

An Efficient Long-Run Economic Growth Strategy for Estonia

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ABSTRACT

International tourism and FDI inflows have generated detectable beneficial impacts on the economy of Estonia in the last decades. However, recently, poor international market conditions mostly caused by the trade war and COVID-19 pandemic have been a potential threat to these two factors. Besides, the poor performance of investments in recent years is behind the stagnation of productivity in Estonia. This study examines the dynamics of the effects of these factors on the rate of economic growth in Estonia and provides policy implications in line with sustained recovery. A Nonlinear ARDL technique is employed in this study to investigate the long-run effects of FDI and the degree of tourism specialization on economic growth rate. Our findings indicate that the economic growth rate of Estonia in the long-run has been positively affected by both the rate of FDI inflows and international tourism. This is the first study that employs a non-linear approach to investigate the dynamics of long-run effects of FDI and tourism specialization on the rate of economic growth in Estonia and provides policy implications in line with optimal growth strategy considering the economic structure, the current level of productivity, and available potentials in this economy.

Keywords: International Tourism; FDI; Rate of Return on Investment; Productivity; Economic Growth Rate; Estonia

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1. Introduction

Tourism development and Foreign Direct Investment (FDI) inflows can play a critical role in improving the rate of economic growth through different channels like supplying foreign exchange, capital deepening, and improving overall productivity via fostering innovation and technology transfers. These two factors have contributed to a large share in the economy of Estonia in the last decades. According to OECD Tourism Trends and Policies (2020), in 2018, international tourism receipts continued the positive trend seen over recent years and generated EUR 1.5 billion. The share of tourism services for all Estonian exports was 10.2% and this sector is estimated to contribute 4.3% of employment and 7.8% of total GDP. In addition, according to the World Bank datasets between 2000 and 2019, Estonia's FDI inflows also accounted for an average value of 7.62% and a maximum of 21.69% of GDP in 2005 (Figure 1). But, how successful have these two macroeconomic factors been in improving the rate of economic growth of this country?

<Insert Figure 1 about here.>

According to the Solow growth model, physical capital, human capital, and technological progress measured by Total Factor Productivity (TFP) are the key components of economic growth. In view of this, Harberger (1998) pointed out that investment rate, rate of return on investment, and Real Cost Reduction (RCR) are critical in the process of economic growth. All of these components should work together to stimulate economic growth via tourism investments or FDI. If capital is attracted to a country but it is not invested in the best projects with acceptable rates of return or, if firms that use that capital do not have performance efficiency, the investment not only cannot generate economic growth but also slows the growth rate down. More FDI can improve economic growth if the rate of return on FDI is greater than the average rate of return on investment in the economy (Harberger, 1998).

Weil (2005) developed a theoretical framework that shows if different sectors have different productivity growth rates (due to different technological progress or efficiency growth), changing the sectoral composition of output and employment naturally can change the overall TFP growth of the economy which in turn changes the growth rate of the economy. In other words, moving the factors of production (labor and capital) from a sector to another can change the rate of economic growth depending on whether the second sector has a higher productivity growth or not. Steger (2000) is one of the studies that investigated the sectoral composition of economic growth. According to this study, the average productivity growth and consequently GDP growth and saving rate in an economy are increased, if the GDP share of a sector with a relatively higher TFP growth is increased. This can allow for a lower unemployment rate and a higher investment rate.

Apparently, the main sectors of an economy (e.g. agriculture, manufacturing, and services) have different TFP growth rates, and increasing the GDP share of international tourism receipts (which leads to the reduction of GDP share of other sectors) does not necessarily increase the economic growth rate. According to the theory of unbalanced growth developed by Hirschman (1958), economic growth is stimulated if the productivity increase in a sector has a positive impact on other sectors.

This theoretical ambiguity in the impact of tourism development and FDI on the economic growth rate indicates that FDI attraction and sectoral resource allocation in an economy should be based on the policy insights obtained from the empirical examination of tourism-economic growth and FDI-economic growth nexus for the country in question.

Recently, poor international market conditions (mostly caused by the trade war) and the COVID-19 pandemic has been potential threats for both the tourism sector and FDI attractions. Figure 2 illustrates the recent decline in the volume of FDI inflows in the world and figure 3 shows how drastically international tourism in Estonia has been affected by the COVID crisis.

<Insert Figure 2 about here.>

<Insert Figure 3 about here.>

Besides, the poor performance of investments in recent years is behind the stagnation of productivity in Estonia (Durán, 2019). In response to these issues, the main motivation of this study is first investigating the dynamics of effects of these factors on the rate of economic growth in Estonia and then providing policy implications in line with sustained recovery and optimal growth strategy considering the economic structure, the current level of productivity, and available potentials in this economy.

A Nonlinear Autoregressive Distributed Lag (NARDL) technique is employed in this study to investigate the long-run effects of FDI (proxied by GDP share of FDI inflows) and the degree of tourism specialization (proxied by GDP share of international tourism receipts), on economic growth. This technique not only identifies the qualitative and quantitative nature of the long-run effects of FDI and tourism expansion on economic growth but also reveals the likely asymmetries in these effects. To the best of our knowledge, this is the first study that adopts an advanced approach to analyze the pillars of economic growth rate in Estonia and provides an efficient strategy to survive the recent unprecedented economic crisis considering the optimal sectoral composition of output and employment.

The article proceeds as follows: section 2 reviews the relevant literature. The data and methodology are explained in section 3. Section 4 presents the analysis of empirical results and discussion. Finally, section 5 provides concluding remarks and policy implications.

2. Literature review

The economy of Estonia has performed well and the growth of income per capita has supported welfare in the last decades. However, due to weak international demand, the growth rate has peaked and is set to soften (OECD, 2019). The large share of tourism and FDI in Estonia's economy indicates the significance of them in this economy. The question is to what extent these factors have accelerated the growth rate and how these impacts can be improved considering the current rate of investment and productivity in this country and the performance of international markets. In order to recognize the potentials of these factors to increase or decrease the rate of economic growth, this section reviews the theoretical and empirical studies about the impact of tourism and FDI on the economic performance of the countries and tries to highlight the gaps and technical mistakes in them.

The nature of interactions between FDI, tourism expansion, and overall macroeconomic performance has been a subject of both empirical and theoretical research to make consistent economic policies in line with optimal growth strategy. Many governments facing macroeconomic bottlenecks (particularly in terms of unemployment) have considered both FDI

inflows and international tourism expansion as critical factors to overcome domestic macroeconomic imbalances (Brohman, 1996).

Based on the importance of economic complementarities and interrelationships, Nurkse (1953) was in favor of attaining balanced growth in all sectors of the economy. However, Hirschman (1958) argues that based on the balanced growth theory, the economies require massive simultaneous investments in terms of both financial capital and specific skills in all sectors which are usually not available in developing countries. He shows how the demand for a new output or the supply of a new input incentivizes entrepreneurial activities. It creates a unidirectional sequence of investments between different sectors. Therefore, a specific initial investment in a specific sector can generate more final output than would any balanced distribution of that investment between all sectors. In this process, the productivity increase in a sector has a positive impact on other sectors (Lipton, 1962).

A theoretical framework about the conditions under which additional specialization in tourism is welfare improving is presented by Chao et al. (2006). They studied the impact of tourism expansion on sectoral output, capital accumulation, and resident welfare. They asserted that an expansion in the tourism sector can yield a gain in revenue by increasing the relative price of nontraded goods. In the follow-up study, Chao et al. (2009) used a dynamic open-economy model to show how an increase in the demand can increase the relative price of non-traded goods and expand the non-traded sector. If the output effect is dominant, the output shift caused by tourism expansion can improve both employment and welfare in the short-run. However, higher relative prices and higher wages may harm labor employment in the long-run.

It is worth noting that an expansion in the traded good sector (due to the higher productivity and lower cost of production) leads to higher wages in both traded and non-traded sectors that will be spent on both traded and non-traded goods. Unless there are some productivity gains in the non-traded sector, the prices of non-traded goods will increase, offsetting some of the welfare gains created in the traded goods sector.

Many studies have been conducted to investigate the causal relationship between economic growth and tourism development and verify the validity of the ‘tourism-led economic growth’, ‘Reverse’, ‘Feedback’, and ‘Neutrality’ hypotheses. However, the results are inconclusive. Their efforts failed to find the actual causal relationship because many of them did not select the suitable proxies to represent tourism development and economic growth (e.g. Danish and Wang, 2018; Gunter, Ceddia, and Tröster, 2017; Lee and Brahmasine, 2013), or they employed Granger causality or cointegration tests that do not show the sign of the effects. In other words, they usually interpreted causality from a variable to another variable as a positive effect of the first variable on the second one. For example, Nowak, Sahli, and Cortés-Jimenez (2007), Tugcu (2014), Fayissa, Nsiah, and Tadasse (2008); Rakotondramaro and Andriamasy (2016), Matahir and Tang (2017) interpreted the uni-directional causality from tourism to the economy as a piece of evidence to confirm the ‘Tourism-led Growth’ hypothesis. On the other hand, Oh (2005), Payne and Mervar (2010), and interpreted the uni-directional causality from economy to tourism as a piece of evidence to confirm the ‘reverse hypothesis’.

But, it is critical to realize that the presence of a causal effect of one variable on another does not automatically imply that the qualitative nature of the effect is positive. Strictly speaking, the ‘causal flow’ from one variable to another does not indicate two factors: According to Brooks (2014, p. 299) “It cannot reveal whether changes in the value of a given variable have

a positive or negative effect on other variables in the system, or how long it would take for the effect of that variable to work through the system”. This insight forms one of the main motivations of this study. The present study can yield interesting insights regarding whether or not further share of FDI in GDP or specialization in tourism is likely to have ‘growth-enhancing’ effects on the economy of Estonia. This aspect of our study not only sheds light on the potential of FDI and tourism to stimulate economic growth but also may raise new questions about the validity of the policy recommendations based on the results of earlier studies that utilized exclusively Granger causality testing.

It is worth mentioning that some studies (e.g. Sokhanvar, Çiftçioğlu, and Javid, 2018; Sokhanvar, 2019; and Çiftçioğlu and Sokhanvar, 2021) employed impulse response functions to identify the sign of the relationship between tourism and economic growth detected by Granger causality tests. However, this technique is sensitive to the number of variables in the VAR system and cannot always generate reliable results.

Regarding the impact of FDI inflows on the economy, Easterly (1993) points out that the policies offering special incentives (e.g. preferential tax treatments) to multinational enterprises may cause a distortion affecting domestic investment and lowering the overall efficiency of investment. If the distortion between the return to domestic and foreign capital is significant, it may lead to adverse effects on growth. Actually, subsidies and preferential tax treatments serve to attract FDI that has a rate of return lower than the average economic rate of return. Hence, after repatriating the financial cost of these funds, the net economic return retained in the country may be negative causing the overall growth rate to slow down.

The theoretical framework for studying the effect of FDI inflows on the rate of economic growth at the firm-level concentrates on first, greater competition, and second, the channels of transmission of knowledge. Greater competition at the sectoral level results in higher sectoral productivity via reallocation of resources from less productive to more productive firms (Alfaro and Chen, 2018). An added benefit of FDI is the transmission of knowledge between local enterprises and foreign firms that can make economic growth more inclusive via improving the productivity of domestic enterprises (Moran, 2015).

Domestic firms are benefited from FDI through two main channels: First, the demonstration effect, in which, local firms learn managerial practices or foreign technologies either by hiring workers trained by multinationals or through observation (Morrissey, López, and Sharma, 2015). Second, linkages channel, in which, local suppliers upgrade their quality and technical standards via the formal transmission of knowledge and practices from foreign firms (Alfaro and Chen, 2018).

Both of these channels spur productivity upgrading and improve the rate of economic growth. However, not every local firm is benefited from FDI positive spillovers. The analysis shows that only domestic high-growth firms have the capacity to absorb these benefits (World Bank, 2018). Therefore, the nature of the effect of FDI inflows on economic growth rate is an empirical matter that has to be studied in each country separately.

Although the impacts of FDI inflows on the rate of economic growth have drawn considerable academic interest, surprisingly, the empirical literature neglects to analyze this relationship in the case of Estonia almost entirely. Masso (2002) and Dritsaki, Vazakidis, and Adamopoulos

(2004) are two studies that tried to investigate the impact of investment on the economic performance of Estonia and both of them are flawed.

Masso (2002) studied the impact of FDI on the relaxation of liquidity constraints and promoting investments in Estonian manufacturing firms. Surprisingly, he has employed annual panel data with only four years of observations (1995-1998) which is not enough for any estimations. Dritsaki et al. (2004) studied the relationship between economic growth, investments, and exports in the Baltic States. They adopted nominal GDP, gross fixed capital, and the revenues of real exports to represent these variables and this is a huge mistake. What economists should analyze in these kinds of studies is whether a higher GDP share of gross fixed capital formation (domestic investment rate) is able to increase the rate of economic growth.

Data and methodology

2.1. Data

This study employs annual time series data on the dollar value of international tourism receipts and GDP, FDI inflows (% of GDP), and GDP growth (annual %), over the period 1995-2019 for the economy of Estonia. The series are obtained from the World Bank datasets. International tourism receipts (% of GDP) is calculated by dividing the dollar value of international tourism receipts over the dollar value of GDP.

The Zivot-Andrews Unit Root Test is employed to identify the integration order of the series. The results (available upon request) imply that the series are $I(1)$ and NARDL approach can be applied in this study.

2.2. Methodology

The joint issues of non-stationarity and non-linearity developed in expansive literature indicate the non-linearity of many macroeconomic series and reflect the belief that linear models and the assumption of linear adjustment are not sufficiently rich to yield reliable forecasts (Kwiatkowski, Phillips, Schmidt, and Shin, 1992; Shiller, 2005).

In this context, Granger and Yoon (2002) developed the notion that when there is no evidence of linear cointegration between the variables, a hidden long-run relationship may exist between positive and negative components of those variables. Some studies like Lee (2000) and Bachmeier and Griffin (2003) tried to model the short-run asymmetry by using some old techniques (e.g. two steps Engle-Granger method) which are not inherently efficient. Some other studies developed regime-switching models to address the joint issues of non-stationarity and non-linearity. These models include smooth transition regression of Kapetanios, Shin, and Snell (2006) and the Markov-switching ECM developed by Psaradakis, Sola, Spagnolo (2004). However, these studies assume that the long-run relationship is a symmetric linear combination of nonstationary stochastic regressors.

Our study aims at contributing to the literature by employing the NARDL approach developed by Shin, Yu, and Greenwood-Nimmo (2014). This technique provides a simple framework to model short-run and long-run asymmetries. In this approach, when the system moves toward a new equilibrium following an economic perturbation, asymmetric cumulative dynamic multipliers produce dynamic adjustment patterns to reflect the dynamics of positive and negative shocks to the system.

The NARDL method of estimation is based on the assumption that variables are either $I(0)$ or $I(1)$. It is worth mentioning that in the presence of structural breaks in series, applying conventional unit root tests such as the ADF or PP tests to check the stationarity of the series

could lead to an over-rejection of the unit root hypothesis. Hence, the unit root test introduced by Zivot and Andrews (2002) is used in this paper to obtain the integration order of the variables.

2.2.1. The Non-linear ARDL Model

We consider the following non-linear ARDL model:

$$EG_t = \sum_{j=1}^p \varphi_j EG_{t-j} + \sum_{j=0}^q (\theta_j^+ FDI_{t-j}^+ + \theta_j^- FDI_{t-j}^-) + \sum_{j=0}^r \eta_j TR_{t-j} + \varepsilon_t \quad (1)$$

where ε_t is the error term, φ_j is the autoregressive parameter, and θ_j^+ and θ_j^- are the asymmetric distributed lag parameters. Eq. (1) shows how economic growth rate is a function of its own lags, the lags of FDI components, and the lags of GDP share of tourism receipts. In this equation, EG, FDI, and TR stand for economic growth rate, the GDP share of FDI inflows, and GDP share of international tourism receipts respectively. p , q , and r represent the maximum number of lags considered for economic growth rate, FDI components, and tourism receipts respectively. A partial sum decomposition approach is also used in this study to model the non-linearity of the relationship.

2.2.2. Bounds-Testing the Asymmetric Long-Run Relationship

The existence of any asymmetric cointegration between variables is tested by using Eq. (2).

$$\Delta EG_t = \rho \xi_{t-1} + \sum_{j=1}^{p-1} \gamma_j \Delta EG_{t-j} + \sum_{j=0}^{q-1} (\pi_j^+ \Delta FDI_{t-j}^+ + \pi_j^- \Delta FDI_{t-j}^-) + \sum_{j=0}^r \alpha_j \Delta TR_{t-j} + e_t \quad (2)$$

where Δ indicates the 1st difference, $\xi_{t-1} = EG_t - \beta^+ FDI_t^+ - \beta^- FDI_t^- - \delta TR_t$ is the non-linear error-correction term, and $\beta^+ = -\frac{\theta^+}{\rho}$ and $\beta^- = -\frac{\theta^-}{\rho}$ are the associated asymmetric long-run parameters. If $\rho = 0$, Eq. (2) reduces to an equation involving only 1st differences, implying that no cointegration exists between the levels of EG_t , FDI_t^+ , FDI_t^- , and TR_t . Next, we follow the F-test of the joint null, $\rho = \theta^+ = \theta^- = \eta = 0$ based on Pesaran et al. (2001) and we denote this test F_{PSS} .

Two sets of asymptotic critical value bounds are provided by Pesaran et al. (2001). One set assumes that all variables in the model are purely I(0) and the other assumes that they are all purely I(1). If the calculated F_{PSS} falls between these bounds, the result is inconclusive, but if it falls outside the bounds, a conclusive inference can be drawn regardless of the integration status of the variables.

2.2.3. Asymmetric Dynamic Multipliers

Two general forms of asymmetry are analyzed in this study: 1-long-run or reaction asymmetry identified by $\beta^+ \neq \beta^-$, where β^+ and β^- are asymmetric long-run coefficients defined in subsection 3.2.2. 2-adjustment asymmetry presented by the patterns of adjustment from initial equilibrium to a new equilibrium following an economic shock. The asymmetric dynamic multipliers associated with the effects of unit changes in FDI_t^+ or FDI_t^- on EG is obtained by using an 'ARDL in levels' illustrated in Eq. (3)

$$\varphi(L)EG_t = \theta^+(L)FDI_t^+ + \theta^-(L)FDI_t^- + \eta TR_t + e_t \quad (3)$$

The cumulative dynamic multiplier effects of FDI_t^+ and FDI_t^- on EG_t are estimated as follows:

$$m_h^+ = \sum_{j=0}^h \frac{\partial EG_{t+j}}{\partial FDI_t^+}, m_h^- = \sum_{j=0}^h \frac{\partial EG_{t+j}}{\partial FDI_t^-}, h = 0, 1, 2, \dots \quad (4)$$

m_h^- and m_h^+ indicate the summation of changes in EG_t due to the negative and positive changes in FDI respectively. Usually, there is little reason to believe that dynamic adjustment patterns identified by m_h^+ and m_h^- are symmetric. The duration of disequilibrium presented by these patterns is an important feature of the NARDL model.

3. Empirical results

3.1. NARDL analysis results

Table 1 presents the asymmetric bounds testing results. The null hypothesis of this test is “no long-run relationship between variables”. F_{PSS} exceeds the 95% upper critical bound. Therefore, a cointegration exists between FDI_t^+ , FDI_t^- , TR_t , and EG_t . The results also provide the reason for estimating the long-run elasticities of each variable on changes of EG_t .

<Insert Table 1 about here.>

The estimates of Eq. (3) are tabulated in the next Table. As we can see in Table 2, both TR and FDI have a long-run positive impact on EG. Almost similar long-run coefficients of FDI_t^+ and FDI_t^- suggest a symmetric relationship between FDI and economic growth rate in the long-run. The patterns of dynamic multipliers reported in the next table supports this finding.

<Insert Table 2 about here.>

We observe an apparent symmetry in both long-run and short-run adjustment patterns traced by the dynamic multipliers. An increase in FDI as a percentage of GDP increases the economic growth rate and vice versa. The economic implications of the results presented in this section are discussed in the next section.

<Insert Table 3 about here.>

Various diagnostic tests are employed to test the adequacy of our non-linear ARDL model in this study. These tests include: 1- Breusch-Pagan-Godfrey heteroskedasticity test, 2- Breusch-Godfrey serial correlation LM test, 3- error terms normality test. The results (available upon request) indicate that our non-linear ARDL model passes all diagnostic tests. Cumulative sum (CUSUM) charts are also used to check the structural stability of the models. If the cumulative sums of the standardized deviations exceed a specified range, the model is unstable. The results illustrated in Figure 4 prove the stability of our model.

<Insert Figure 4 about here.>

A linear ARDL model is employed to test the robustness of our estimated long-run equation. The results, presented in Tables 4 and 5, show the robustness of the long-run coefficients estimated in the previous step. Both GDP share of FDI inflows and tourism specialization have a significant positive impact on the rate of economic growth.

<Insert Table 4 about here.>

<Insert Table 5 about here.>

3.2. Discussion

In tracing the impact of any kind of investment (including FDI and investments to expand the tourism sector) on economic growth, two of the most important factors are the rate of return on investment and RCR. RCR is a critical factor that determines whether or not FDI or investment

in tourism sector can stimulate economic growth within economies. According to Harberger (1998), high rates of return play an important role in motivating economic agents and yield a high capital contribution to growth by creating attractive investment opportunities. On the other hand, an economy may experience a low GDP growth rate in the wake of low capital contributions associated with low rates of return and weak RCRs. Investment rate, rate of return on investment, and RCR are the components of economic growth. All of these components should work together to stimulate economic growth via tourism investment or FDI.

3.2.1. Tourism and economic growth

Two general reasons mentioned for the positive effect of international tourism expansion on an economy are the generation of employment and foreign-exchange earnings. However, the specific reasons in the case of Estonia are explained as follows.

As noted in OECD (2018) *Tourism Trends and Policies*, Estonia's inbound tourism has experienced steady growth. Around 6 million international travelers visited Estonia in 2016 (4% annual increase). They spent 1.4 billion Euros on goods and services, generated 1.7 billion Euros of tourism export revenue, and contributed 32% of services exports and 6% of GDP (taking indirect and direct effects together). According to OECD *Tourism Trends and Policies* (2020), business tourism made up 23% of tourism arrivals in 2018 that supported a record of 4.2 million nights by 3.2 million international tourists who visited Estonia. Therefore, tourism in Estonia is recognized as one of the significant determinants of Estonia's economic growth, exports, and competitiveness and an engine for employment, and this could be the reason behind the long-run positive impact of tourism on the economic growth in Estonia detected in our study.

3.2.2. FDI and economic growth

Estonia is one of the most liberal countries in the world in terms of policies developed for property rights, government intervention, trade, and investment. The government has adopted openness to foreign trade and favorable conditions for FDI to attract export-oriented foreign companies. Estonia is ranked 12th and 18th in the World Bank's 2018 and 2020 *Doing Business* report which is mainly because of an investment-favorable environment, a competitive banking sector, and a free trade regime. To create and develop new businesses, the government tries to make a highly competitive environment by focusing on entrepreneurship, and policymakers have decided to exempt all reinvested corporate profits from income tax to attract more FDI. Besides, Estonia is fairly developed in the FDI-attractive fields of green industries, biotechnologies, and IT.

A good institutional environment has also played a significant role in attracting FDI. According to the World Economic Outlook Database (April 2017), Estonia has been ranked 29th in the Global Competitiveness Index and 24th in institutional factors including 'intellectual property protection' and 'property rights'. There is no limitation on foreign ownership and the licensing process is non-discriminatory and routine. These could be the possible factors contributing to the long-run positive effect of FDI inflows on the economic growth of Estonia detected in our study. However, this favorable economic environment has changed recently and the reasons and solutions are discussed in the next section.

4. Conclusions and policy implications

The response of an economy to the evolution of tourism and FDI inflows has been on the table for a long time. These two factors are at least potentially the vital elements for a sustained process of successful economic growth in Estonia as they have made a significant contribution to the GDP. In this context, the main motivation of this study is to analyze the dynamics of the effects of the GDP shares of FDI inflows and international tourism receipts on the economic growth rate of Estonia. These variables have a great potential in yielding policy insights regarding whether or not ‘a larger share of FDI inflows in the economy’ or ‘choosing to specialize in tourism’ can improve the process of economic growth.

An NARDL technique has been employed in this study to investigate the above-mentioned relationship in the long-run. This technique not only identifies the qualitative and quantitative nature of the long-run impacts of FDI and tourism expansion on economic growth but also reveals the likely asymmetries in these effects. To the best of our knowledge, this is the first study to investigate the asymmetric long-run impacts of the degree of tourism specialization and GDP share of FDI inflows on the rate of economic growth using a non-linear approach for the economy of Estonia.

Our findings indicate that tourism in Estonia is an important determinant of economic growth in this country. However, tourism development should be measured not only by increased overall tourism receipts but also through growth in greater diversity in the product offer and service quality. Recent investments in Estonia’s tourism sector have been aimed at increasing return visits, motivating visitors to prolong their stay, and also diversifying tourism attractions. This country, in cooperation with Nordic neighbors and other Baltic countries, has recently started promotional activities in long-haul markets to increase awareness of this country in potential target markets, especially in Southern and Western European countries.

Intermodal transport systems, better connectivity, and development of new international transportation routes are some of the preconditions for growth in visitor numbers. The ‘Rail Baltic’ project that will connect the Baltic States to Western and Central Europe is an example of an eco-friendly and modern high-speed railway. This project will expand tourism, trade, and business, and provide the opportunity to travel quickly and comfortably from the Baltics to Central Europe and beyond.

However, in just two months at the beginning of 2020, the world economy was turned upside down. Considering the significant share of tourism and FDI inflows in the economy of Estonia, COVID-19 may hit this economy even harder than the rest of the Eurozone. The tourism sector is already affected by the cancellations of incoming group tourists, tourism companies are running far below capacity, and their failure will damage the sector’s potential. In this situation, the government has to support the tourism industry by loan guarantees and tax cuts, and discourage lay-offs at the companies by subsidizing workers’ wages. In this way, companies will be able to keep their workforces intact, ready to get back to action when this dark episode ends.

In the post-COVID future, Estonia’s tourism policymakers are recommended to implement a tourism development plan offering a high-quality visitor experience for people of all ages and abilities by: 1- A policy approach that allows achieving long-term sustainable tourism development and a plan to shift from EU funding to national funding. 2- Organizing events such as ‘Baltic Connecting 2017’ focusing on long-haul markets. 3- Developing the small harbor network and coastal and marine tourism.

The results of our study indicate that the economic growth rate of Estonia in the long-run has been positively affected by the rate of FDI inflows. Therefore, policymakers are advised to have plans to boost both foreign investment rates and the efficiency of investments. In tracing the impact of any kind of investment (including FDI and investments to expand the tourism sector) on economic growth, the rate of return on investment and RCR are critical factors. RCR, a defense against adversity in bad times and a path to profit in good times, is on the mind of most production managers and business executives in modern economies. They usually use two tools to achieve this goal (Harberger, 1998): 1- Shifting to more modern management techniques. 2- Downsizing by reducing the labor force or capital stock (at replacement cost). Although FDI inflows helped Estonia in this process, growth needs to be driven more by productivity. A business-friendly regulatory framework has been adopted in Estonia. However, the productivity catch-up has slowed recently and the gap with top performers is large. Durán (2019) provides the evidence for the slowdown in productivity growth after the 2008-2010 economic crisis. It is not unlikely that the stagnation of productivity is due to the decreasing value of FDI inflows and poor performance of investments in recent years.

According to the World Economic Forum, Executive Opinion Survey (2017), the most problematic factors for doing business in Estonia include ‘Inadequately educated workforce’ and ‘Tax rates’. These two problems have not been solved yet and affect greenfield investments negatively. Besides, according to the World Economic Forum, the Global Competitiveness Report (2019), with 38.8% labor tax rate, this country is ranked 136th among 141 countries. It is also ranked 122nd and 132nd in ‘ease of finding skilled employees’ and ‘ease of hiring foreign labor’ respectively. These factors are critically important in the investment decisions of foreign investors, and solving these problems must be given higher priority by local authorities.

In order to design policies in line with promoting growth, regulations and requirements should be justifiable in terms of cost and benefit to the economy. Firms should use their capital more efficiently because inefficient investment spending leads to deteriorating economic performance.

Building upon the findings of the present study, future research is suggested to focus on detecting the main institutional shortcomings in the economy of Estonia and investigate their role in the impact of investment rates in different sectors on the rate of economic growth. Besides, a better understanding of the complex interactions between the taxation system, FDI attraction, enhanced productivity, and finally accelerating economic growth is recommended as the basis for making sound economic policies.

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Tables

Table 1: Bound Test for Cointegration

Significance	I(0) Bound	I(1) Bound	F-statistic	Asymmetric Cointegration
10%	2.676	3.586	4.803**	Yes
5%	3.272	4.306		
1%	4.614	5.966		

*, **, *** represent null rejection at 10, 5, and 1 percent level.

Table 2: Long-run equation based on NARDL Model

Dependent variable	Independent variables	Coefficient	P-value
EG	FDI+	0.4788*	0.0822
	FDI-	0.3878*	0.0700
	TR	1.4255*	0.0570
	C	-2.2001	0.1810

*, **, *** represent null rejection at 10, 5, and 1 percent level.

Table 3: Economic Growth Rate-FDI dynamic multipliers

Detected long-run relationship	Asymmetry	Pattern
FDI↑, EG↑ FDI↓, EG↓	Symmetric	

Table 4: Bound Test results of ARDL model.

Significance	I(0) Bound	I(1) Bound	F-statistic	Cointegration
10%	2.845	3.623	5.7005**	Yes
5%	3.478	4.335		
1%	4.948	6.028		

*, **, *** represent null rejection at 10, 5, and 1 percent level.

Table 5: ARDL long-run equation.

Dependent variable	Independent variables	Coefficient	P-value
EG	FDI	0.5647*	0.0929
	TR	1.0982**	0.0136
	C	-2.0857*	0.0880

*, **, *** represent null rejection at 10, 5, and 1 percent level.

Figures

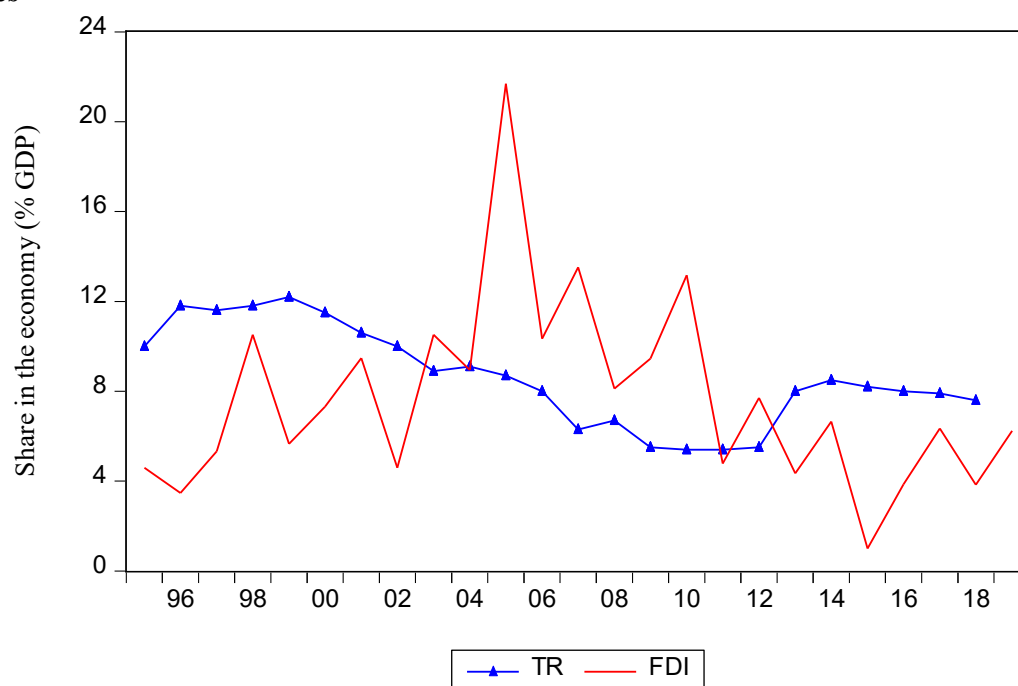


Figure 1. The share of FDI inflows and international tourism receipts in the economy of Estonia (% of GDP)

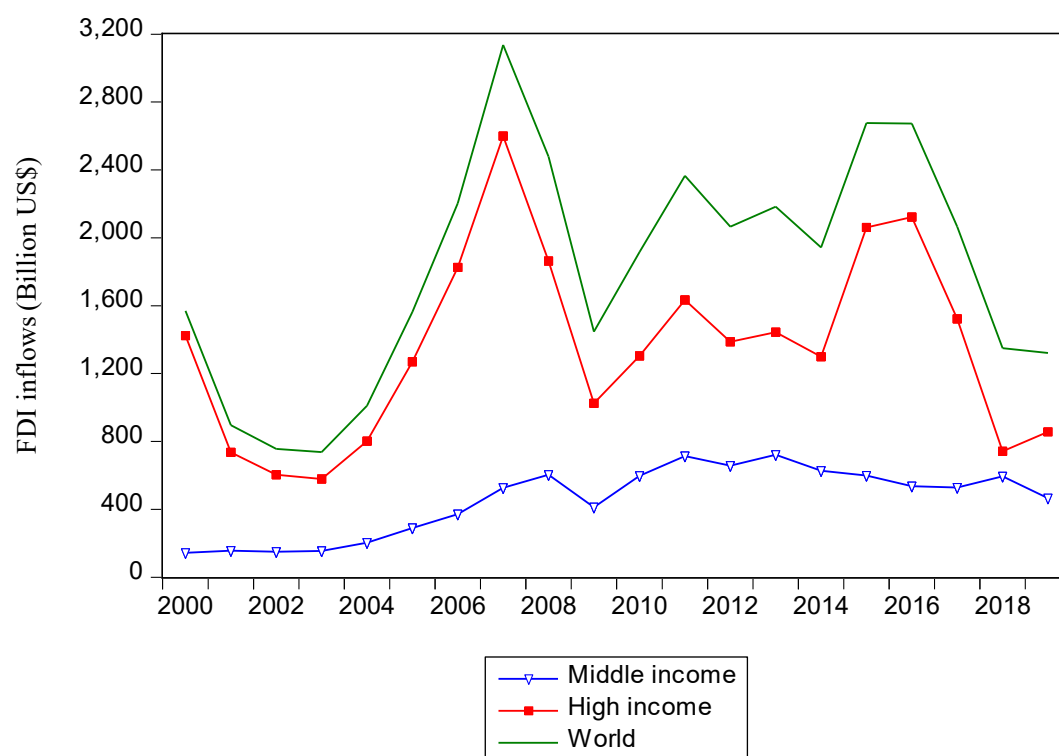


Figure 2. FDI inflows between 2000 and 2019 (Billion US\$)

Source: World Development Indicators

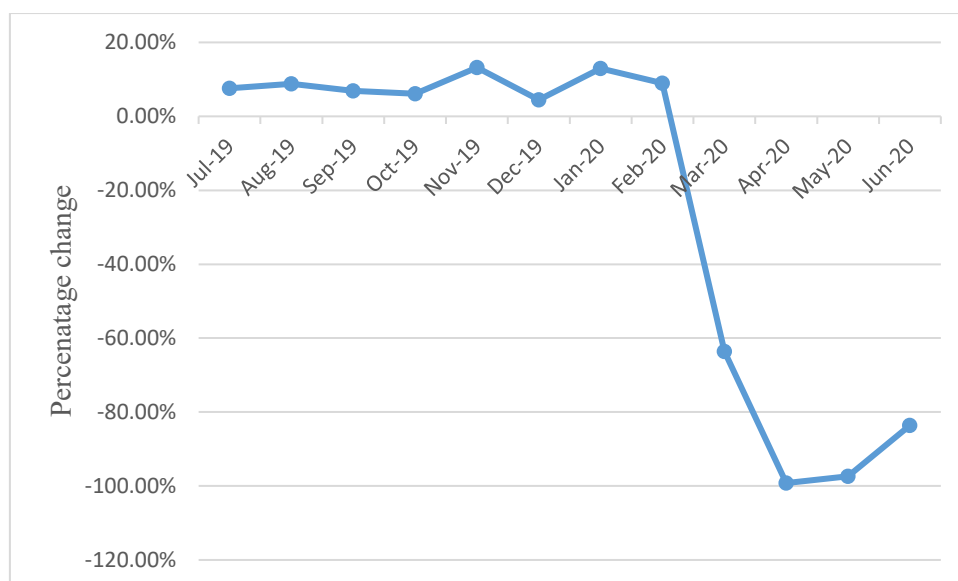


Figure 3. Accommodated foreign visitors in Estonia (year-over-year percent change)
Source: Statistics Estonia

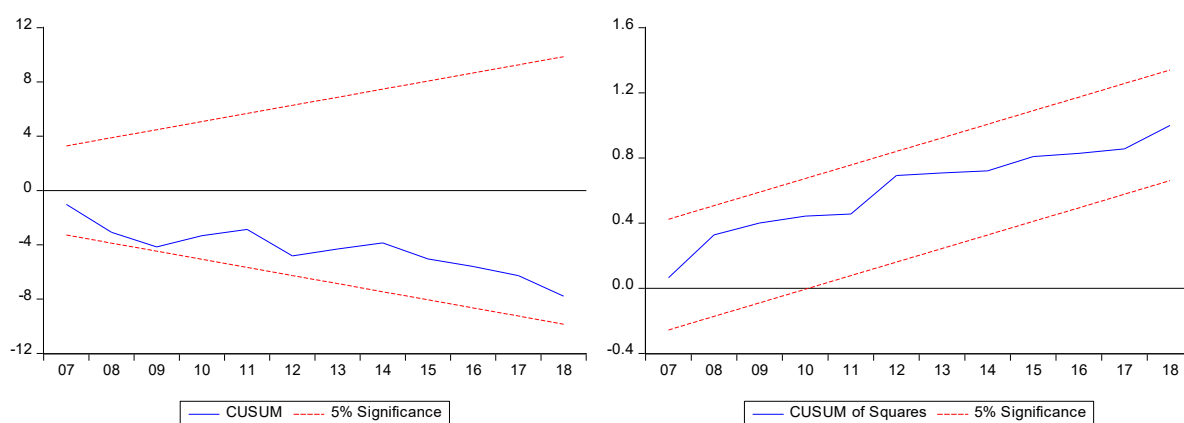


Figure 4: CUSUM and CUSUM of squares charts for non-linear ARDL model