A notable feature of Ireland's recent economic strategy has been its very proactive encouragement of foreign investment. The main entity responsible for this part of Ireland's development strategy is the Irish Development Agency (IDA), which has attracted large foreign investment projects in pharmaceuticals, biochemistry, and medical engineering, for example (nine of the world's top ten drug companies have research or manufacturing locations in Ireland). A 2004 Economist survey of Ireland noted that it receives roughly one-quarter of all American FDI in Europe and has over 1,100 multinational companies, export some \$60 billion a year. One-third of all personal computers sold in Europe are manufactured in Ireland.
 89. The above discussion underlines three ingredients of Irish policy that are probably most salient when considering the economic challenges faced by small states:
 - (a) The Irish approach to attracting FDI. There is a risk here of revisiting a topic that has been extensively analyzed. To quote *The Economist*: "Civil servants and businessmen in Dublin talk wearily of a procession of visitors from such places as Vilnius and Bratislava, anxious to emulate Ireland's leap from one of the EU's poorest members in the 1980s into one of its richest."
 - (b) The consensual approach taken to limit government spending and wage growth during the late 1980s, which underpinned both fiscal discipline and the upturn in employment that both contributed to the later growth rates (although there is a risk in this case of analyzing something that is of perhaps limited relevance today than when it was introduced).

- (c) Low corporate taxation. Note that Ireland shares this approach with both Estonia and Luxembourg in our sample of successful economies.



4. CONCLUSIONS AND SUGGESTIONS FOR FURTHER INVESTIGATION

COMMON ELEMENTS

- 90. The five countries we have discussed are good economic performers, and this led us to the approach of looking for positive policy examples. However, it would be naïve to expect the simplest of correspondences between good ex-ante policy design and successful outcomes. Imperfect policies may produce successes in propitious circumstances and carefully designed initiatives may come unstuck for unforeseen reasons. Moreover, the work done so far as part of this initiative can do no more than suggest likely directions for exploration, not confident conclusions.
- 91. A second caveat is that some of the conclusions suggested by our analysis are neither surprising nor particularly restricted to small states. Yet their prosaic nature makes them no less valid. The most obvious of these common conclusions is that success in all five of our cases followed fiscal and monetary discipline, the respect of property rights as a basis for market-led growth, and broad social and economic stability. It is not worth belaboring this conclusion in a study of small states' policies, but taking other conclusions in isolation from this important contextual finding is unlikely to lead to correct reasoning or the desired outcomes.
- 92. A further common element – and one that does hold some specificity to small states – is the recognition of economic integration as a key objective in economic management. Of course this objective may not be absent from the economic reasoning of larger states, but it's the core priority accorded to some combination of foreign trade, infrastructure links, telecommunications and internet connectivity, factor mobility, and language and cultural exchange across all our examples stands out. The definition of "integration" in this discussion should be understood as broadly as possible, and not restricted to notions of trade in goods and services, perhaps extending to factor mobility, as is the case in many popular discussions of globalization.

POSSIBLE CASE STUDIES

93. Recall that at the beginning of this paper we introduced four themes: integration (a broad definition); diversification versus specialization; efficiency and scale in public sector provision; and growth strategies for small states. We now interpret the findings so far in light of these, with suggestions for possible directions for future work.

Approaches to Integration

94. There are (at least) three cases here of interest. First, and perhaps most obviously, Iceland has been reasonably successful in addressing its geographical isolation through proactive public policy relating both to physical infrastructure and to the environment for internet and telecommunications. Estonia has also pursued connectivity through public policy, and may make a useful comparator on this count.
95. Second, both Estonia and Slovenia have used EU accession as an opportunity to reorient their trade patterns to the west. Beyond the obvious implication of market size, this may also have shifted these economies into different export goods specializations, possibly higher value-added. This may be worthy of further investigation.
96. Third, Iceland's overall approach is worthy of greater attention. Iceland is not a full member of the EU, but has embraced integration through trade and investment nonetheless, and indeed in recent years Icelandic companies have become active in international mergers and acquisitions to the extent that some are concerned about whether the Icelandic private sector is "overleveraging itself." Given that the challenges faced by Iceland most resemble those faced by many small states in other regions, a case study of Iceland's national strategy may find a worthwhile place in the broader research activity of which this paper forms a part.

Approaches to Diversification and Specialization

97. Ireland and Luxembourg have achieved success through dominant positions in relatively narrowly defined activities. While Luxembourg retains its historically important role in steel, it has moved into more specialized and higher-technology and higher value-added activities within this industry; meanwhile it has developed other niche activities such as chemicals and financial services. A large fraction of inward FDI to Ireland has gone to two industries: pharmaceuticals and information technology. Both these cases warrant further analysis of the effects of the specialization in these areas: through knowledge networks, competition, or economies of scale in production, for example.

Approaches to Efficiency in Public Sector Provision

98. Some of Irish, Luxembourg, and Estonian successes seem to be traceable to low taxation, both the overall tax burden (particularly low in Estonia)⁹ and low corporate taxes (important in Ireland and Luxembourg). One question is how do these three countries keep government expenditures commensurate with this approach to taxation? A second is to what extent the tax systems themselves contribute to the growth performance of these economies.
99. A second example of an approach to efficient public provision is Luxembourg's late arrival into higher education through its establishment of the University of Luxembourg. We do not have enough information at this stage to assess the degree of success of this enterprise; again further analysis may be warranted.

Are There Small-State Growth Strategies?

100. In sample of five countries we discern enough common elements to suggest something like a small-state growth strategy that – to some extent – all have adopted. This strategy comprises the following elements (each is not necessarily present in every country, but repeats often enough to be identifiable):
- Fiscal and monetary discipline leading to macroeconomic stability;
 - Openness to trade through low tariffs and embracing regional blocks for trade and other forms of economic and cultural cooperation;
 - The consideration of certain markets as strategic objectives in themselves, either owing to market size or owing to product demand;
 - Infrastructure investments driven by foreign trade objectives;
 - Openness to inward investment through low corporate taxation and promotion;
 - Some degree of industrial policy in terms of focusing the above ingredients towards generating success in certain key sectors;
 - Activist policy towards internet connectivity and e-business;
 - Innovative approaches to higher education, including the recognition that many students will study overseas;
 - Measures to promote multilingualism, including through legal means.

A further possible study could thus assess to what extent such a small-state strategy – if it really exists – has broader applicability and how it could be customized to the needs of small states in poorer parts of the world than Europe.

⁹ As noted earlier Estonia has implemented a “flat tax.” Another example of a small country that has successfully used such a tax is Slovakia.

BIBLIOGRAPHY