

# Estonian Economy – Past, Present, and Future

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## Introduction

Estonia is a country located in the Northern Eastern Europe and is one of the smallest EU Member States accounting for around 0.3% (about 1.3 million) of the population of the EU28. Estonia as a small country with complicated historical background, rapid political and economic reforms and successful integration into world political and economic structures provide an interesting case for generalizing post-socialist transition and European (re)integration processes also in global context. Estonia has learned from the experiences before the Second World War and has been extremely active in integration into global and regional institutional networks. Estonia together with two other Baltic States, Latvia and Lithuania, are the only former Soviet republic among the member states of the European Union since May 2004. Estonia joined the World Trade Organisation in 1999, NATO in 2004, OECD – in 2010 and became Eurozone member since the beginning of 2011. Following World Bank classification Estonia belongs to the group of high income economies with the purchasing parity based GDP per capita in 2014 around 28140 Geary-Khamis dollars. Estonia has gradually improved its competitiveness and ranked 31st according to the 2015 IMD World Competitiveness Ranking. The following chapter aims to throw light upon the post-socialist reform process and recent economic development in Estonia, laying emphasis on the catching up process and the integration in the context of European and global development.

## Economic policy priorities of Estonian government during the transformation process

Radical reforms in Estonia started in 1987–88 by debate between a group of economists and politicians about the idea of economic autonomy called IME – “dream” in Estonian. In 1990, the economic autonomy, which had formerly been the priority, was replaced by the goal of political independence or the task of re-establishing independent statehood in Estonia. The new target for economic reforms became the restoration of a market economy. Favourable location of Estonia between the East and West, market economy experience gained during the independence period between the two world wars (1918–1940) and historical and cultural traditions of co-operation with the well developed countries around the Baltic Sea (first of all with Finland) were important initial conditions affecting the economic development and speed of reforms of this country.

After regaining independence in 1991 it was unavoidable to launch economic reforms immediately. Since 1991 all Estonian governments followed the principle that in order for the market to operate efficiently, firms and individuals need to have direct access to international markets both as consumers and as producers. Sustainable economic growth required external liberalisation and convertibility of currency. External liberalisation in Estonian case was linked to the core components of transition to a market-based economy : liberalisation of prices, stabilisation, privatisation, restructuring and institutional reform as well the introduction of hard budget constraints. The economic reform policy in Estonia had following priorities :

- a) early liberalisation of prices and gradual elimination of state subsidies ;
- b) monetary reform and use of currency board system
- c) high speed of privatisation by using sale method ;
- d) conservative fiscal policy with balanced state budget requirement ;
- e) extremely liberal foreign trade regime.

The Estonian Government and Bank of Estonia had close co-operation with the IMF and IBRD during the preparation and execution of the economic reform. Most open sector prices were liberalised in Estonia in 1991–1992 and the monthly inflation rate declined from 20 per cent in the summer of 1992 to the rates below 0.3 % in 1999. Annual inflation in Estonia plummeted from near-hyperinflation in 1992 with annual rates of 1076 percent down to 3–4 % in 1999. Another important benchmark was the decision in June 1992 not to launch the Bank of Estonia as the traditional central bank, but as a currency board with certain traditional functions of a central bank. Estonian kroon was pegged to the Deutschmark at a rate of 8 : 1 and the rate was never changed. After the entry of Germany into the European Monetary Union, Estonia started to peg the kroon to the euro. The successful pegging of kroon to euro was finished in 2011, after Estonia joined the Eurozone and started to use euro as the currency.

Rapid privatisation with strong participation from strategic foreign investors has been one of the key aspects of successful transition in Estonia. In the process of working out privatisation strategy advice

and consultation from the German Treuhandanstalt (Trust Agency) was used. Unlike most transition economies, privatisation proceeded rapidly and without excessive transfer of state owned assets to insiders, which brought later substantial benefits. The final phase of privatisation dismantled the extensive monopoly positions within several state owned infrastructure sectors like telecommunication, shipping, railways and energy. The privatisation of state-owned enterprises in Estonia was mainly completed by the end of 1990s.

The liberalisation of the foreign direct investment regime was also very rapid in Estonia. Legal framework for FDI was set within the first years after regaining independence. The general provisions were very favourable to investors : national treatment was applied and full repatriation of profits was guaranteed. Since 2000 the corporate income tax from the investments was abolished completely and firms need to pay corporate income tax only after having paid dividends. It all together created Estonia as an attractive business location and Estonia has been successful in attracting foreign direct investments.

Conservative fiscal policy has been another important cornerstone of the Estonian economic policy. The fact that the central bank was prohibited by the law to extend credit to central and local governments establishes an efficient institutional safeguard for ensuring that public sector will have to balance its books. Estonia has the law, by which is not allowed to pass by parliament unbalanced state budget. Hence the consolidated general government budget deficit has been consistently among the lowest among the European countries. Consequently also the public sector deficit has been very small, currently it is below 10 % of GDP, which is the lowest among all European countries. Government's fiscal position was strengthened by a thorough reform of the public pension system in 2002, which moved Estonia from the pay-as-you-go system to a three-tier partly funded system.

Another cornerstone of the Estonian economic policy is its orientation toward openness. The foreign trade policy of Estonia was distinct from other transition economies by the complete absence of tariffs and quantitative restrictions. This bold approach brought an unprecedented quick reorientation of trade to the West. The share of Russia and other CIS countries in the Estonian export market diminished from 80 per cent in the early 1990s to 4-5 per cent in early 2000. Fixed exchange rate combined with the liberal trade regime was a very strong motivating factor for domestic firms to improve their competitiveness on the world market. It was highly valued also by the export oriented foreign investors.

## **Economic convergence as the rocky road of Estonian economy through the three crisis**

After regaining independence, the major aim of the long-term economic policy framework of Estonia was to catch up industrialised EU member countries by the real income level. In general, the Estonian catching up process has been relatively rapid – GDP per capita (PPP adjusted) has risen from 34% of EU-15 average in 1994 to 75% in 2015. Due to the smallness and openness of the Estonian economy, it is very vulnerable toward external shocks and therefore the convergence process has

been uneven.

During the last 20 years the Estonian economy has faced three crisis periods. In the early 1990s Estonia experienced a typical transitional crisis that was associated with the opening of foreign trade ; major price liberalisation and privatisation of state-owned firms (explained in the previous section). The second crisis occurred in late 1998 as the consequence of the Russian crisis, which brought about heavy devaluation of the Russian rouble. This reduced the competitiveness of Estonian goods on the Russian market and led to the decline of GDP in 1999. Recovery stage of the Estonian economy started from 2001 and it was transformed over to the boom stage between 2004 and 2007 with the average annual real GDP growth of 8.2% as well as a reduction of unemployment from 9.7% in 2004 to 4.6% in 2007. The boom was a combination of several factors. In May 2004 Estonia joined the European Union, which contributed to the GDP growth through different channels – better access to the EU market, increasing investment activity of foreign investors, access to EU structural funds. In the same time it also created internal imbalances caused by the lending boom of Scandinavian banks. The increase of Estonian domestic demand was the major factor of GDP growth, which was financed with the help of an extremely high-speed growth of the external debt. The ratio of total external debt to GDP in Estonia increased from 20 per cent in 1999 to 108 per cent by mid-2007 and fuelled the real estate boom. Within the period 2001–2007 the winners – internal market oriented sectors, e.g. construction, wholesale and retail trade, and business services – heavily increased employment. Export-oriented sectors only moderately increased their employment as they were tackling the rapidly growing labour costs.

The third economic crisis in Estonia started in 2008 and was a combination of the external factors of the global financial crisis with the internal imbalances described above. This resulted in the decline of Estonian GDP by 5% in 2008 and 14.3% in 2009. The depth of the decline is comparable with the fall in the GDP of the USA during the Great Depression. Due to the application of a currency board system, the role of monetary policy as the adjustment tool during the economic crises was very limited in Estonia. Hence, the major adjustments occurred through the labour market causing employment rate of persons aged between 20–64 to decrease from 77% in 2008 to 66.7% in 2010 and unemployment rate increased to 16.7 %. Within the described business cycle, deep structural changes in the Estonian economy occurred. Construction as the real estate boom related economic sector heavily contracted as well several labour intensive industries such as textile, apparel and furniture. Therefore, labour market adjustments were also highly sector-specific. The structural changes and intensive penetration of export markets created strong recovery to the Estonian economy. The GDP growth in 2011 was 7.5 % and 5.1 % in 2012. A very strong fiscal position also helped restore financial market confidence.

## Current macroeconomic situation and future outlook

Due to its very high openness, the Estonian economy is extremely dependant on the fluctuation on the world economy. The most important role is playing the economic health of major trading partners of Estonia – Finland, Sweden, Germany, Latvia and Russia. Unfortunately, couple of last years have

been unfavourable for the Estonia economy in this respect. The crisis in Ukraine followed by the economic sanctions from the both sides – EU and Russia affected heavily on Estonian export to Russia. Estonian dairy sector export virtually stopped to Russia. Situation deteriorated even more because of the fall of world prices of dairy products. Another result of the Ukrainian conflict was the rapid reduction of Russian transit of oil products through the Estonia harbours, which hit heavily transportation sector. In addition, the deterioration of economic situation of Russia and heavy depreciation of rouble has brought along the fall of Russian tourists in 2015 by one third compared with the previous year. The most important tourist group from Finland, accounting for almost half of the tourists, remained luckily unchanged. However, the general weakness of Finnish economy contributes strongly to the slowdown of Estonian economy. The decline of oil prices also hit Estonian economy quite clearly. Estonia has built an unique oil shale based energy system, which has secured independency on imported electricity. Estonia is also world-leading country in producing oil from the oil shale. Shale oil is a substitute for conventional crude oil, but extracting shale oil from oil shale is more costly than the production of conventional crude oil. After the rapid decline of world prices on crude oil the profitability of producing shale oil fall drastically resulting of layoff of thousands of employees and reducing the industrial output of Estonia.

As a result of the above mentioned problems the Estonian export decreased 4% and imports 5% compared to 2014. Estonian exports of goods accounted for 11.6 billion euros or 8,853 euros per capita in 2015. The biggest exports groups were machinery and equipment, different wood and paper products, various food products. The major export market was European Union with 75% of all exports in 2015. The main countries of destination were Sweden, Finland and Latvia. In Estonia's total imports of goods, the share of European Union was 83%, with Finland, Germany and Lithuania being biggest import sources. Despite the export problems Estonia has still managed to maintain the positive current account +1% in 2014 and +1,9 % in 2015.

Difficulties on the world market reflected also in the slowdown of economic growth. Estonian economy grew in 2015 by 1.2 per cent and during the first quarter of 2016 by 1.8 percent. Under the conditions of slower economic growth and low inflation Estonian government has been successful in balancing the state budget, which was in 2015 with surplus of 0.4 % of GDP. The general government gross debt of Estonia was 9.7 % in 2015, which is by far the lowest in Europe. Standard & Poor's credit rating for Estonia stands at AA- with stable outlook, Moody's at A1 and Fitch A+ with stable outlook. It gives to Estonian government very good access to the financial markets.

The overall situation of economy is rather stable, unemployment rate is very low – only 4.8 %. Average wage has increased and reached to the 1100 euros by the end of 2015. Currently the major obstacle for the firms is the lack of suitable employees as well the rapid growth of labour costs compared with the productivity. Within the last years the gap between wages and the growth of the labour productivity has deepened. The critical issue for the Estonian firms is how to increase the productivity. The labour productivity of Estonian manufacturing industry measured as the value added per employee was 23,7 thousand euros in 2013 compared with 69 thousand euros in Finland or 53 thousand

in Spain. It points to the fact that Estonian enterprises are often engaged on the stages of the global value chain where the productivity is comparatively low. The low productivity of the Estonian manufacturing industry could start retarding further economic development in Estonia and also hinder the development of knowledge-intensive business services with high productivity. Estonia as a small country certainly needs, in addition to raising the productivity of the manufacturing industry, to pay much more attention to developing knowledge-intensive and high-productivity services oriented towards external markets such as the creation of software, health services, creative economy, different financial services. Another important factor of the productivity growth is the innovativeness of enterprises – an ability to carry out product and service innovations, renewal of technology processes and non-technology restructurings like the marketing and organisational innovations.

Within the process of economic convergence the productivity of Estonian firms depends on the efficiency of sharing, dissemination and use of knowledge as well as on the speed of creating and disseminating new knowledge. A knowledge-intensive economy presumes a research & development and innovation system that would create and mediate excellent quality research results for the use of the domestic economy. The overall level of R&D investments as a percentage of GDP almost doubled in 2008–2011 (from 1.26% to 2.34%), but slid back to 1.44% on 2014. The major reason is the dramatic decline of business sector investments into R&D, mainly in the Estonian shale oil industry. The target towards total R&D investments in 2020 is set on 3% of GDP and business sector R&D investments on 2% of GDP. Considering the relatively weak economic growth and the decline of BERD reaching the target in 2020 is not very likely.

Estonian business sector employs 7,1 research and development workers per 1000 employees compared with nearly 20 in neighbouring Scandinavian economies in 2014. The task of Estonian firms is to improve their position in the global value chains, movement toward product innovation, which requires more attention to the research and development activities. Estonia is only approaching to the knowledge-based economy and have not exited the investment based development phase. The research system does not yet contribute sufficiently to the development of the knowledge economy. In this regard Estonia has many avenues for the improvement. Estonian research funding system as well as the research career model is oriented too much toward high-level publishing. The motivation of Estonian researchers to cooperate with private sector needs to be improved. On the other hand, the cooperation channels between universities and Estonian firms should be diversified in order to increase their innovation capacity. Important is also to select the appropriate focus within the key technologies. In this respect, Estonia has chosen information and communication technologies as the focus, where the competition on the world market does not allow to high capital investments. However, even in this field the selection of technological niches is needed e.g. e-solutions in ICT and cyber security.

## **Estonia - the frontrunner in implementing e-solutions**

Estonia is in many ways at the cutting edge of adapting to and driving further the ICT paradigm not

only in economic and technological sense, but also as a socio-political system. Estonia's government is probably the best-connected national government in the world. This development has introduced effective new ways of delivering government services. Estonia is known not only in Europe but also in the whole world as one of the leading developers and adopters of various e-government services that range from voting to the e-tax office, e-health and e-schools. For example the use of electronic tax office overwhelming dominates – in 2015 around 98 % of all tax declarations were submitted on-line.

Furthermore, Estonia is also one of the leading experimenters and proactive developers of radically new technological solutions. The e-Estonia digital society is made possible largely due to its infrastructure. Instead of developing a single central system, Estonia created an open, decentralized system that links together various services and databases. The flexibility provided by this open set-up has allowed new components of the digital society to be developed and added through the years. Estonia's most recent innovations such as e-residency and digital embassies projects may redefine many of the existing socio-political institutional aspects such as the meaning of the state, citizen, politics, and public services among others. Estonia offers a highly interesting and globally unique test-bed for other countries. The most recent innovation was the launching of the Estonian virtual residency program in 2015, which has attracted more than 10000 members from around 120 countries already. The e-resident's card, issued to successful applicants, allows them to sign documents online, without having to make a trip to Estonia to run their business.

In Estonia, the use of IT devices has become an indispensable part of everyday life. The Internet has become accessible also while on the move, mainly thanks to the rapid development of the mobile telephone network. Despite the usefulness of the Internet, it might hide several security risks. Estonia was among the first countries which was cyber attacked in 2007 during the conflict with Russia about the movement of WWII victory statue from the Tallinn centre to the cemetery. It highlighted for the first time the potential vulnerability of any NATO countries to disruption of their information and communications systems. As a reaction the NATO Cooperative Cyber Defence Centre of Excellence was established in Tallinn, capital of Estonia in 2008. Gradually Estonia became the country that is characterised by a very high level of information security competence and awareness. Tallinn University of Technology together with the University of Tartu offers a special master's degree program in cyber security. The fact that NATO's and Skype's security teams are located in Estonia is a clear indication that Estonia has the capabilities of offering world-class knowledge and people to compete with the new era of growing cyber risks.

## Examples of success stories of Estonian ICT firms

Estonia has been associated also with the success stories of many ICT companies. By far the most well-known is Skype <https://www.skype.com/en/>, which was created in 2003 by the team of Swedes N. Zennström and D.J. Friis and Estonians A.Heinla, P.Kasesalu and J.Tallinn. Later Skype was acquired by eBay and Microsoft, but most of the development team are still situated in Estonia, in the campus of Tallinn University of Technology. Nortal <http://www.nortal.ee/> is another Estonian

based international software development solutions provider focusing on different e-services operating in nearly 20 countries across Europe, Middle East and Africa. For example, Nortal is transferring the Estonian experience in designing e-solutions to the Oman, where Invest Easy portal was created. It has substantial impact on local business environment, giving entrepreneurs access to government e-services and making different processes, such as starting a company, easier, more effective and faster. GrabCAD <https://grabcad.com/> was founded in 2009 by Estonians H.Meybaum and I.Narusk as an online community and marketplace that connects mechanical engineers with people and companies who need their CAD related services. GrabCAD evolved into a community for engineers to share CAD models. Fortumo <https://fortumo.com/> allows customers to make mobile payments for web services and mobile applications in 94 countries with a strong focus on emerging markets. Fortumo services are used by game developers, digital content merchants and device manufacturers like Sony, Huawei or Alcatel. Fortumo works together with app stores such as Google Play and Windows Phone Store to enable carrier billing for their users. TransferWise <https://transferwise.com/> is another Estonian developed and UK-based startup launched in 2011 by K.Käärman and T.Hindrikus, both former Skype developers. More than £3 billion has been transferred through TransferWise, which supports international money transfer of 300 currency routes across the world.

## Conclusions

Estonia is an example of the country which has gone through the complicated socio-economic transition process and managed to integrate into global and regional institutional networks (WTO, OECD, NATO, EU). Estonia has been characterized by the extremely liberal foreign trade regime and policy toward foreign direct investments combined with the conservative fiscal policy and low external debt of public sector. It has created a solid bases for the fulfilling the primary macroeconomic objective of the Estonian economy – to facilitate catching up to the income level of highly industrialized countries. Estonia has succeeded to move its purchasing power parity based GDP per capita from the 34% of EU –15 average in 1994 to 75% in 2015. Estonia is trying to find ways how to win from the EU integration processes finding a high value added niche in the European and global division of labour taking into account its favourable location in the Baltic Sea region. Due to the smallness and openness of the Estonian economy, it is very vulnerable toward external shocks and therefore the convergence process has been uneven. The world economic crisis in 2008 heavily hit Estonia because the external factors of the global financial crisis were aggravated with the real estate bubble of the Estonian economy fuelled by the lending boom of Scandinavian banks. These factors combined resulted in the most severe decline of Estonian GDP by 5% in 2008 and 14.3% in 2009. The openness of Estonian economy and relatively flexible labour market created an environment for the healthy recovery between 2010 and 2012. Afterwards the overall situation of the Estonian economy has been rather stable with the moderate economic growth and rapidly falling unemployment. However the recent political instability in Europe and trade sanctions between EU and Russia influenced the Estonian economy considerably through different channels such as food trade protection or reduction of oil transit and tourist flows from Russia. Therefore the export market diversification is important and continuous strategic aim for the Estonia companies. The future economic policy of Estonia should be also moving further toward



knowledge-intensive economy, which allows diversify the portfolio of export goods and services and improve the position of Estonian companies in the global value chains.