

Estonia's radical transformation

Successes and failures of “crazy ideas”

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Navigating Economic Change
Lessons from abroad and history

Navigating Economic Change

As the UK is buffeted by the economic shocks and challenges of the 2020s, The Economy 2030 Inquiry, a collaboration between the Resolution Foundation and the Centre for Economic Performance at the London School of Economics (LSE), funded by the Nuffield Foundation, is publishing a series of essays examining how policy makers from a range of advanced economies, including the UK in the recent past, have managed periods of disruptive economic change. As we seek to reformulate the UK's economic strategy for new times it is vital that we learn the lessons of these comparative and historic perspectives.

Some consider the trajectory of a national economy following a major shock – for instance, Germany after unification, New Zealand after the UK joined the European Community, Estonia post-USSR and the UK during the tumultuous 1980s. Others examine the experience of particular cities – for instance a group of post-industrial 'turn-around cities' - or the adjustment of key features of a national economic system, such as Danish 'flexicurity'. Together they offer a powerful and timely set of insights on the successes and failures of economic policy makers in the face of economic shocks and structural change.

The essays are written by a range of leading economists and national experts and reflect the views of the authors rather than those of the Resolution Foundation, the LSE or The Economy 2030 Inquiry.

They have been commissioned and edited by Gavin Kelly (Chair of the Resolution Foundation and member of the Economy 2030 steering group) and Richard Davies (Professor at University of Bristol and fellow at the LSE's Centre for Economic Performance).

The Economy 2030 Inquiry

The Economy 2030 Inquiry is a collaboration between the Resolution Foundation and the Centre for Economic Performance at the London School of Economics, funded by the Nuffield Foundation. The Inquiry's subject matter is the nature, scale, and context for the economic change facing the UK during the 2020s. Its goal is not just to describe the change that Covid-19, Brexit, the Net Zero transition and technology will bring, but to help the country and its policy makers better understand and navigate it against a backdrop of low productivity and high inequality. To achieve these aims the Inquiry is leading a two-year national conversation on the future of the UK economy, bridging rigorous research, public involvement and concrete proposals. The work of the Inquiry will be brought together in a final report in 2023 that will set out a renewed economic strategy for the UK to enable the country to successfully navigate the decade ahead, with proposals to drive strong, sustainable and equitable growth, and significant improvements to people's living standards and well-being.

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Introduction

Estonia is often viewed as the most successful case of transition from communism to free market liberal democracy. Yet, this success contains at least two different kinds of story: first, Estonia's economic success; and second, perhaps even more impressively, Estonia is often seen as global leader in digitally transforming its public sector.¹ At the root of each success story lay transformative or, as the first prime minister Mart Laar called them, "crazy ideas."² Casual viewers, and perhaps even experts and analysts, would be forgiven in assuming that these success stories and ideas spring from the same well. Instead, they have different origins, main elements and key characters with rare overlaps. Thus, to understand Estonia's radical transformation, and draw lessons from it, we need to understand the two different origin stories of economic growth and the digital transformation.

A further complicating factor is time: what might have looked like success, say, 15 years after regaining independence, in 1992, looks quite different after 30 years. The economic story now appears less positive, with rising concerns over high levels of inequality and middling productivity growth. So, the initial verdict needs to be revisited. When it comes to digital transformation, the government sees over 2.5 billion transactions per year, in a population of 1.3 million; the digital ID penetration is close to 100 per cent and almost all personal income tax declarations are done online. Yet even here, the steam seems to have run out of Estonia's digital agenda.

This chapter, therefore, does two things. First, it tells the story of Estonia's apparent digital and economic success, why and how they differ; and second, it analyses the strengths and weaknesses of both the economic strategy and digital transformation and considers some of the failings that have become clearer over time. It concludes by drawing some lessons from Estonia's transformations for UK policy makers.

¹ R Kattel & I Mergel, Estonia's digital transformation. Mission mystique and the hiding hand, in P 't Hart and M Compton, Great Policy Successes, Oxford University Press, September 2019.

² M Laar, Interview with S J Dubner for Freakonomics Radio podcast, March 2010.

Estonia in the early 1990s: shock therapy, crazy ideas and hiding hands

During the coup in Moscow on 20 August 1991, Estonia declared independence from the Soviet Union. Although some economic reforms had already started at the end of the 1980s, regaining formal independence marked the beginning of the 'big-bang' transition from a planned to a market economy. The economic reforms included the adoption of an Estonian currency (kroon), wide-ranging privatisation, the restoration of private property, the liberalisation of prices, trade and capital markets, and the abolition of most government subsidies.³ The overall orientation of the reforms was to curb the involvement of the state in the economy and let the market forces 'reign' free. In the absence of state subsidies, the companies inherited from the Soviet era had to either reform themselves or risk bankruptcy.⁴ Given disillusionment with the planned economy, the government in Estonia hoped that the dramatic shift in economic system to a market economy would deliver prosperity and increase living standards. In 1939, Estonian living standards were similar to those in Finland but in 1987 – after five decades of Soviet occupation – GDP per capita was seven times lower than that of Finland's.⁵

The big idea behind the Estonian reforms was the neoliberal roadmap of the Washington Consensus, promoted by the World Bank and the IMF.⁶ The reformers aimed to secure the rule of law and offer a stable macroeconomic environment to aid the functioning of the free market. It was hoped that such stability would be guaranteed by a commitment to fiscal discipline, strict monetary policy, and a fully convertible currency with a fixed exchange rate (pegged to the German Deutsche mark).⁷

Estonia experienced hyperinflation in the early 1990s – inflation reached 1,000 per cent per annum in 1992 – and macroeconomic stabilization became a key policy goal.^{8,9} A national currency was seen as a 'saviour' from the perils of high inflation, and signalled a clear break from Russia and its rouble.¹⁰ The commitment to fiscal discipline was part of this agenda, seen as paramount for maintaining the stability of the currency.¹¹ The integral connection between the stability of the currency, fiscal policy,

3 J Gillies, J Leimann & R Peterson, Making a successful transition from a command to a market economy: The lessons from Estonia. *Corporate Governance: An International Review*, 10(3), 2002; R Kattel & R Raudla, The Baltic Republics and the crisis of 2008–2011, *Europe-Asia Studies*, 65(3), 2013; M Laar, Leading a successful transition: the Estonian miracle, *European View*, 7(1), 2008; K Staehr, Economic transition in Estonia. Background, reforms and results, *Contemporary Change in Estonia, Baltic and East European Studies*, 4, 2004; M Tiits et al., Catching up, forging ahead or falling behind? Central and Eastern European development in 1990–2005, *Innovation: The European Journal of Social Science Research*, 21(1), 2008.

4 J Gillies, J Leimann & R Peterson, Making a successful transition from a command to a market economy: The lessons from Estonia. *Corporate Governance: An International Review*, 10(3), 2002; K Staehr, Economic transition in Estonia. Background, reforms and results, *Contemporary Change in Estonia, Baltic and East European Studies*, 4, 2004.

5 M Laar, Leading a successful transition: the Estonian miracle, *European View*, 7(1), 2008.

6 R Kattel & R Raudla, The Baltic Republics and the crisis of 2008–2011, *Europe-Asia Studies*, 65(3), 2013. One of the key instrumental reasons behind such an extensive influence of the IMF on Estonian policy-makers was the fact that the Estonian economy became highly dependent on foreign sources of investment. The politicians reckoned that the IMF's opinions on a country play an important role in influencing the international rating agencies, which, in turn, would shape the decisions of foreign investors.

7 J Gillies, J Leimann & R Peterson, Making a successful transition from a command to a market economy: The lessons from Estonia. *Corporate Governance: An International Review*, 10(3), 2002; J J Hoag & M Kasoff, Estonia in transition, *Journal of Economic Issues*, 33(4), 1999; M Laar, Leading a successful transition: the Estonian miracle, *European View*, 7(1), 2008; K Staehr, Economic transition in Estonia. Background, reforms and results, *Contemporary Change in Estonia, Baltic and East European Studies*, 4, 2004.

8 J Hoag & M Kasoff, Estonia in transition, *Journal of Economic Issues*, 33(4), 1999; K Staehr, Economic transition in Estonia. Background, reforms and results, *Contemporary Change in Estonia, Baltic and East European Studies*, 4, 2004.

9 J Hoag & M Kasoff, Estonia in transition, *Journal of Economic Issues*, 33(4), 1999; K Staehr, Economic transition in Estonia. Background, reforms and results, *Contemporary Change in Estonia, Baltic and East European Studies*, 4, 2004.

10 As Hoag and Kasoff (1999) put it, "Currency reform was both an expression of nationalism and political and economic independence".

11 R Raudla, *Constitution, Public Finance, and Transition: Theoretical Developments in Constitutional Public Finance and the Case of Estonia*, Peter Lang, 2010. In addition, the Estonian government, like many other countries in the region, faced objective constraints on the possibility to borrow during early years of transition (M Lavigne, *The Economics of Transition. From Socialist Economy to Market Economy*, Palgrave, 1999.). External finance for covering budget deficits was hardly available, given the newness of the country and not-yet-established credibility. Borrowing from domestic financial markets was next to impossible due to underdeveloped financial markets.

and national identity became a connecting thread in the decades to come. Estonian governments' obsession with fiscal discipline can only be fully understood in this light.

In a small country it is possible for single individuals to have a profound influence. For example, the first Prime Minister, Mart Laar (a historian by training) had read only one book on economics before getting into office – *Freedom to Choose* (1980) by Milton and Rose Friedman. This book essentially became a blueprint and inspiration for policies including the abolition of all import tariffs and the adoption of the flat-rate personal income tax. These radical ideas fitted the youthful new government and its prime minister.¹² The success of early 'crazy' reforms, such as the currency board, brought international recognition and gave Laar and others confidence to pursue further radical ideas.

This doubling down on 'crazy ideas' and their initial success contributed to Estonia's rising international reputation: the country was now a disciple of Adam Smith's famed 'invisible hand'—and the belief that free markets provide the best economic outcomes. The implementation of such policies by the first Laar government (1992-1994) relied upon the enthusiasm of amateur politicians, who drew at least part of their risk-taking courage from their naiveté.¹³ His principle of the 'hiding hand' notes that policymakers sometimes take on tasks without realising the risks involved, and that this may result in unexpected creativity and success.

Another economist – Ardo Hansson – was an important influence. He was the government's economic advisor between 1992 and 1999. Drawing on his experience as an advisor to several Central and Eastern European countries, he strongly influenced the course of budgetary policies and called for a conservative fiscal stance.¹⁴ Combined with a lack of qualified economic experts in the early years of the transition, the small size of Estonia was conducive to the dominant influence of individual advisors.¹⁵

The delayed economic miracle

This package of radical reforms amounted to shock treatment for the economy. GDP plummeted, and unemployment soared.¹⁶ In 1992, industrial production fell by 62 per cent; GDP declined by 38 per cent between 1989 and 1995.¹⁷ Alongside the private sector adjustment to a world of competition, the economy also faced a period of deep austerity—the 1993 budget slashed expenditure by 25 per cent. The social safety net was thinned as part of this: old-age pensions were reduced and instead of differentiated pay-outs, all retirees got a flat rate allowance.¹⁸

¹² As Laar himself later recalled: "I was 32, I was young and crazy, so I didn't know what is possible and what's not, so I did impossible things." (M Laar, Interview with S J Dubner for Freakonomics Radio podcast, March 2010.)

¹³ This is well described in A Hirschmann, *The principle of the hiding hand*, National Affairs, 1967.

¹⁴ Together with Jeffrey Sachs, who had been Hansson's PhD supervisor.

¹⁵ R Raudla, *Constitution, Public Finance, and Transition: Theoretical Developments in Constitutional Public Finance and the Case of Estonia*, Peter Lang, 2010.

¹⁶ J Hoag & M Kasoff, *Estonia in transition*, *Journal of Economic Issues*, 33(4), 1999; M Laar, *Leading a successful transition: the Estonian miracle*, *European View*, 7(1), 2008; Z Norkus, *Why did Estonia perform best? The north-south gap in the post-socialist economic transition of the Baltic states*, *Journal of Baltic Studies*, 38(1), 2007; K Staehr, *Economic transition in Estonia. Background, reforms and results*, *Contemporary Change in Estonia, Baltic and East European Studies*, 4, 2004. As Tiits et al. (M Tiits, R Kattel, T Kalvet & D Tamm, *Catching up, forging ahead or falling behind? Central and Eastern European development in 1990-2005*, *Innovation: The European Journal of Social Science Research*, 21(1), 2008.) explain, in addition to the productivity and incentive problems pervasive in the Soviet enterprises, which made it difficult to survive in market conditions, the speed of the collapse of the industry in the transition was influenced by the fact that the Soviet companies were influenced by extreme vertical integration and hence "collapse of one part of the value chain brought down the entire chain".

¹⁷ J Hoag & M Kasoff, *Estonia in transition*, *Journal of Economic Issues*, 33(4), 1999; M Laar, *Leading a successful transition: the Estonian miracle*, *European View*, 7(1), 2008; K Staehr, *Economic transition in Estonia. Background, reforms and results*, *Contemporary Change in Estonia, Baltic and East European Studies*, 4, 2004.

¹⁸ R Raudla, *Constitution, Public Finance, and Transition: Theoretical Developments in Constitutional Public Finance and the Case of Estonia*, Peter Lang, 2010.

There were some minor protests but overall the Estonian population endured the period of shock therapy without major social unrest. Similarly, to other Baltic and central European countries, Estonia's return to independence was peaceful in terms of ethnic and social conflicts, and was characterised by relative political stability under a democratic regime. This is in stark contrast to the break-up of former Yugoslavia.¹⁹ The mindset of the population seemed to echo the slogan "we may have to eat potato peels, but at least we are independent from the Soviet Union".

But there were cracks in the plan, even at this point. The pursuit of the radical economic policies was made easier by the fact that the Russian-speaking minority—around 30 per cent of the population—was largely excluded from political influence since they, in the absence of Estonian citizenship, had no right to vote at national elections.²⁰ Many of them had worked in the large state-owned factories and were among those most significantly affected by economic reforms. They might well have voted for more gradualist reforms.²¹

By the second half of the 1990s, it started to look like the radical reforms had paid off, as the economy returned to growth. Inflation stabilised, the economy was re-oriented towards the West and exports grew. As a result of impressive growth rates, Estonia came to be perceived as 'a poster-boy' of transition. In 2004, Estonia joined the European Union and the nation experienced double-digit GDP growth rates. Indeed, in the mid-2000s – 15 years after the beginning of the transition – Estonia looked like one of the best performing post-Soviet countries and was often applauded for having pulled off an "economic miracle".²² While in 1992, at the start of the transition, the Estonian GDP per capita was 15-20 per cent of the European average, it had reached around 70 per cent by 2008 (Figure 1). Estonia, it seemed, had become a Baltic Tiger.²³

19 B Milanovic, Income, inequality, and poverty during the transition from planned to market economy, World Bank regional and sectoral studies. The World Bank, 1998.

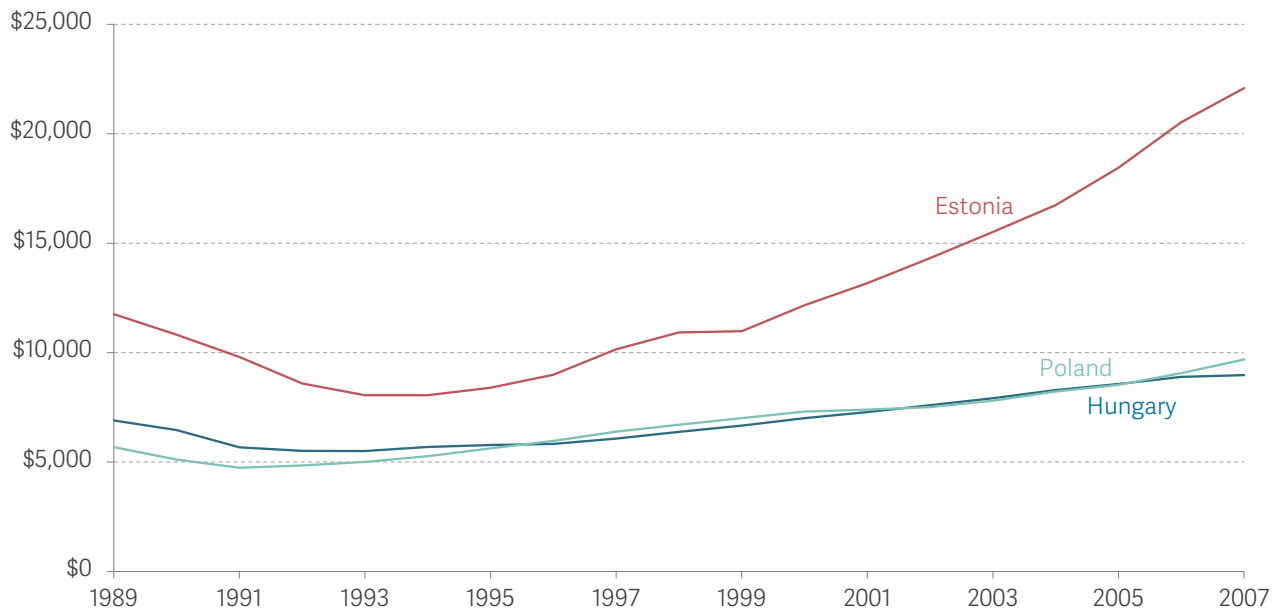
20 See also O Norgaard et al., *The Baltic States after Independence*, Edward Elgar, 1999.

21 Also, for the most part of the 1990s (and also beyond), trade unions were weak, their membership was shrinking, and they had very limited influence on the policy-making (J Helemäe & E Saar, *An Introduction to Post-Socialist Transition in Estonia*, in E Saar, *Towards a normal stratification order. Actual and perceived social stratification in post-socialist Estonia*, Peter Lang, 2011.). The special functions of trade unions during the communist period contributed to their isolation after the regime change (A Steen, *Between Past and Future: Elites, Democracy and State in Post-Communist Countries. A Comparison of Estonia, Latvia, Lithuania*, Ashgate, 1997.).

22 R Kattel & R Raudla, *The Baltic Republics and the crisis of 2008–2011*, *Europe-Asia Studies*, 65(3), 2013; M Laar, *Leading a successful transition: the Estonian miracle*, *European View*, 7(1), June 2008.

23 This led the former Prime Minister Mart Laar to conclude: "With its speed of growth Estonia has been the most successful transition economy, not only in Central East Europe but also in the world" and "By nearly all analyses, Estonia is the most competitive economy in the new Member States." See: M Laar, [Leading a successful transition: the Estonian miracle](#), *European View*, 7(1), June 2008. Aslund (A Aslund, *Building capitalism: the transformation of the former Soviet bloc*, Cambridge University Press, 2002.) called Estonia "[t]he possibly greatest success story" among the post-Soviet transition countries. Norkus (Z Norkus, *Why did Estonia perform best? The north-south gap in the post-socialist economic transition of the Baltic states*, *Journal of Baltic Studies*, 38(1), 2007.) pointed out that according to the Economic Freedom Index and Global Competitiveness Ranking, "Estonia belongs among the world's top performers".

FIGURE 1: GDP per capita in Estonia, Hungary and Poland, 1989-2007 (in international dollars)



SOURCE: The Conference Board Total Economy Database.

The fall of the Baltic tiger?

This spectacular growth, however, was followed by an equally astonishing fall. Estonia suffered a dramatic GDP decline of 15 per cent in 2009. It became clear that the “economic miracle” had been a façade, behind which hid systemic problems.²⁴ These included: deindustrialisation, low value-added production, soaring current account deficits, an unsustainable property bubble, and fast appreciation of the kroon (which implied a considerable loss of trade competitiveness).²⁵ Despite impressive GDP growth, Estonia’s industrial value added was rising slowly and was constantly lagging behind its neighbour Finland (Figure 2). While Estonia’s public sector debt was very low, its private sector ran up massive debt in 2000s, funded by foreign capital flows including from Swedish banks. These flows quickly reversed (Figure 3).

The reaction of the Estonian government to the 2008-2010 crisis mirrored what it had done during the previous crises. The proposed solution was to restore macro-economic stability, this time by cutting government expenditure and joining the Eurozone. The government hoped that membership of the single currency would restore the confidence of the foreign investors and reverse the outflow of capital (which had been spooked by speculations that Estonia may devalue its currency).²⁶ The reality was, however, that the public sector cuts in 2008-2010 (amounting to almost 15 per cent of GDP) further exacerbated the free fall of the economy. Since most of the loans held by households were denominated in foreign currency, devaluation of the kroon (which would make debts larger when in local-currency terms) was strongly opposed by both government and the public. Adjustment had to take place via an ‘internal devaluation’, entailing cuts in real wages across the economy.²⁷

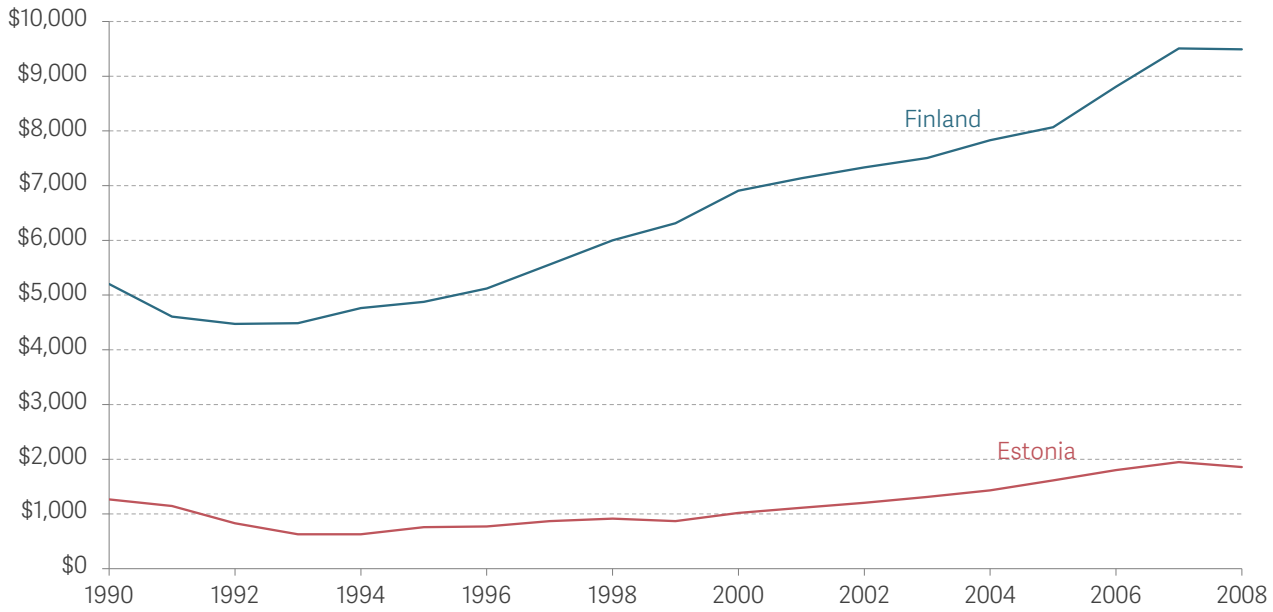
24 R Kattel, *The Rise and Fall of the Baltic Republics*, Development and Transition, July 2009.

25 R Kattel, *The Rise and Fall of the Baltic Republics*, Development and Transition, July 2009; R Kattel, Financial and economic crisis in Eastern Europe, *Journal of Post Keynesian Economics*, 33(1), 2010; M Tiits et al., Catching up, forging ahead or falling behind? Central and Eastern European development in 1990–2005, *Innovation: The European Journal of Social Science Research*, 21(1), 2008.

26 R Kattel & R Raudla, *The Baltic Republics and the crisis of 2008–2011*, *Europe-Asia Studies*, 65(3), 2013; R Raudla & R Kattel, Why did Estonia choose fiscal retrenchment after the 2008 crisis?, *Journal of public policy*, 31(2), 2011.

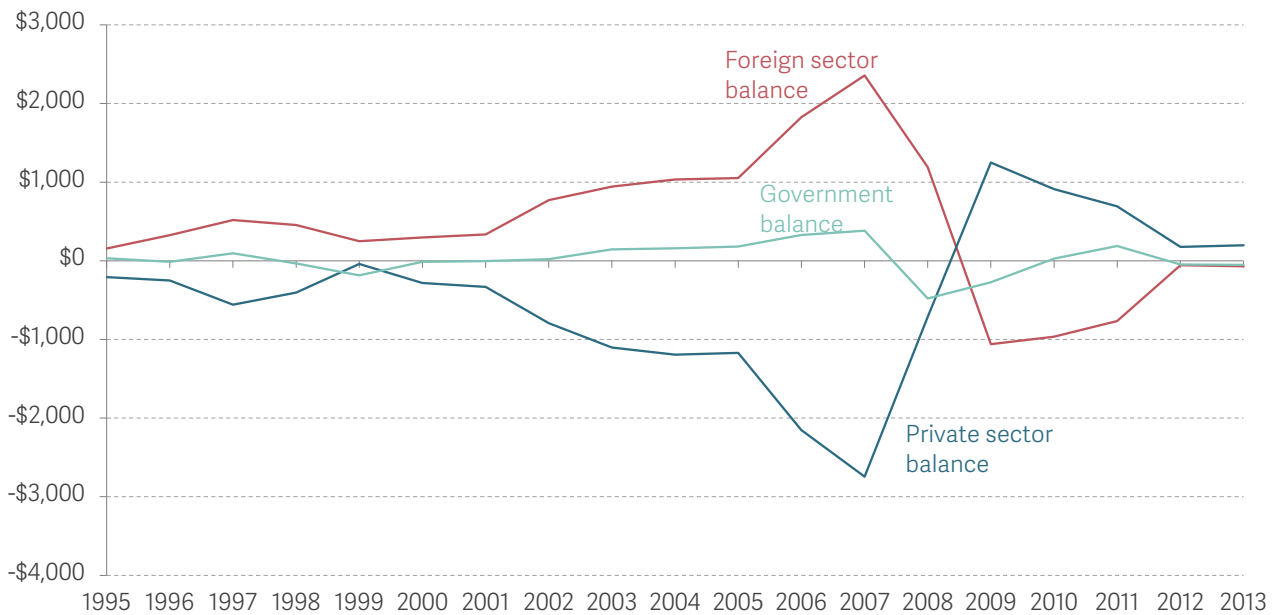
27 R Kattel & R Raudla, *The Baltic Republics and the crisis of 2008–2011*, *Europe-Asia Studies*, 65(3), 2013.

FIGURE 2: Industry value added per capita in Estonia and Finland, 1990-2008



SOURCE: World Bank WDI Online database.

FIGURE 3: Sectoral balances of Estonian economy, 1995-2013

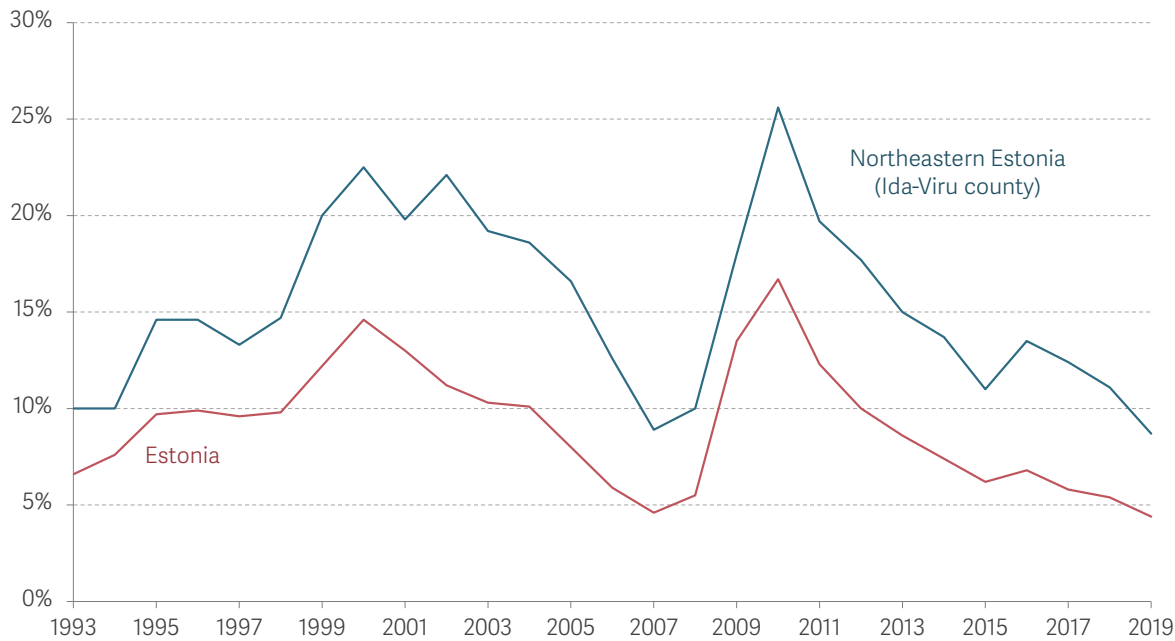


SOURCE: AMECO database.

Further, behind the 'poster-boy' image a considerably darker social reality loomed. Deep social problems persisted in the form of the outflow of skilled workers (especially to Finland), high poverty rates, increasing inequality, and a vast economic disparity between the wealthier capital city area and

the remainder of the country.²⁸ Ethnic minorities were economically and socially disadvantaged by the transition, as indicated, inter alia, by their weaker opportunities in the labour market.²⁹ As a result of the entry barriers and discrimination against the Russian-speaking minority, a considerable wage gap (around 15 per cent) emerged by the mid-2000s and the unemployment rates of ethnic minorities were systematically higher.³⁰ The Global Financial Crisis (GFC) and the Great Recession that followed it only amplified those trends as unemployment reached almost 20 per cent in 2009.³¹ Figure 4 illustrates how ethnic and regional inequalities tend to overlap: it compares unemployment in Estonia as a whole with that in Ida-Viru county, in north-eastern Estonia, which has a predominantly Russian-speaking population (Narva, the main city in Ida-Viru county, is almost entirely Russian-speaking).

FIGURE 4: Unemployment rate in Estonia and in Ida-Viru county



SOURCE: Statistics Estonia

Economic growth did return by 2010 and unemployment started to fall. But output and productivity growth rates remained relatively low throughout the 2010s and most of the social problems remained. Indeed, in many of the key areas for Estonian governments, the 2010s became a decade of stagnation and even decline. For instance, R&D investments (as a share of GDP) remained the same in 2017 as they were in 2008, with capital investment stagnating since 2011, while productivity per employee remains slightly above two thirds of the EU average.³²

Because of the obsession with fiscal discipline, all Estonian governments were reluctant to borrow, which meant that the opportunity to make productive investments that could have supported and

28 Helemäe & E Saar, An Introduction to Post-Socialist Transition in Estonia, in E Saar, Towards a normal stratification order. Actual and perceived social stratification in post-socialist Estonia, Peter Lang, 2011; J Hoag & M Kasoff, Estonia in transition, *Journal of Economic Issues*, 33(4), 1999; K Staehr, Economic transition in Estonia. Background, reforms and results, *Contemporary Change in Estonia, Baltic and East European Studies*, 4, 2004; M Tiits et al., Catching up, forging ahead or falling behind? Central and Eastern European development in 1990–2005, *Innovation: The European Journal of Social Science Research*, 21(1), 2008.

29 J Helemäe & E Saar, An Introduction to Post-Socialist Transition in Estonia, in E Saar, Towards a normal stratification order. Actual and perceived social stratification in post-socialist Estonia, Peter Lang, 2011.

30 T Rõõm & T Viilman, Estonian market during the past decade, *Kroon and Economy*, 1, 2003; Ü Marksoo & T Tammaru, Long-term unemployment in economic boom and bust: the case of Estonia, *Trames: A Journal of the Humanities and Social Sciences*, 15(3), 2011.

31 J Masso & K Krillo, Labour Markets in the Baltic Republics During the Crisis of 2008–2009: The Effect on Different Labour Market Groups, University of Tartu, Faculty of Economics and Business Administration Working Paper, 2011.

32 R Kattel & B Stamenov, Estonia Country Report, Publications Office of the European Union, 2017.

steered the development of the economy wasn't taken.³³ The Estonian government's focus on fiscal discipline was driven, in part, by an unquestioning belief in the importance of a low debt burden and a balanced budget. This belief was reinforced by the fiscal rules of the European Union (especially the Maastricht criteria).³⁴ Although the notion of counter-cyclical fiscal policy gained some traction following the crisis³⁵, it was not sufficient to boost the economy.

From invisible hand to guiding hand: the birth of digital government

In 2017, *The New Yorker* published an article titled "Estonia, the digital republic" and subtitled, "[i]ts government is virtual, borderless, blockchained and secure. Has this tiny post-Soviet nation found the way of the future?"³⁶ This is just one of the many examples of the plaudits Estonia's digital government has garnered globally over the past decade. While on economic policy Estonia's approach was very much hands-off and focused on unleashing the market forces, in digital government Estonia has enacted an almost diametrically opposed approach.³⁷

The Estonian e-government's strategy rests on two main pillars, both introduced in 2001, which essentially created a digital state and digital citizens: the data infrastructure X-Road and a compulsory national digital ID.³⁸ X-Road is a system of decentralised public databases and a data exchange layer that can be used by both the public and private sector. The digital ID makes it possible for citizens to be identified digitally and to use digital signatures. Together, X-Road and the digital ID make it possible to digitally sign contracts, access public services, order prescriptions, file taxes, vote and so forth. More than 2,300 public and private services use X-Road, and the ecosystem sees over 2.5 billion transactions per year in a population of 1.3 million. The digital ID penetration is close to 100 per cent; 30 per cent of votes are cast digitally; almost all personal income tax declarations and medical prescriptions are done online, and most medical records held by hospital and family doctors are accessible online. The Estonian government claims that its e-government infrastructure has led to annual savings of about 2 per cent of GDP and more than 800 years in working time for the public and private sectors.³⁹

At the core of Estonia's digital transformation is the idea of a digital citizen who accesses public and private services through online platforms. This relies on ideas that are counter-intuitive to free-market thinking and follow a principle characterised as the 'guiding hand' of the state rather than the 'invisible hand' of the market. Two elements were essential to make this a success: first, the adoption of a culture of risk-taking and bold ideas by policymakers; and second, the formation of multiple

33 The stance towards borrowing changed somewhat during the covid crisis (R Raudla & J W Douglas, This time was different: the budgetary responses to the pandemic-induced crisis in Estonia, *Journal of Public Budgeting, Accounting & Financial Management* 32(5), 2020.) but appears to be rather short-lived.

34 R Raudla, *Constitution, Public Finance, and Transition: Theoretical Developments in Constitutional Public Finance and the Case of Estonia*, Peter Lang, 2010; R Raudla & R Kattel, Why did Estonia choose fiscal retrenchment after the 2008 crisis?, *Journal of public policy*, 31(2), 2011.

35 R Raudla, A Cepilovs, V Kuokštis & R Kattel, Fiscal policy learning from crisis: Comparative analysis of the Baltic countries, *Journal of Comparative Policy Analysis: Research and Practice*, 20(3), 2018.

36 N Heller, Estonia, the digital republic: Its government is virtual, borderless, blockchained and secure. Has this tiny post-Soviet nation found the way of the future?, *The New Yorker*, December 2017.

37 R Kattel & I Mergel, Estonia's digital transformation. Mission mystique and the hiding hand, in P 't Hart and M Compton, *Great Policy Successes*, Oxford University Press, 2019.

38 T Kalvet, Innovation: a factor explaining e-government success in Estonia, *Electronic Government. An International Journal*, 9(2), 2012; T Kalvet & A Aaviksoo, [The development of eServices in an enlarged EU: eGovernment and eHealth in Estonia](#), JRC Scientific and Technical Reports, 2008; H Margetts & A Naumann, [Government As A Platform: What Can Estonia Show The World?](#), The Oxford Internet Institute, 2016.

39 Data available on [government website](#).

overlapping small networks to promote early success and build momentum. In Estonia, these two phenomena became mutually enforcing and enabled rapid adoption of innovative solutions.

Like the X-Road itself, Estonia's policies in this area have been decentralised and distributed. There was no single policy, no bundle of programmes and no policy blueprint that set out the strategy. Rather, Estonia's digital transformation has been driven by a decentralised network of actors occupying key positions in various agencies (for example, the prime minister's office and the tax board) and private companies (such as banks).⁴⁰ Much of this process has been ad hoc and informal. While this might have been an accidental design initially, in time the network-based approach has become enshrined in Estonian digital policy.⁴¹

The agenda has enjoyed constant cross-party support. Starting with the first independent government in 1992, information and communication technology (ICT) development in society has been seen as delivering competitive advantage, a symbol for leaving the Soviet past behind, and an indicator of Estonia opening up towards the West (and indeed leapfrogging it). Digital transformation as a national vision was part of a broader political consensus at the time that included the agreement to join the European Union and NATO. To this day, the digital agenda enjoys widespread political support and has become part of Estonia's official image and branding, as evidenced by the e-Estonia showroom, which is almost a mandatory stop for any official state visit.⁴²

The investment required has been relatively low. Particularly in the 1990s, budgets were tight and capacity to develop IT systems was low; avoiding a legacy trap of outdated software and systems became a guiding principle—policymakers eschewed large and expensive ICT investments. Later, during Laar's second government (1999-2002) this became the unspoken principle of frugality: rather than buying large-scale solutions from established vendors, government departments and agencies were encouraged to find open-source solutions and work with small local companies. This also forced government departments and agencies to develop their own digital agendas. Today, these choices – open-source solutions, avoiding waterfall large-scale IT procurement and vendor lock-in – have become a part of global best practice in digital governance.

Academics played a vital role as part of the first formal advisory body on ICT, the Informatics Council, established in 1990. The focus on cybersecurity, a prominent feature of the X-Road, can be traced back to the Informatics Council, as many of its members had a connection with the Estonian Academy of Sciences' Institute of Cybernetics. From this institute, Cybernetica AS, one of the companies that delivers many of the public digital solutions, including X-Road, was founded (in 1997). Academics were also the first to establish actual internet connections with the West through networks with Swedish colleagues.⁴³

⁴⁰ Furthermore, unlike other countries that have set out on the digital transformation journey, Estonia has never had a central office for digital transformation, such as the UK's Government Digital Service (GDS), despite the fact that such a central agency was initially envisioned to manage (among other things) vital public registries. See R Kattel & I Mergel, *Estonia's digital transformation. Mission mystique and the hiding hand*, in P 't Hart and M Compton, *Great Policy Successes*, Oxford University Press, 2019; R Kattel & V Takala, [Dynamic capabilities in the public sector: The case of the UK's Government Digital Service](#), UCL Institute for Innovation and Public Purpose, 2021.

⁴¹ Estonia's digital transformation has been characterised by "development-driven strategies" rather than "strategy-driven development". See: T Kalvet, *The Estonian information society developments since the 1990s*, PRAXIS Working Paper No. 29, 2007.

⁴² See <https://e-estonia.com>.

⁴³ P Högselius, *The Dynamics of Innovation in Eastern Europe: Lessons from Estonia*, Edward Elgar Publishing, 2005.

Proximity to Scandinavia played an essential role. In 1991, the Estonian government reorganised the Ministry of Communications into two state-owned companies, Eesti Telekom and Eesti Post, decoupled from Soviet telecommunication networks and created a mobile joint-venture with Swedish and Finnish counterparts called Eesti Mobiiltelefon.⁴⁴ Eesti Telekom, in turn, acquired the monopoly rights for Estonia's fixed telephony until 2000, but the concession agreement left out mobile and data communications (this proved critical in the years to come). Another joint venture between Estonia and the two Nordic countries, Eesti Telefon, was an important early investor in Estonia's digital infrastructure modernisation.

As with macroeconomic policy, key individuals shaped the Estonian economy. During Laar's second administration (1999-2002) the critical policy elements formed a coherent framework and were quickly translated into swift and radical actions. Key to this development was Linnar Viik, a serial entrepreneur and later founder of the e-Government academy, as the ICT advisor to the prime minister. Viik became an influential advisor with a wide-reaching portfolio, more important and powerful than many of the ministers.⁴⁵

A public-private symbiosis sprang up. CEOs, non-profit managers and academics moved between sectors, accepting short-term government posts or serving as strategic advisors to the prime minister and the president. The phenomenal success of start-ups like Skype gave rise to another powerful network of Estonians with ICT skills; the so-called 'Skype mafia' were developers and entrepreneurs with shared values and ideas.⁴⁶ Relationships between public and private organisations strengthened. The private sector and government operations relied on each other's advice and guidance – and are the trusted backbone of digital transformation efforts. In fact, belonging to these networks is seen as more important than having a formal government role.

This symbiotic relationship extended to recruitment policy in Estonia's civil service. As the digital experiment matured, political leadership in ICT became less about ideas and policies and more about recruiting talented people. This was helped by the fact that the Estonian civil service is designed as an open system: almost all positions can be filled through open, competitive calls. A prominent example was Taavi Kotka, former CEO of Nortal, one of the largest domestic ICT companies, who was hired as the government's 'chief information officer' in 2013. This public sector support and openness helped attract talent from the private sector. Thus, the 'guiding hand' style of public leadership of the 1990s was in the 2000s increasingly replaced by recruits from prominent Estonian ICT companies.

Lumbering digital tiger?

According to the EU's Digital Economy and Society Index (DESI), in 2022 Estonia was the leading nation in Europe in digital public services.⁴⁷ However, in other areas Estonia's digital success is less evident: for example, scoring well below the EU average on connectivity (Figure 5).

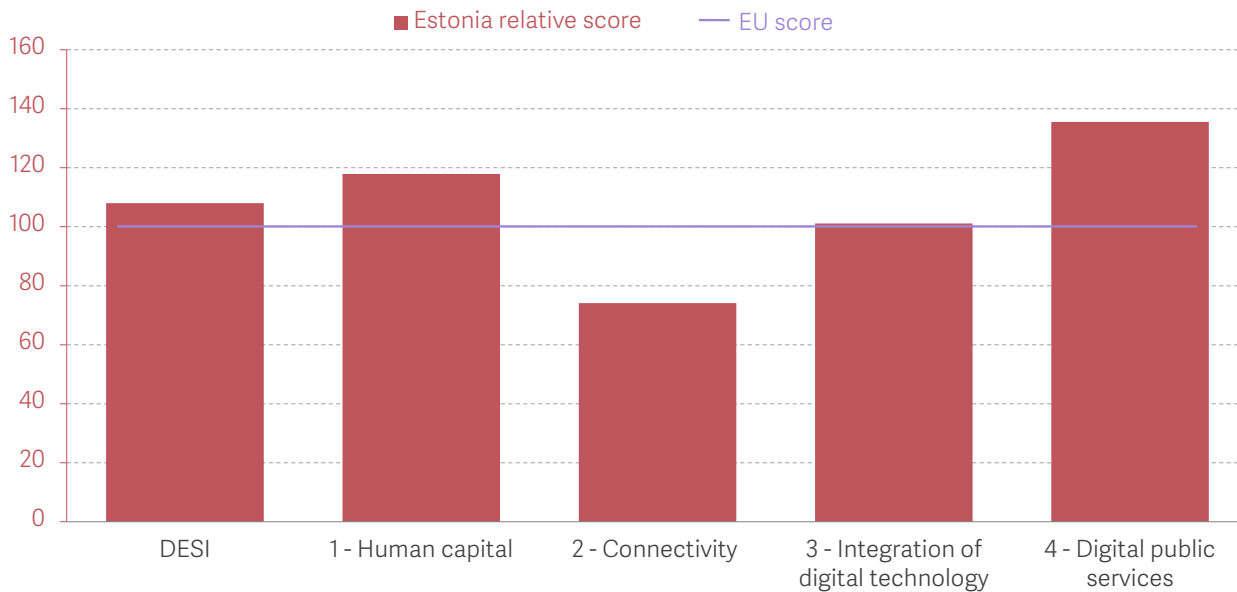
⁴⁴ P Högselius, *The Dynamics of Innovation in Eastern Europe: Lessons from Estonia*, Edward Elgar Publishing, 2005.

⁴⁵ R Kattel & I Mergel, *Estonia's digital transformation. Mission mystique and the hiding hand*, in P 't Hart and M Compton, *Great Policy Successes*, Oxford University Press, 2019.

⁴⁶ See: <http://skypemafia.com>.

⁴⁷ Estonia country report is available at <https://ec.europa.eu/newsroom/dae/redirection/document/80478>.

FIGURE 5: Estonia's performance in EU's Digital Economy and Society Index



SOURCE: EU DESI Estonia country report 2022

Estonia's digital state struggled during the Covid-19 pandemic, with the track and trace app suffering from low uptake and the vaccination programme being hampered by poor digital service. This disconnect—high praise from *The New Yorker* alongside mixed results for Estonian citizens—reflects the particular nature of Estonia's 'success'.⁴⁸ Estonia is ranked highly for its digital public service infrastructure, which is universally available and mandatory, and an integral backbone of public service delivery. But Estonia's digital agenda has not been pioneering when it comes to other important issues such as digital democracy, citizen engagement or digitally transforming public services such as the welfare state.

Several factors are at play. First, despite the intent for participatory governance, policies have been guided by a tight-knit elite, with few ideas emerging from ordinary citizens. Second, while the user experience of public services has improved, the services themselves are largely unchanged. Third, while digital services have brought efficiency gains, citizen satisfaction with healthcare and education has remained low. Estonia ranked below the average throughout 2010-2020 in public satisfaction with health and education services according to the OECD.⁴⁹ This is indicative evidence that there has been little improvement in the provision of core public services.

Today, the future of the digital agenda—once widely supported—is a matter of debate. As the current prime minister said in 2018 (while in opposition), Estonia's digital state is in decline.⁵⁰ Over recent years, various coalition governments have struggled to find a clear path forward. On the one hand, there is a clear push to add automated elements to core digital services (e.g. creation of personal Alexa-type services for users). On the other, the Russian invasion of Ukraine in 2022 has bought renewed

48 Drechsler (W Drechsler, *Pathfinder: e-Estonia as the -version*, *Journal of e-Democracy and Open Government*, 10(2), 2018.) offers an excellent discussion on the hype around Estonia's digital success.

49 Satisfaction gradually increasing during the decade The survey results can be accessed here: <https://www.oecd-ilibrary.org/sites/2a3b6f81-en/index.html?itemId=/content/component/2a3b6f81-en#fig14-1>.

50 K Kallas, *Eesti digiriigi allakäik*, 2018.

attention to cybersecurity which has been one of the corner stones of Estonian digital government from the beginning.

Lessons from Estonia's radical reforms

Estonia's political leadership used the window of opportunity that opened in the 1990s aptly. The naïve exuberance of a new generation of politicians and their strong commitment to transformational change helped. In terms of economic strategy, this led Estonia to adopt neoliberal policies, to trust the 'invisible hand', to focus on macro-economic stability and to limit the role of the state. The initial success meant there was little domestic discussion of social reforms; an increase in inequality resulted, without much domestic opposition. But one could argue that to this day major social reforms are driven by EU policies rather than Estonia's domestic debates and political actors.

When it comes to digital government, the policy landscape has been different. Rather than adopt free-market policies, the state has provided a guiding hand' via small close-knit policy networks. To this day, ICT as an economic sector and digital government remain arenas of close collaboration between the government and private companies. By contrast, Estonia's government has struggled to build meaningful engagement on wider industrial and economic policies.

Our perspective on policies and their apparent success or failure can shift as time passes. While Estonia's reforms seemed like the 'best in class' in the immediate era following the fall of the Berlin wall, today they seem one-sidedly focused on macro-economic stability and fiscal discipline at the expense of inequality and the creation of a social safety net. And while the digital government's success has fared somewhat better, it also needs rejuvenation. This can be difficult when policy is in the hands of a small elite. While the decentralised digital agendas of ministries have provided needed agility, they have also led to uneven digital capabilities. The reliance on bottom-up departmental initiatives necessitates stronger and more formalised coordination structures than are currently present.

The best approach to transition—big bang or gradualism—is still a matter of debate.⁵¹ In the Estonian case, one can criticise the rigidly orthodox macroeconomic framework (which left no space for any discretionary economic policy), the blind trust in market forces and underfunded social policies. What seems to be more crucial in the long-term, however, is whether and to what extent the policy choices are adjusted in light of further developments and the emergence of new challenges. That is, whether policies show adaptability and flexibility. Here even starker criticisms are warranted.

Policy choices made to demonstrate stability in the early 1990s were not well suited to the challenges that emerged in the 2000s and 2010s: particularly excessive leverage and financialisation. The cocktail of financial liberalisation, a Washington consensus-style focus on macroeconomic stability, and the outsourcing of industry made Estonia highly vulnerable to financial fragility.⁵²

⁵¹ For a concise overview, see: K Staehr, *Economic transition in Estonia. Background, reforms and results*, Contemporary Change in Estonia, Baltic and East European Studies, 4, 2004.

⁵² The Estonian case demonstrated that "small states should pay particular attention to managing financial fragility and their innovation/ industrial policies in a coordinated fashion" (R Kattel, *The Rise and Fall of the Baltic Republics*, Development and Transition, July 2009.). Given the path of the hands-off approach to the, the policy-makers did not have the opportunities to develop the analytical capacities and competencies necessary for a more active involvement of the state in the economy (R Kattel, *The Rise and Fall of the Baltic Republics*, Development and Transition, July 2009; R Raudla & R Kattel, *Why did Estonia choose fiscal retrenchment after the 2008 crisis?*, Journal of public policy, 31(2), 2011.). More active involvement, however, became increasingly necessary in the context of growing globalization (R Kattel, *The Rise and Fall of the Baltic Republics*, Development and Transition, July 2009; R Kattel, *Financial and economic crisis in Eastern Europe*, Journal of Post Keynesian Economics, 33(1), 2010.). Furthermore, as a result of the policy paths chosen in the 1990s, the Estonian government is also rather ill-prepared for taking on the challenges presented by climate change.

Tax policy choices, including the introduction of the flat rate personal income tax in 1994, and abolition of the corporate income tax in 2000, may have felt justifiable in that initial period of post-Soviet liberalisation. But these primitive approaches were not appropriate in subsequent years. The proportional income tax has made it hard to redistribute income and has contributed to the overall regressive effects of the tax system.⁵³ By giving up taxing corporate profits, the government essentially waived an important instrument that could have been used to promote needed. Indeed, today, in the face of environmental challenges, the government has few tools with which to promote sustainable investment.

Finally, while distributed ICT architecture is at the heart of Estonia's digital transformation, the central X-Road layer represents a vulnerability: 'it's the X-Road or no road.' By relying on decentralised and mostly informal networks to build this infrastructure, Estonia now faces a challenge to build public sector capabilities to take advantage of it. The project faces a central question: whether the main drivers of its success—particularly its informal networks—provide enough capacity to secure more inclusive public services.

In summary, Estonia's radical transformation is an interesting mix. It includes both 'invisible hand' and 'guiding hand' policies in its macroeconomic policy and digital strategy, respectively. However, in both areas, the political elites' novel ideas seem to have run dry. Still, there are clear lessons:

- Crises open windows of opportunity for radical reforms but to take advantage of them, political leaders need clear long-term political visions and goals.
- Radical ideas need implementation mechanisms to translate ideas into actions. Creativity in implementation is as important as ingenuity in radical policy ideas.
- Radical change often results in socio-economic imbalances. If reforms appear to be successful it is easy to ignore such adverse and unintended consequences, yet these might ultimately derail or imperil the initial successes.
- Continued success means that original radical reforms need to be renewed; learning and adapting are vital for long-term success.

⁵³ K Staehr, Economic transition in Estonia. Background, reforms and results, Contemporary Change in Estonia, Baltic and East European Studies, 4, 2004.

Navigating economic change: lessons from abroad and history

As the UK is buffeted by the economic shocks and challenges of the 2020s, The Economy 2030 Inquiry, a collaboration between the Resolution Foundation and the Centre for Economic Performance at the London School of Economics (LSE), funded by the Nuffield Foundation, is publishing a series of essays examining how policy makers from a range of advanced economies, including the UK in the recent past, have managed periods of disruptive economic change. As we seek to reformulate the UK's economic strategy for new times it is vital that we learn the lessons of these comparative and historic perspectives.

Some consider the trajectory of a national economy following a major shock – for instance, Germany after unification, New Zealand after the UK joined the European Community, Estonia post-USSR and the UK during the tumultuous 1980s. Others examine the experience of particular cities – for instance a group of post-industrial 'turn-around cities' - or the adjustment of key features of a national economic system, such as Danish 'flexicurity'. Together they offer a powerful and timely set of insights on the successes and failures of economic policy makers in the face of economic shocks and structural change.

The essays are written by a range of leading economists and national experts and reflect the views of the authors rather than those of the Resolution Foundation, the LSE or The Economy 2030 Inquiry.

They have been commissioned and edited by Gavin Kelly (Chair of the Resolution Foundation and member of the Economy 2030 steering group) and Richard Davies (Professor at University of Bristol and fellow at the LSE's Centre for Economic Performance).