REGULATORY IMPACT ASSESSMENT ON ESTONIAN CIT MODEL IMPLEMENTATION IN GEORGIA

USAID GOVERNING FOR GROWTH (G4G) IN GEORGIA

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FINAL REPORT

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ACRONYMS

AYEG	Association of Young Economists of Georgia
CBA	Cost-Benefit Analysis
Estonian CIT	Estonian Corporate Income Tax
EU	European Union
GCI	Global Competitiveness Index
GEL	Georgian Lari
G4G	Governing for Growth in Georgia
IFRS	International Financial Reporting Standards
MoF	Ministry of Finance
OECD	Organization for Economic Cooperation and Development
RS	Revenue Service
RIA	Regulatory Impact Assessment
S&P	Standard and Poor's
USAID	United States Agency for International Development
USD	United States Dollar
VAT	Value Added Tax

CONTENTS

1. EXECUTIVE SUMMARY

Taxes can impact upon countries' material living standards by affecting the determinants of Gross Domestic Product (GDP) growth. On one hand, taxes can distort prices and returns on market activities; they can alter households' labor supply decisions and business incentives to invest and to hire employees. All of these factors, ultimately, can lead to an inefficient allocation of factor inputs and lower productivity. On the other hand, a sufficient government budget plays a significant role in a nation's development process, especially in less developed countries. Any tax policy change should balance the trade-offs of tax distortions and government budget benefits.

The persisting increase in international capital mobility has led to heated debate over how favorably tax codes should treat capital. The promotion of investment and economic growth through generous tax allowances at the corporate level has become an important policy objective for many countries. The strategic interdependence of Corporate Income Tax decisions, or, in other words, international tax competition, has resulted in decreased statutory tax rates and increased tax bases in most Organization for Economic Co-Operation and Development (OECD) countries in recent decades. The same tendency has been observed in developing countries as well, especially in Central and Eastern European countries.

Estonia is a good example representing the tendency of decreased corporate tax rates. In 2000, Estonia modified its tax system and abolished the Corporate Income Tax on retained earnings. In addition to the traditional economic argument that the nullification of retained earnings tax will promote investment, proponents of the change argued that taxes on firms' profits are taxes on shareholders' income, a form of personal income, so one might well decrease Corporate Income Tax on retained earnings to zero and instead tax profits when they turn up as dividend income of individual taxpayers. A similar phenomenon to the Estonian experience occurred in Chile, where the government reduced its tax rate on retained earnings from 50 percent to 10 percent. Hsieh and Parker (2000)[1] argue that when firms face credit constraints, taxation of retained profits is more distortionary than taxation of dividends or household capital gains. Taxation of retained earnings reduces the potentially highly productive investment ability of constrained firms, since it reduces internal funds and therefore reduces investment capacity by the amount of taxation. Furthermore, the demand for investment at the company level is very volatile and pro-cyclical in general and the Estonian system allows businessmen to adjust to changing environments with more flexibility.

The idea of not taxing retained earnings is not new to economic science. Highly respected economist Irving Fisher also opposed conventional income taxation and favored a tax on consumption to replace it. His position followed directly from his capital theory. When people save from their current income and then use the savings to invest in capital goods that yield income later, noted Fisher, they are being taxed on the income they use to buy the capital goods and then are being taxed later on the income the capital generates. This, he said, is double taxation of savings, and it renders the tax code biased against saving and in favor of consumption.[2]

In this report we assessed the potential economic effects of abolishing the retained earnings tax on corporations in Georgia. For that reason, we constructed a neo-classical general equilibrium growth model. In the baseline scenario, we calibrate a model to make it comparable to the real situation in Georgia. The model generates outcomes that are in close agreement with reality. After implementing the baseline scenario, we impose regulatory intervention on the model and introduce the Estonian C model in the system. Analysis shows that the following one-time effects that will occur roughly in 1.5 years after enactment of the new system:

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[1] Hsieh, T., Parker A. J., *Taxes and Growth in a Financially Underdeveloped Country: Evidence from Chilean Investment Boom.* NBER Working Paper Series, 2006
[2] Fisher, Irving, *The Nature of Capital and Income.* New York, The Macmillan Company, 1906

- The reform has an investment favoring effect. The stock of capital will increase by 3.23% within 1.5 years. This means that the net investment is increasing. Economic agents will invest more than they previously invested.

- Real GDP will increase by 1.44% roughly within 1.5 years.

- Aggregate private consumption will increase by approximately 0.85% within 1.5 years.

- The reform will increase the government annual budget deficit by 3% at most. To show the magnitude of compensating actions, based on the model, we have calculated that 1 percentage point increase in Personal Income Tax or 1.25 percentage point increase in consumption tax would be enough to neutralize the loss of budget tax collections. For smooth transition to new equilibrium, government might consider not to increase government spending for next couple of years (2-3 years).

- Current account deficit as it is defined in the model will slightly decrease, implying some dividends that were leaving the country will stay in Georgia due to the investment favoring effect.

- The analysis of stability of the model and convergence speed to new equilibrium reveals that these results will be realized approximately within 1.5 years.

Graph 1: The Main Impacts of the Reform
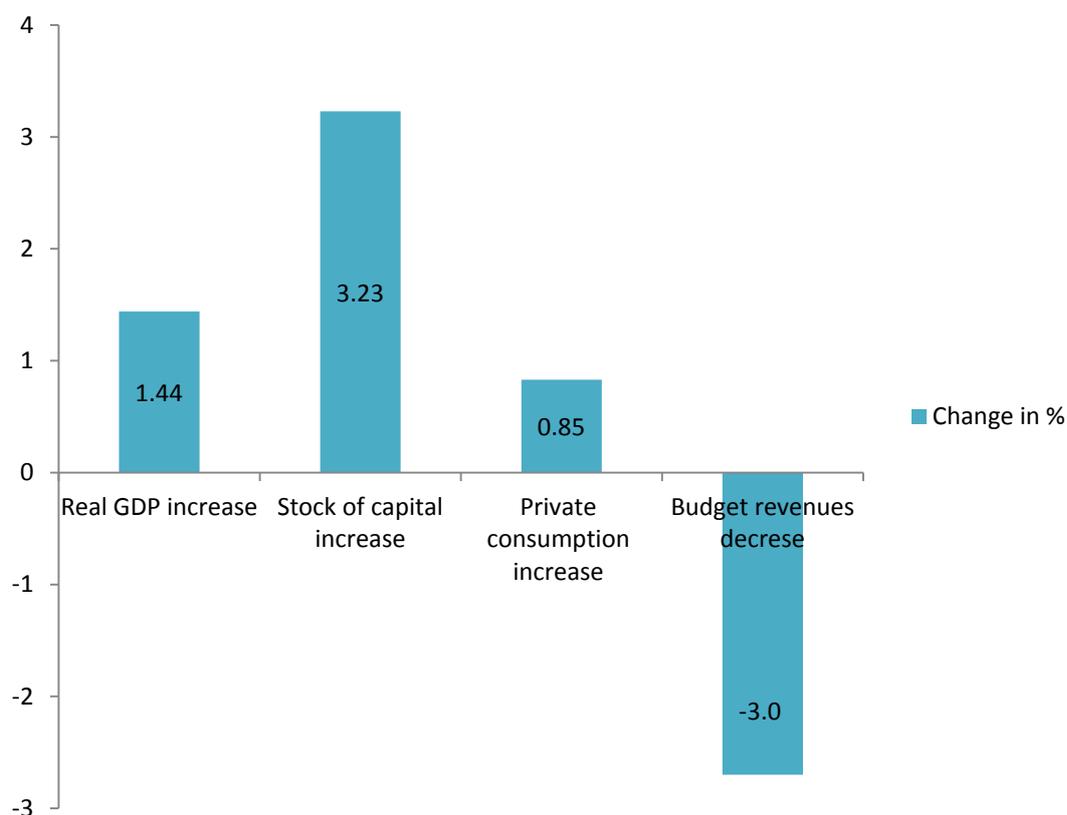
In general, appropriate growth policies are almost always context specific. This is not because economics works differently in different settings, but because the environments in which households, firms and investors operate differ in term of opportunities and constraints. In addition to predictions of the model, we have carried out a comparative study of the pre-reform Estonian business and institutional environment and that of Georgia. The analysis shows that:

- Firm level data, more precisely the distribution of firms in size and over industries, mimic Estonian firm distribution.

- Cash to total assets ratio does not differ in a significant way on average.

- The liabilities to total assets ratio is far lower in Georgia than it was in Estonia before the tax reform, but this difference reinforces possible positive effects of similar reform to that of Estonian tax reform in Georgia, as constraints to external finance are far more severe in Georgia than was the case in Estonia before the reform. Nullification of tax on retained earnings can contribute to the relaxation of this binding constraint to economic growth.

- The comparison of different global indices shows that there is a discrepancy between Georgia and Estonia in private property protection issues and in the level of democracy. These variables play an important role in country risk premium, which itself is one of the main determinants of high lending interest rates. However, the differences mentioned above will not decrease the potential effects of nullification of retained earnings tax, but quite opposite, the abolition of retained earnings tax will give positive incentives to investor expectations. Moreover, in many respects, the Georgian economy is more elastic and able to readjust, as business, labor and monetary freedom are far higher in Georgia today than they were in Estonia before the reform.

The results show that implementation of Corporate Income Tax reform in Georgia will have positive macroeconomic effects. Moreover, as seen in the last few years, the average economic growth rate has decreased and, therefore, this reform can be seen as a push for the economy not to stay in an economic growth trap. However, even though reform has a strong investment favoring effect, other developments in the economy, for example, the increase in ambiguity or institutional instability, might override the growth promoting incentives created by reform. Moreover, methodology of reform implementation and how changes in tax law will be formulated will definitely affect results of the reform. These factors are crucial and should not be discounted.

2. PROCEDURAL ISSUES AND CONSULTATION WITH INTERESTED PARTIES

2.1 ORGANIZATION AND TIMING

In September 2015, the Association of Young Economists of Georgia (AYEG) was awarded a grant from the USAID project "Governing for Growth (G4G) in Georgia" to conduct a Regulatory Impact Assessment on Estonian CIT implementation in Georgia. The project was implemented with participation of two Estonian experts: Risto Karna, Analyst of Estonian Ministry of Finance, and Ivo Vanasaun, Senior Tax Consultant from Deloitte Estonia. On August 17-21, 2015, the first visit of Estonian experts was conducted. During the visit, three preliminary meetings were conducted with Ministry of Finance (MoF), representatives of the private sector, independent experts and other Government of Georgia (GoG) representatives aimed at validating project objectives and identifying data sources.

An impact assessment was officially launched on September 4, 2015. At the initial stage of the project the AYEG team held several kick-off meetings with the MoF and G4G. The meetings aimed at formally recognizing the start of the project, communicating a view of the key stakeholders and clarifying the next steps. In particular, the AYEG team together with G4G and MoF representatives has reviewed:

- Project scope and objectives;
- Project timeline and responsibilities;
- Deliverables and milestones;
- Project challenges and risk mitigation plan;
- Project action plan and activities;
- Information needs for analysis.

After a series of introductory meetings with the MoF, the AYEG team developed the first deliverable – the *Methodology and Work Plan* and submitted to G4G on September 18, 2015. The report provided RIA methodology for the whole assessment process including:

- Consultation and data collection techniques;
- Methods of qualitative and quantitative analysis;
- Detailed outline of the RIA report with a brief description of each key component including templates of tables and all necessary annexes.

Later, on September 30, 2015, methodology was discussed and confirmed with Nikoloz Gagua, Head of Macroeconomic Analysis and Forecasting Department at the MoF.

The second deliverable – *Midterm Report* – was submitted on October 30, 2015. The report represented a draft analysis of the potential impact of the proposed regulation and was provided with the following outline:

- Procedural issues and consultations with interested parties;
- Problem definition;
- Objectives;
- Policy Options;
- Draft analysis of quantitative and qualitative impact.

The Midterm Report was discussed with Nikoloz Gagua and Pridon Aslanikashvili from MoF, G4G representatives and Risto Kaarna, an Estonian expert. Their comments and suggestion were incorporated into the final report.

On November 29, 2015, a draft version of the *Final RIA Report* was submitted to G4G for review and comments. The report provided finalized results of the impact assessment.

On December 24, 2015, the AYEG team delivered the *presentation of the RIA findings* to MoF leadership.

2.2 CONSULTATION AND EXPERTISE

2.2.1 EXTERNAL EXPERTISE

External expertise to the AYEG team was commissioned by G4G and provided by Estonian experts, Ivo Vanasaun and Risto Kaarna, who were personally involved in Corporate Income Tax reform in Estonia and post evaluation of the Corporate Income Tax effects on Estonian economic development and investment structure. Ivo Vanasaun, a Senior Tax Consultant at Deloitte Estonia, had worked at the Ministry of Finance of Estonia from 1999 to 2006 and was an active participant in the introduction of new Corporate Income Tax regulations. Risto Kaarna currently works at the Ministry of Finance and is one of the authors of the study *"The Effects of Estonian Retained Profit Tax Exemption on Investment and Economic Development."* Overall, two visits of Estonian experts were organized. During the first visit on August 17-21, 2015, consultations were conducted with the AYEG team, MoF officials and tax professionals in Georgia aimed at introducing:

- Estonian CIT model in general;

- Sequences of Corporate Income Tax reform;

- Corporate Income Tax administration process;

- Advantages and disadvantages of the Estonian CIT model;

- International aspects of Estonian CIT regulation;

- Methodology and results of post-evaluation study.

The second visit of Estonian expert Risto Kaarna was conducted on October 14-16, 2015. Together with AYEG, Mr. Kaarna discussed the methodology prepared by AYEG, the empirical model used in the post-evaluation analysis in Estonia and the results of the study. G4G representatives were actively involved in the discussions. Mr. Kaarna has reviewed and commented upon each deliverable submitted by AYEG, and provided inputs to the Final RIA Report. Mr. Kaarna has developed a summary of the drawbacks of the Estonian system (Appendix D – The Drawbacks of Estonian System - Scientific Arguments), while Mr. Vanasaun has focused more on legal aspects of the Estonian CIT system (Appendix E – Findings and Recommendations).

2.2.2 CONSULTATION WITH INTERESTED PARTIES

A consultation with stakeholders was an ongoing process through implementation of the RIA. The AYEG team began consultations and data gathering at the earliest stage of the analysis with the objective of obtaining information on different stakeholder groups potentially affected by the regulation and collecting data for qualitative and quantitative analysis.

For consultation and analysis purposes, stakeholders were identified and categorized according to influence and interest criteria in the following table:

Table 1: Influence-Interest Matrix

INFLUENCE / INTEREST	LOW INFLUENCE	HIGH INFLUENCE
Low Interest		
High Interest	SMEs Large Businesses Business Associations	MOF Revenue Service (RS)

In order to fully understand and perform the work and achieve greater support for RIA AYEG consultants held meetings with the following stakeholders:

- Representative of MoF;
- Representatives of RS;
- Representatives of business associations/business consulting companies.

AYEG held a focus group on October 16, 2015, involving eight stakeholders mainly from business associations and business consulting companies (see the focus group attendees' list in Appendix A). Participants provided information in two ways: Written responses and group discussion.

The discussion was designed to gather information from stakeholders with regard to the following outcomes:

- To understand the advantages and disadvantages of the Georgian Corporate Income Tax model;
- To understand the advantages and disadvantages of the Estonian CIT model;
- To identify international aspects of the Georgian and Estonian CIT models;
- To measure potential impact on investment;
- To measure potential impact on liability and equity structure;
- To measure potential impact on tax administration and compliance.

In addition to the discussion, AYEG consultants prepared a questionnaire (Appendix B) that was distributed to focus group participants to obtain their detailed opinion on the above mentioned issues. Responses were incorporated in the analysis.

A summary of responses and key findings are provided in Appendix A.

3. PROBLEM DEFINITION

3.1 POLICY CONTEXT

Corporate Income Tax in Georgia is one of the six taxes imposed by Georgian tax legislation. According to 2014 data, Corporate Income Tax makes up 11.5% of all tax revenues and 2.8% of GDP.

According to the Georgian legislation, a person is considered as a resident if he/she manages or is registered in Georgia. Residents are taxed on income emanating from both Georgian and foreign source.

A non-resident is usually defined by OECD standards and is taxed only on income from a Georgian source.

Corporate Income Taxation system in Georgia is a classical system, according to which eligible costs are subtracted from revenues and a 15% tax rate is imposed on this difference.

In addition, the tax legislation also defines the different types of revenue sources with the obligation to withhold. One important area in this regard is taxation of dividends. Dividend withholding tax rate is 5%. In this case, the neutrality towards Income Tax (tax rate 20%) is established, so that there is no motivation or demotivation to run the business as a legal entity or as a natural person.

Georgia also taxes interest, royalties and certain types of income which, according to Article 104 of the Tax Code, is considered as being received from a Georgian source.

Georgia has no special tax for capital gains. Instead, this is included in gross income and taxed at the ordinary Corporate Income Tax rate.

Specific aspects of Corporate Income Tax include:

1. Corporate Income Tax gives a person the right to fully deduct the value of acquired fixed assets (immovable or movable property) in the year of purchase.

2. Three types of Corporate Income Taxation schemes are defined for small businesses:

   - Micro business – natural person who is providing services (mainly) and has less than 30 000 GEL turnover is not subject to Corporate Income Tax;

   - Fixed tax – the government establishes a list of services and goods for taxpayers. The tax is paid on a monthly basis in amount defined by the Government. The taxpayer can be a legal or a natural person;

   - Small business – tax is either 5% or 3% of the turnover. Both natural and legal persons, whose turnover is less than 100 000 GEL pay at these rates.

3. Agriculture and healthcare sectors have the right to deduct reinvested income from gross income.

3.2 PROBLEM DEFINITION

The Georgian economy currently is experiencing challenges requiring adequate measures from the GoG to address. Access to credit for entrepreneurs is still restricted because of a higher interest rate compared to international rates. There is no significant positive tendency in regard to Foreign Direct Investment (FDI) inflows and domestic savings are also insufficient for boosting increase of stock for capital in businesses. As a result, the GDP growth rate has decreased in 2013 and 2014 compared to the tendency in the previous years. Economic slowdown is translated to a persistent high rate of unemployment and negative trade balance. The coincidence of the country's economic problems with unfavorable international factors resulted as well in depreciation of Georgian Lari (GEL) compared to the US Dollar (USD).

Tax incentives are one of the significant stimulators for economic growth. As one of the tax incentive measures, the GoG considers abolishment of the retained earnings tax on companies, the reform that brought quite successful economic results in Estonia in 2000. In order to make an informed decision, the GoG requested G4G's assistance to conduct an unbiased assessment of the potential costs and benefits of the reform. In present, the report assesses the potential economic effects of abolishing the retained tax compared to the current tax regime.

4. OBJECTIVES

4.1 GENERAL OBJECTIVES

General objective of the reform initiative is to improve economic growth prospects of the country through the nullification of the retained earnings tax on the companies.

4.2 SPECIFIC OBJECTIVES

Specific objectives are summarized in the table below:

Table 3: Summary of Specific Objectives

OBJECTIVE	INDICATOR
Promote investment	% increase in investment volume
Create jobs	% increase in employment % increase in capital stock % increase in output
Promote entrepreneurship	Number of newly created companies
Increase sustainability of companies in the economic downturn	% increase in ration of cash and equivalents to total assets
Improve GDP growth	% increase in GDP Growth rate

5. POLICY OPTIONS

5.1 POLICY OPTION 1 – NO POLICY CHANGE (BASELINE SCENARIO)

- In the baseline scenario, we construct a neo-classical general equilibrium growth model appropriate for the Georgian economy.

- Two cases will be considered – closed and open economy models. The closed economy model is an instrumental device to pin down some parameters of the model that will be used later in an open economy model.

- Steady state values or, in other words, equilibrium values, would be derived for the model and compared to real Georgian data to check the validity of the model.

- The baseline scenario will enable us to assess the macro effects of the introduction of the Estonian CIT model.

5.2 POLICY OPTION 2 – REGULATORY INTERVENTION (DESCRIPTION OF PROPOSED REGULATION – ESTONIAN CIT MODEL IMPLEMENTATION IN GEORGIA)

- After construction of the baseline scenario, we impose regulatory intervention on the model economy to ascertain the possible developments in the dynamics of the system. We will study the effects of the Estonian CIT model implementation in Georgia by comparing new steady state values to those received in the baseline model. This comparison will highlight possible macro effects after economic agents re-adjust their optimal behaviors.

- Closed and open economy cases will be discussed as well.

- Moreover, we will study the stability of the new steady state, reached after regulatory intervention, and calculate the approximate convergence period.

6. ANALYSIS OF IMPACTS

6.1 METHODOLOGY

In order to implement proper assessment of potential effects of nullification of retained earnings taxes, we employ several methodologies. The first one is formal modeling. We construct the relevant neo-classical, dynamic general equilibrium model. Next, we solve the model for steady state values and parametrize it as realistically as possible to match the model with the current economic situation in Georgia. At the end, we study the effects of abolishment of the retained earnings tax.

The general equilibrium model that we construct does not incorporate context-specific factors apart from parameter values. In order to analyze context-specific factors and understand the probability of success of the Estonian tax system in Georgia, we carry out a comparative study of the Estonian pre-reform situation and the current Georgian situation. The main context-specific factors that we concentrate on are firm-level data and institutional factors. This kind of analysis is crucial as it unveils the main differences in pre-reform Estonia and the current Georgian environment more broadly.

We also assess the administrative burden, substantive compliance costs and administrative and enforcement costs. The research methods employed here are mainly qualitative: Direct interviews with representatives of government organizations; indirect, written interviews with the representatives of professional and business societies. The "Doing Business" reports of World Bank allow us to reach some quantitative conclusions as well.

The analysis starts with a literature review of empirical studies that contemplate quantifying the economic results of the Estonian tax system.

6.2 LITERATURE REVIEW

There have been several economic and political analyses devoted to Corporate Income Tax rates, their effectiveness and their impact on macroeconomic variables. In 2000, Estonia introduced a unique corporate tax system, according to which Corporate Income Tax was imposed only on distributed profits while tax on retained earnings, which was previously 26%, was abolished altogether. Hence, the tax burden levied on firms was postponed, and effectively reduced in the short run.

Masso, Merikull and Vahter (2013) analyzed the consequences of Estonian tax system reform. They used a firm-level panel dataset from 1996 to 2008 to study the effect of corporate tax reform on capital structure, investments, liquidity and productivity of manufacturing companies and business services companies. As there was no control group within the country, the authors used Latvian and Lithuanian firms as the control group, because of the economic and political similarities these countries and Estonia have. However, the results of the study indicated that, after the corporate tax reform, the consequences were as follows: The liquidity of assets increased, especially for small-sized firms; the investment rate of return increased by 17% points; Total Factor Productivity increased by 8%, and; the share of undistributed profits and reserves in total capital increased by 8.1%.

Funke (2002) studied the effect of Estonian corporate tax system reform in 2000 on investment behavior in the country. The author used Tobin's q theory of investment and, after the estimation of the model, he found a 6.07% increase in equipment capital stock in the long-run. In 2006, Funke extended his research with Strulik by using a dynamic general equilibrium growth model to explore the long-run growth effects of the 2000 Estonian tax reform. After the construction and callibration of the model, its authors found that the capital stock increased by 9.24%, because of a more investor friendly environment after 2000 compared to previous years in Estonia. The authors also found out that nullifying Corporate Income Tax on retained earnings decreased consumption in the short- and medium-run, while in the long-run it increased. Furthermore, the growth rate of the economy also increased after 2000 but there was no effect observed with regards to welfare.

Masso and Merikull (2011) analyzed the macroeconomic effects of zero Corporate Income Tax on retained earnings by using a traditional neoclassical general equilibrium model with implicit modelling of the financial structure of firms. In contrast to the previous study conducted by Funke and Strulik (2006), Masso and Merikull (2011) recorded a larger effect of nullified tax on retained earnings on capital accumulation. The results were as follows: Steady state capital stock increased by approximately 10%; steady state output increased by 4%,and; consumption improved by 3-4%. Hence, the authors suggested that softening corporate tax rates is beneficial for developing countries.

Furthermore, Raudonen (2010) suggested that the current Estonian tax system not only changes investment behavior within the country, but also encourages the inflow of foreign capital invested in Estonian companies. She used the financial panel data of Estonian companies from the Estonian Commercial Register's database spanning 1999 to 2006 and ran different regression models. The results show that the hypothesis posed at the beginning was accurate: "1% decrease in effective tax rate increases the foreign equity capital by 3,000 Estonian kroons per company in the next year" (Raudonen 2010).

Another study was conducted by Hazak (2009), who analyzed different companies' capital structures and dividend decisions following the 2000 Corporate Income Tax reform. Hazak (2009) used data from the Estonian Commercial Registry's database from 1995 to 2004, to capture the changes in companies' decision making before and after the tax reform. The results of panel data regression analyses show that, after the tax reform, the share of retained earnings in companies increased by 4.7%, but the author warns that this increase "does not necessarily lead to additional strategic investments, but to the repayment of liabilities and accumulation of liquid assets instead," (Hazak 2009) hence, the share of liabilities in companies' total capital and external financing has decreased. In addition, the share of cash in total assets has increased.

In her paper, Vartia (2008) analyzes how tax policies can affect investment and productivity, by analyzing the industry-level data from the OECD Productivity Database for all OECD countries. The regression analysis suggests that Corporate Income Tax has a negative effect on investments, also both Personal and Corporate Income Taxes have negative effects on productivity, especially in industries were corporate profitability is higher.

Another study was conducted in Chile by Hsieh and Parker (2006) designed to explore the effects of tax system reform in Chile in 1984, which was caused by the 1982-1986 banking crisis in Chile. The tax reform in Chile was somewhat similar to the tax reform in Estonia. Though the tax rate on retained profits was not abolished in Chile, it was decreased significantly from 50% to 10%. Hsieh and Parker (2006) used data from the Chilean Manufacturing Census, which covers all manufacturing plants in Chile with more than ten employees. Similar to the Estonian case, softening Corporate Income Tax rates resulted in an increase of investments. Furthermore, controlling for a number of factors, investment rates rose most significantly in industries that were most reliant on external finance (Hsieh and Parker 2006).

To conclude, all the studies discussed above suggest that nullifying the Corporate Income Tax on retained earnings has a positive effect on most of the macroeconomic variables and that the distributed Corporate Income Taxation system affects companies' liquidity and sustainability positively (Hazak 2009).

6.3   THE MODEL

In this part we present the model in a detailed form and provide the solution of the model. A discrete time general equilibrium model along the lines of Funke and Strulik (2006) is constructed, but the model is presented in discrete time as in Masso and Merikull (2011). The steady state solutions for the model will allow us to understand possible macroeconomic effects nullification of Corporate Income Tax on retained earnings.

6.3.1   THE BASELINE MODEL – CLOSED ECONOMY

The model economy consists of a representative firm and a representative household. The third agent in the model is a government, which by assumption, maintains a balanced budget in every period; allocates

a fixed part of its tax income to government consumption and distributes reminder to the household as a direct transfer.

The representative firm in the model is expressed by constant returns to scale Cobb-Douglas production function, which has the following form:

$$Y_t = K_t^\alpha (A_t L_t)^{1-\alpha} \qquad (1)$$

where Y_t denotes output, K_t capital and L_t Labor and α is the output elasticity of capital. For the sake of simplification the labor input is normalized to 1 and we assume that labor augmenting technology parameter A_t grows at a constant and exogenous rate - γ.

The price of output unit equal to one as well, which provides a simplified economic profit function for the firm:

$$\pi_t = K_t^\alpha A_t^{1-\alpha} - w_t - \delta K_t \qquad (2)$$

where w_t is exogenously determined wage that the firm faces and δ denotes the capital depreciation rate per period.

Net investments are defined as:

$$I_t = K_{t+1} - K_t \qquad (3)$$ In the model economic depreciation and depreciation for tax purposes are distinguished. For tax purposes a part of investment, z, can be deducted immediately and the remaining part is tax deductible over time at economic depreciation.

The firm's gross dividends equal economic profit minus investment and corporate taxes on retained earnings:

$$D_t = \pi_t - I_t - T_t = \pi_t - \tau(\pi_t - I_t - D_t) \qquad (4)$$

where D_t is gross dividends and τ is the tax rate on retained earnings.[3] After simple manipulation equation (4) results in the following expression for the gross dividends:

$$D_t = \pi_t - \frac{(1-\tau z)}{(1-\tau)} I_t \qquad (5)$$

Inserting profit function (2) and investments (3) into the gross dividends' function (5) we get:

$$D_t = K_t^\alpha A_t^{1-\alpha} - w_t - \left(\delta - \frac{(1-\tau z)}{(1-\tau)}\right) K_t - \frac{(1-\tau z)}{(1-\tau)} K_{t+1} \qquad (6)$$

The firm's problem is to maximize the after tax present value of the firm V_t at t=0 period over the time horizon $t = 0,1,\dots,\infty$. Based on the equation (6) the present value of the firm can be given by the following expression:

$$V_0 = \sum_{t=0}^{\infty} \left(\prod_{s=0}^{t} \frac{1}{1 + r_s(1-m)}\right) \cdot \theta \cdot \left(K_t^\alpha A_t^{1-\alpha} - w_t - \left(\delta - \frac{(1-\tau z)}{(1-\tau)}\right) K_t - \frac{(1-\tau z)}{(1-\tau)} K_{t+1}\right)$$

$$(7)$$

where m denotes Personal Income Tax paid on dividends. θD_t, following Funke and Strulik (2006) is defined as the part of dividends that investor returns as net income after paying taxes, $\theta = (1-m))/ ((1-\tau)$.[4] r_t is an interest rate, which is determined in every period exogenously by the general equilibrium allocation of resources.

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[3] Tax base of retained earnings is: $\pi_t - z I_t - D_t$
[4] θ is the opportunity cost of retained earnings in terms of net dividends forgone.

The only control variable in the firm's problem is capital, so the firm should decide on the amount of the capital that maximizes the present value of its dividends. First order condition for the maximization problem is as follows:

$$\frac{\partial V_0}{\partial K_{t+1}} = \left(\prod_{s=0}^{t+1} \frac{1}{(1+r_s(1-m))}\right) \cdot \theta \cdot \left(\alpha K_{t+1}^{\alpha-1} A_{t+1}^{1-\alpha} - \left(\delta - \frac{1-\tau z}{1-\tau}\right)\right) + \left(\prod_{s=0}^{t} \frac{1}{(1+r_s(1-m))}\right) \cdot \theta \cdot \left(-\frac{1-\tau z}{1-\tau}\right) = 0$$

From where we get that:

$$\alpha\left(\frac{K_{t+1}}{A_{t+1}}\right)^{\alpha-1} - \delta = r_{t+1}(1-m)\frac{1-\tau z}{1-\tau} \qquad (8)$$

The latter equation expresses that the marginal product of capital minus the rate of economic depreciation equals the user cost of capital.

The household in the model maximizes the present value of its intertemporal utility, which has the following functional form:

$$U_0 = \sum_{t=0}^{\infty} \frac{1}{(1+\rho)^t} \cdot \frac{1}{(1-\sigma)} \cdot C_t^{1-\sigma} \qquad (9)$$

where C_t is consumption, ρ denotes the constant time preference rate and $1/\sigma$ is the constant intertemporal elasticity of substitution. Household faces budget constraint, he/she cannot spend more than wage income w_t plus transfers from the government Z_t plus financial wealth from investments to firm V_t plus net position of bonds B_t. Net bonds may be positive or negative, indicating savings or debt respectively. The budget constraint of household is defined as follows:

$$B_{t+1} - B_t = (1-m)w_t + (1-m)r_t B_t + \theta D_t + Z_t - (1+\tau_c)C_t \qquad (10)$$

The household decision problem pins down to maximizing his/her intertemporal utility function subject to the budget constraint, so he/she has to choose the amount of net bonds that results in the optimal dynamics of consumption.

$$\frac{\partial U_0}{\partial B_{t+1}} = \frac{C_{t+1}^{-\sigma}}{(1+\rho)^{t+1}} \cdot \frac{1+(1-m)r_{t+1}}{1+\tau_c} + \frac{C_t^{-\sigma}}{(1+\rho)^t}\left(-\frac{1}{1+\tau_c}\right) = 0 \qquad (11)$$

First order condition of the household maximization problem results in the following Euler equation:

$$\frac{C_{t+1}}{C_t} = \left(\frac{1+(1-m)r_{t+1}}{1+\rho}\right)^{\frac{1}{\sigma}} \qquad (12)$$

If we use equation (8) then equation (12) is transformed to a new equation:

$$\frac{C_{t+1}}{C_t} = \left(\frac{1+\varphi\alpha(K_{t+1}/A_{t+1}) - \varphi\delta}{1+\rho}\right)^{\frac{1}{\sigma}} \qquad (13)$$

where $\varphi = (1-\tau)/(1-\tau z)$.

The last agent whose choice problem we have to present is a government. The government finances its expenditures solely using taxes, and does not issue bonds or have any initial debt. Government expenditures and income are derived as follows, where expenditures are on the left-hand side and income on the right-hand side:

$$G_t = m\left(w_t + r_t B_t + \frac{D_t}{(1-\tau)}\right) + \tau_c C_t + \tau(\pi_t - z I_t - D_t) \qquad (14)$$

In the model, government allocates a constant share of output to public consumption and, after public consumption, the residual income is allocated to direct transfer to Household. The equation of government expenditures is defined as follows:

$$G_t = gY_t + Z_t \qquad (15)$$

The model is closed by the equality that joins firm and household:

$$I_t = K_{t+1} - K_t = Y_t - C_t - \delta K_t - gY_t = (1-g)K_t^\alpha A_t^{1-\alpha} - C_t - \delta K_t$$

The above equation results in the following equality:

$$K_{t+1} = (1-g)K_t^\alpha A_t^{1-\alpha} - C_t + (1-\delta)K_t \qquad (16)$$

Transitory dynamics and model steady state equilibrium are derived by defining the transformed variables: capital per effective labor unit $k_t = K_t/A_t$ and consumption per capital unit $c_t = C_t/K_t$.

If we use these transformations then from equation (16) we get the following expression:

$$\frac{k_{t+1} - k_t}{k_t} = \frac{1}{1+\gamma}\big((1-g)k_t^{\alpha-1} - c_t - (\delta + \gamma)\big) \qquad (17)$$

The consumption dynamics is found by applying the following transformations:

$$\frac{C_{t+1}}{C_t} = \frac{c_{t+1}}{c_t} \cdot \frac{K_{t+1}}{K_t} = \frac{c_{t+1}}{c_t} \cdot \frac{k_{t+1}}{k_t} \cdot \frac{A_{t+1}}{A_t} = \frac{c_{t+1}}{c_t} \cdot \frac{k_{t+1}}{k_t} \cdot (1+\gamma)$$

Now, from equation (13), we get:

$$\frac{c_{t+1} - c_t}{c_t} = \frac{1}{1+\gamma}\left(\frac{1 + \varphi\alpha k_{t+1}^{\alpha-1} - \varphi\delta}{1+\rho}\right)^{\frac{1}{\sigma}} \frac{k_t}{k_{t+1}} - 1 \qquad (18)$$

Steady states of the model are found by substituting the following conditions: $k_{t+1} = k_t = k^*$ and $c_{t+1} = c_t = c^*$, in equations (17) and (18).

$$c^* = (1-g)k^{*\,\alpha-1} - \delta - \gamma \ \text{ and } k^* = \left(\frac{\varphi\alpha}{(1+\gamma)^\sigma(1+\rho) - 1 + \varphi\delta}\right)^{\frac{1}{1-\alpha}} \qquad (19)$$

The parameter φ is a crucial parameter. After the nullification of retained earnings tax, this parameter increases. If we take derivative of steady state capital per effective labor with respect to φ we get that the derivative is positive, implying that increase in this parameter results in the increase of steady state level of capital per effective labor and, therefore, in the decrease of steady state level of consumption per unit of capital.

After we know steady state values for transformed variables, we can find the values of all variables of interest in the model.

6.3.2 THE MODEL – OPEN ECONOMY

The closed economy model assumes that investment or consumption is always financed internally. Hence, good investment prospects lead to less consumption and decrease welfare in the short run. Now we consider open economy version of the discussed model and derive solution for this case.

Removal of the closed economy assumption does not change much of the implications of the baseline model derived in the previous section. In the case of a small open economy, the interest rate is exogenously determined in the world market. Assuming constant world interest rate, r_f, that is equal to the closed economy steady state equilibrium, we get the following condition, based on Euler equation:

$$(1-m)r_f = (1+\gamma)^\sigma(1+\rho) - 1$$

Then steady a steady state level of efficient capital is the same in open economy and it equals:

$$k^* = \left(\frac{\varphi\alpha}{(1-m)r_f + \varphi\delta}\right)^{\frac{1}{1-\alpha}} \qquad (20)$$

In open economy version of the model we assume that a fixed fraction of firm, β, is owned by foreigners, then condition for capital accumulation will have the following form:

$$K_{t+1} = (1-g)K_t^\alpha A_t^{1-\alpha} - C_t + (1-\delta)K_t - \beta D_t \qquad (21)$$

After solving for steady state value for consumption per capital unit, we get:

$$c^* = (1 - g - \alpha\beta)k^{*\,\alpha-1} - \delta(1-\beta) - \gamma\left(\frac{\varphi - \beta}{\varphi}\right) \qquad (22)$$

The open economy case adds one variable to the model, the current account. The current account is derived as a difference between GDP and GNP. In our model GNP is defined as $GNP = Y_t - \beta D_t$. Taking into consideration that GDP is captured bb₆b₆b₆ß=y Y_t, the current account is derived as follows:

$$CA_t = GNP_t - Y_t = Y_t - \beta D_t - Y_t = -\beta D_t \qquad (23)$$

Using equation (6) and constant returns scale assumption of the production function, according to which the constant share of GDP goes to labor income, we get:

$$\frac{CA_t}{A_t} = -\beta\left(\alpha k_t^\alpha - \left(\delta - \frac{1-\tau z}{1-\tau}\right)k_t - \frac{1-\tau z}{1-\tau}(1+\gamma)k_{t+1}\right) \qquad (24)$$

At the end, we can derive the expression for steady state value of Current Account:

$$CA^* = -\beta\left(\alpha k^{*\,\alpha} - \left(\delta + \frac{\gamma}{\varphi}\right)k^*\right) \qquad (25)$$

6.4 PARAMETRIZATION OF THE MODEL

The models are calibrated using as much actual Georgian data as possible from the current situation, but it should be noted that the calibration of the model encounters many difficulties as the National Statistics office of Georgia does not publish data on capital stock and the GDP growth pattern of its components.

The table below presents the parameter values for the benchmark estimation. The traditional capital share in these types of models is assumed to be around 1/3, but the actual capital share in Georgia is higher. For the case of Estonia, in different papers, a share of 0.4 was taken. Labor share in Georgia is higher than in many Central and Eastern European countries, so we proceed from a capital share of 0.45, which seems a reasonable forecast for the long-term. The economic rate of depreciation has been chosen to match the model steady state shares of consumption and investment to reality. As we calibrate the closed economy model, we try to match the consumption and investment shares in domestic demand. The approximate average shares of consumption, investment and government consumption in aggregate demand for the period of 2008-2014 are 61.7%, 21% and 17.3% respectively. The share of government consumption is exogenously determined for the model at the long-run value of 0.17; hence, we seek to fit resource allocation between consumption and investment. Given a time preference rate of 2%, an intertemporal substitution rate of 3 and rate of technological progress 2.9%, we find that the economic depreciation rate resulting in steady state should be 4.6%. Time preference rate and intertemporal substitution rate are standard values that are used in such models. As for the rate of technological progress, Babych and Fuenfzig[5] estimate that total factor productivity growth for Georgia in the period of 2004-2009 was 5.18%. The Budget Office of the Georgian Parliament (Lasha Kavtaradze) provided estimates for total factor productivity as well. According to their estimates for the period of 2003-2014, average productivity growth was 3.7% and for the period of 2011-2014 it was 2.9%. We understand this last estimate to show the latest state of the economy.

The proportion of investment that is deducted right away, parameter Z, can be calculated by finding the present value of the tax depreciation allowance and the present value of the economic depreciation of the investment. Under the steady state interest rate, the rate of economic depreciation chosen to match some economic characteristics and the assumption that according to Georgian tax law 100% of fixed investment can be deducted for tax reasons, we find that the value of Z is 0.86.

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[5] Babych, Y., and Fuenfzig, M. *An application of growth diagnostics framework: A Georgian case.* ISET Policy Institute, 2012.

The proportion of domestic firms owned by foreigners is assumed to be 3.5%. This figure was provided by the National Statistics Office of Georgia, but we do not know the share of foreign capital in total capital, so we have to make a reasonable assumption. We assume that the share of foreign capital in total capital is 10%. In sensitivity analysis, we check different values for the variable. Table 4 presents the parametrization used to derive the steady state values of variables, based on which the possible macroeconomic effects of tax reform are studied.

Table 4: Model Parametrization

Variable	Notation	Pre-reform	Post-reform
Tax rate on retained earnings	τ	0.15	0
Personal Income Tax rate	m	0.20	0.20
Tax discrimination parameter	θ	0.94	0.80
Value Added Tax	τ_c	0.18	0.18
Share of government consumption in output	g	0.17	0.17
Part of investment written off immediately	z	0.86	0.86
Capital share	α	0.45	0.45
Fraction of domestic capital owned by foreigners	β	0.1	0.1
Rate of economic depreciation	δ	0.046	0.046
Rate of intertemporal substitution	σ	3	3
Rate of technological progress	γ	0.029	0.029
Time preference rate	ρ	0.02	0.02
Interest rate	$r(1-m)$	0.11	0.11

After the parametrization, we calibrate the model and study the effects of policy change in the tax law. As Table 4 shows, the post-reform situation corresponds to nullification of retained earnings tax, which results in changes to some parameters of the model. The results are given in the next section.

6.5 CALIBRATION OF THE MODEL AND EFFECTS OF THE REFORM

Inserting the values of parameters given in the table gives us steady state values of economic variables, which characterizes the actual economy quite well. The share of the consumption in the model economy is 61.9%, which corresponds to the actual, average share for the Georgian economy - 61.7%. Meanwhile, the share of investment is 21%, which corresponds to actual 21%. The capital output ratio in the model is 2.82, but we do not have estimates for this variable for actual data, nevertheless it fits with a reasonable range for the ratio. As for the share of Government's total spending to GDP, the average actual percentage for this variable in Georgia for the period of 2011-2014 was 29.25%, while the model generates 28%, which is quite close to real data. We cannot directly compare the current account deficit of our model to actual data. In the open economy model, we do not take into account foreign trade and the current account in the model is totally driven by the dividend payouts to foreign owned companies. The model generates a low current account to GDP ratio of about -2.4%. To make this data comparable to reality, we have to consider net dividend outflow for Georgia. Based on the balance of payments of Georgia, provided by the National Bank of Georgia, average net dividend outflow to GDP ratio for 2012-2014 was 3%. This is reasonably close to the prediction of the model. This result approves our assumption about the share of foreign capital in total capital of Georgia.

The detailed results of the calibration of the models are given in Table 5.

As the reform lowered the tax discrimination variable θ, and favored retained earnings taxation in comparison to dividend taxation, the tax reform has an investment favoring effect. The steady state of capital stock according to the model would increase by 3.23%. The output will increase in the steady state

by 1.44%. This growth effect took place at the cost of allocating resources from consumption to investment. The share of the consumption in the economy would decrease approximately by 0.37 percent, while the investment share to output will increase by the same percent in a closed economy case. In the open economy case, the share of consumption in the economy decreases by 0.36 percent, and the share of investment to output will increase by 0.37 percent. The extra increase in investment share comes from the decrease in current account deficit. The favoring effect of retained earnings taxation would decrease the current account deficit, but the change will not be pivotal as the share of firms owned by foreigners is small in the Georgian economy. Even though the share of consumption to total output decreases, the amount of household consumption increases by 0.83% in the closed economy scenario and by 0.84% in the open economy scenario after the tax reform.

The current account is driven by the share of foreign capital in the economy and by dividends. The share of foreign capital is exogenously given for the model, which means that the model cannot account for the potential increase in new FDI due to tax reform. In our model, the current account deficit decreases slightly as dividends decrease in favor of retentions.

Total government tax income has decreased as a result of reform. In the closed economy model, the decrease in total tax collections amounts to 2.71%, while in the open economy case the decrease is about 2.52%. It should be noted that some losses in tax income due to reform are compensated by the taxation of increased consumption and increased tax rate for distributed profits.

Table 5: The Effects of Tax Reform under Different Models

	Capital per effective labor	Consumption per capita	Consumption	Output	Capital output ratio	Consumption output ratio	Gross investment output ratio	Current account output ratio	Government expenditure (tax income)	Consumption compensation
Neoclassical Model, Closed Economy										
Pre-reform Value	6.5840	0.2199	1.4477	2.3352	2.8195	0.6199	0.2101		0.6529	
Post-reform Value	6.7966	0.2148	1.4598	2.3688	2.8692	0.6162	0.2138		0.6353	
Change	3.23%	-2.32%	0.83%	1.44%	0.0497	-0.0037	0.0037		-2.71%	0.83%
Neoclassical Model, Open Economy										
Pre-reform Value	6.5840	0.2114	1.3921	2.3352	2.8195	0.5962	0.2101	-0.0238	0.6298	
Post-reform Value	6.7966	0.2065	1.4038	2.3688	2.8692	0.5926	0.2138	-0.0236	0.6140	
Change	3.23%	-2.32%	0.84%	1.44%	0.0497	-0.0035	0.0037	0.0002	-2.52%	0.84%

Note: We assume A=1 in described steady state. Change is expressed in percentages when % is noted and in percentage points otherwise.

The similar model was applied to Estonian case in the paper of Masso and Merikull (2011). Next we compare their results with our results.

Table 6: Comparison of Model Predictions of Reform in Estonian and Georgian Cases

	Closed Economy	
	Estonia	Georgia
Stock of Capital	+10.2%	+3.23%
Total Consumption	+1.2%	+0.83%
Total Output	+4.0%	+1.44%
Government Tax Collection	-4.0%	-2.71%
	Open Economy	
	Estonia	Georgia
Stock of Capital	+10.2%	+3.23%
Total Consumption	+1.4%	+0.84%
Total Output	+4.0%	+1.44%
Government Tax Collection	-3.0%	-2.52%

As we see from the table above, the effects of reform on macroeconomic variables are moderate in the case of Georgia. The differences in the predicted effects can be mainly explained by the fact that the investment favoring effect in the case of Georgia is considerably lower than it was in Estonia. In Estonia, the 26% retained earnings tax was abolished, while in Georgia, after the reform, only 15% retained earnings tax will be abolished. If we impose a 15% retained earning tax on the pre-reform Estonian situation, the model predicts that after the reform total output would have increased only by 2%, total consumption would have increased by 0.5% and capital stock by 5.1%. The other differences in estimated results are down to the characteristics of the economies considered.

The last variable that we calculate is consumption compensation. It measures the necessary increase in consumption in steady state 1 (pre-reform steady state) so that we attain the same utility level as in steady state 2 (post-reform steady state). This variable is a measure of welfare improvement. In both scenarios considered (closed and open economy), the welfare of households is increasing. In the case of the closed economy, the consumption compensation is 0.83%, while in the open economy scenario it is 0.84%.

The next topics to be analyzed are the stability of the dynamic system and convergence speed to new steady state. Dynamics of the model are represented by equations (17) and (18) in the closed economy model and corresponding equations in an open economy case. The mentioned equations are non-linear, so we need to consider the first order Taylor approximation of the system around the steady state. The Jacobian matrix of linear approximation of the dynamical system around the equilibrium point has two real eigenvalues. One of them is less than one, implying that the model displays the saddle path dynamic. In other words, the model's steady state is saddle points with stable manifold of dimension one. As for convergence speed, it is driven by the magnitude of eigenvalue, which is less than 1. For given parameters chosen in the model, the approximate half-life for convergence to new steady state is 0.73, which means that in approximately 1.5 years the model economy converges to new steady state.[6]

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[6] For detailed discussion of the methodology used see: Acemoglu, D. *Introduction to Modern Economic Growth.* Princeton University Press, 2009, Chapters 2 and 8.

6.6   SENSITIVITY ANALYSIS

The sensitivity analysis of the most important parameters is presented in Table 4. We start with the different parametrization of the production side. Assuming lower capital share of 0.4, the total effect of reform is decreased. Stock of Capital will increase by 2.95% compared to a 3.23% increase in the benchmark case. Total consumption will increase at a lower rate as well, by 0.65% compared to 0.83% in the benchmark scenario. The same tendency is observed in the case of total output. If we assume the share of capital to be 0.5, higher than in our benchmark case, then the effect of reform is stronger. Capital stock, consumption and total output, all increase more than in the benchmark case. We also test the sensitivity of total factor productivity growth. We assume the total factor productivity grow at the 2003-2014 average growth rate of 3.7%. High productivity growth enables growth with lower resource costs, benefiting producers as well as consumers compared to the benchmark case.

We also analyze the sensitivity of β, which measures the share of capital owned by foreigners. We take two values for this variable: 5% and 15%. The change of parameter affects only the current account, but not in a significant way.

Next we consider some demand side parameters. First, we allow the rate of intertemporal substitution to be 2, which implies that the household is more impatient. Making consumption more substitutable over time decreases consumption in both scenarios. The last parameter we examine is time preference rate. We consider the value of 3%. This change to the model generates higher increase in consumption and higher decrease in government tax collections compared to the benchmark scenario. To summarize the sensitivity analysis of the parameters, one can say that the model is not sensitive to changes in the parameters, so the results of the model can be considered to be stable. The detailed effects of parameter changes are presented in the following Table 7:

Table 7: Sensitivity of the Corporate Income Tax Reform Effect on Model Parameterization

		Capital share in production function		Share of capital owned by foreigners		Productivity growth	Rate of intertemporal substitution	Time preference rate
	Benchmark	0.4	0.5	0.05	0.15	0.037	2	0.03
Stock of Capital	3.229%	2.956%	3.557%	3.229%	3.229%	3.450%	3.229%	3.229%
Total Consumption	0.834%	0.654%	1.061%	0.834%	0.834%	0.875%	0.613%	0.886%
Total Output	1.440%	1.172%	1.763%	1.440%	1.440%	1.490%	1.440%	1.440%
Government Tax Collection	-2.706%	-2.405%	-2.991%	-2.706%	-2.706%	-2.768%	-2.696%	-2.715%
Stock of Capital	3.229%	2.956%	3.557%	3.229%	3.229%	3.450%	3.229%	3.229%
Total Consumption	0.839%	0.661%	1.062%	0.836%	0.841%	0.879%	0.619%	0.890%
Total Output	1.440%	1.172%	1.763%	1.440%	1.440%	1.490%	1.440%	1.440%
Government Tax Collection	-2.518%	-2.226%	-2.799%	-2.614%	-2.419%	-2.582%	-2.531%	-2.523%

Note: Assuming A=1 in described steady state

6.7 EFFECT OF THE REFORM ON GOVERNMENT TAX REVENUES AND POSSIBLE WAYS TO NEUTRALIZE THE NEGATIVE FISCAL EFFECT

The calibration of the model and calculation of steady state values for the economy before and after tax reform show that Government tax revenue decreases by 2.71% in closed economy case and by 2.52% in open economy case.

In order to compensate the negative fiscal effect, one possibility according to the calibrated model is to increase the Personal Income Tax by 1 percentage point. In both cases, the negative fiscal effects in new steady states, reached after the reform, are completed compensated.

The second opportunity to compensate the negative fiscal effect is to increase value added tax, or in general, consumption tax by about 1.25 percentage point. In this case as well the negative fiscal effect is totally compensated in new steady state.

It can be said that this kind of changes will not harm much economic growth prospects of examined policy change.

In addition, it should be mentioned that in the case of Estonia, the budget revenues will be recovered within three year period. The tax income gap created by the tax system change was covered in part by the increase in state duties and excises' rates.

Considering the fact that the convergence in the model is quick and further adding the assumption that after reaching the new equilibrium, the economy keeps growing according to long-run stable path, without changing taxes, the tax revenues recover itself within 4 year period.

A word of caution should be added as well. In the case government implements the changes in the Tax Code, it would be safe to find the ways not to increase budget spending over next couple of years.

6.8 IMPACT ON MINORITY SHAREHOLDERS

Minority shareholders are individuals or legal entities who own less than half of company's equity and do not have voting control over the firm. Protection of minority shareholders is crucial in emerging countries to strengthen the private sector and create attractive business environment for investors that is a major pillar for economic growth of the country. The main attributes of protecting minority shareholders include stimulation of company performance, reduction of risks, increase the market value of the shares, which contributes to enhancing country's overall economic growth.

Stronger protection of minorities increases their motivation to invest. Minority shareholders are more likely to withdraw dividends on a regular basis, since they are usually small entrepreneurs seeking to expand their businesses or individuals willing to access to external financing. However, Estonian CIT model encourages companies to retain profit and reinvest. This may result in changing behavior and motivation of the minority shareholders. The main question arising in this regard is whether small shareholders have disadvantage when they are not able to withdraw dividends.

In Estonia, there are no special provisions in the law that allows minority shareholders to request dividend payments. As a regular practice in commercial legislation, dividends are paid equally when it is decided by a majority vote to do so. This was recently reinforced by a ruling by the Estonian Supreme Court. According to Supreme Court's ruling minority shareholder can claim compensation for damage from a majority shareholder for unreceived dividend, but first it should be ascertained that there was a malicious purpose of not distributing the profit as well as the purpose of diverting the profit into the possession of a majority shareholder in some other manner. If the profit is retained by the public limited company for investment purposes or as a reserve, it cannot be deemed as malicious diversion of the profit.

One possible scheme of diverting profits to majority shareholders is to use management fees or some other similar soft means. The other is lending company money to the majority shareholders. Both of these schemes have occasionally been a problem in Estonia. There have been a few court cases as well, where small shareholders sued large shareholders on this issue.

Estonian experts mentioned that there are some problems with dividend distribution to minority shareholder in Estonia. There have also been recommendations to add some provisions into the law that would give some extra rights to minority shareholders (e.g. entitle the minority shareholders to request the payment of a minimum dividend)[7], but none of this discussion in Estonia is related to the tax system. From a legal perspective, the tax system in this issue is not important. The experts believe that the abovementioned cheat schemes might as well be used with every tax regime. So it is a question of how large is the economic incentives to cheat minority shareholders and where is the behavioral line drawn. This is an empirical question and a hard one at that. There is no academic literature measuring this in Estonia. According to Risto Kaarna, majority shareholders who are willing to cheat minority shareholders, would do so regardless of the tax system, because the incentive to do so is relatively large in both cases, with or without the tax, compared to the incentive of just the tax difference. And this issue is for the tax administration and the courts to investigate and resolve, not the Tax Code.

The problem of small shareholders persists in today's tax system in Georgia as well. There might be a theoretical way that a tax reform would exacerbate problem if the incentives are stronger by the tax regime, but the effect probably would be small.

AYEG has consulted with Georgian business associations to estimate the possible impact of the reform on minority shareholders and their investment decisions.

On the focus group meeting the opinions varied on this issue, summary of the responses is provided below:

- Under the current system, limited liability and joint-stock companies may determine the distribution of annual and interim profits in the form of dividends by the resolution of the Meeting of Partners. Therefore, it is not supposed that dividends are distributed regularly in every company. It can be concluded that the reform will not change the behavior of all minority shareholders;

- Distribution of dividends may be reduced at the initial stage. However, investors, including minority shareholders, will benefit as a result of increase in capitalization and market value of the company;

- Under the proposed regulation, minority shareholders will not be able to withdraw dividends on a regular basis that will probably distort their incentives to invest;

- The Estonian CIT model increases incentives for re-investment, however, it is not expected that all companies will retain earning and will not distribute dividends;

- Overall, the reform will foster economic growth and regulation should proceed as it is expected to improve society's economic and social welfare.

6.9   COMPLIANCE COST ASSESSMENT

Corporate Income Tax in Georgia is partly based on the International Financial Reporting Standards (IFRS). However, the Georgian law has some significant differences from the IFRS including for deduction of expenses (depreciation, travel costs, allowances) and revenues (free delivery). Naturally, the person responsible for a company's accounting, as well as the auditor, should be comprehensively aware of financial accounting system and Corporate Income Tax calculation. Depending on the size and complexity of the taxpayer's transactions, the process can be very complicated.

The relevance of funds for Corporate Income Tax declaration mainly depends on the declaration forms and requested information by the tax authorities. According to the World Bank's 2015 "Doing Business" data, in Estonia taxpayers need 20 hours each year to complete their Corporate Income Tax declarations. In Ireland, the average is 12 hours, in Norway, 15 hours, while in Lithuania, 28 hours. In Georgia, the average time spent on Corporate Income Tax declaration is 191 hours.

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[7] Vutt, Andres, *Dividend Payments and Protection of Minority Shareholders*. Judica International, XVI, 2009. http://www.juridicainternational.eu/public/pdf/ji_2009_1_135.pdf

It is difficult to define the resources that will be needed for the new Corporate Income Tax declaration, as this depends on several factors including the condition of the relevant country's Income Tax system. For example, Georgia and Netherlands have similar Corporate Income Tax systems, but it takes Georgian taxpayers far longer to complete their declarations. Elsewhere, in Estonia and Lithuania, despite having different types of tax systems, a similar amount of time is required for declaration.

7. BUSINESS CHARACTERISTICS AND INSTITUTIONAL SETUP - COMPARISON

So far most of the empirical work intended to assess the macro and micro effects of Estonian CIT, in order to find strong, statistically and economically significant, positive effects on macro variables and firm level characteristics. Our next goal is to demonstrate whether there are possibilities in the Georgian economy for Estonian success of nullification of tax on retained earnings to be realized. For this reason, we study detailed distribution of firms in pre-reform Estonia and Georgia currently, construct crucial firm level variables and compare them to one another. Moreover, based on well-known global rankings, we try to contrast the current level of institutional development of Georgia to that of Estonia before the change of Corporate Income Tax system. This comparison should show us whether there are obstacles in business environment or in institutional set-up that might hinder the implementation of Estonian CIT model in Georgia.

In general, appropriate growth policies are almost always context specific. This is not because economics works differently in different settings, but because the environments in which households, firms, investors operate differ in terms of the opportunities and constraints they face. As Dani Rodrik puts in his book *One Economics Many Recipes*: "This reform will not work here because our entrepreneurs do not respond price incentives" is not a valid argument. This reform would not work here because credit constraints prevent our entrepreneurs from taking advantage of profit opportunities," or "because entrepreneurs are highly taxed at the margin" is a valid argument assuming those borrowing constraints and high taxes can be documented."[8]

One important result of the empirical work dedicated to the study of the effects of changes in tax legislation in Estonia is the conclusion that firms with different size and in various sectors reacted non-identically to the changes. Therefore, the first natural characteristic of the Estonian and Georgian economy to be compared is the distribution of firms by size and over industries.

As the reform was implemented in 2000 in Estonia, we take the data[9] from that year and compare it to the latest Georgian data. The next two tables show the distributions of firms by size and over industries in Estonia and Georgia. Under the size we mean the number of employees in the company.

Table 8: Distribution of Firms Based on the Number of Employees in Estonia, 2000

Economic sector/Size	Overall	1-9	10-19	20-49	50-99	100-249	250+
Overall	100%	76.61%	11.84%	7.44%	2.45%	1.13%	0.54%
Agriculture, hunting and forestry	4.09%	2.73%	0.60%	0.51%	0.16%	0.07%	0.02%
Fishing	0.39%	0.30%	0.04%	0.03%	0.00%	0.01%	0.00%
Mining and quarrying	0.21%	0.07%	0.04%	0.05%	0.01%	0.02%	0.02%
Manufacturing industry	13.53%	7.67%	2.17%	2.07%	0.88%	0.48%	0.26%
Electricity-, gas- and water supply	0.93%	0.44%	0.24%	0.16%	0.03%	0.02%	0.03%
Construction	6.99%	4.56%	1.22%	0.83%	0.29%	0.08%	0.02%
Wholesale and retail	38.42%	32.18%	3.93%	1.69%	0.41%	0.14%	0.06%
Hotels and restaurants	4.06%	2.92%	0.69%	0.34%	0.10%	0.02%	0.00%

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[8] Rordik, Dani, *One Economics Many Recipes: globalization, institutions and economic growth.* Princeton University Press. 2007, pp. 4-5.

[9] The data for firm distribution by size and over industries for Estonia was kindly provided by Risto Kaarna, Estonian analyst from MoF of Estonia. The Georgian data was provided by National Statistics Office of Georgia, based on which calculations were carried out.

Transportation, inventory and communications	6.95%	5.25%	0.78%	0.52%	0.21%	0.12%	0.07%
Real estate, renting and business services	18.50%	16.00%	1.38%	0.81%	0.21%	0.08%	0.03%
Education	1.20%	0.97%	0.12%	0.08%	0.01%	0.01%	0.00%
Health and social services	1.51%	1.07%	0.21%	0.13%	0.06%	0.03%	0.01%
Other general-, social- and personal services	3.21%	2.44%	0.43%	0.22%	0.07%	0.05%	0.00%

From the table we see that about 77% of firms were of small size and the highest concentration of firms was observed in the wholesale and retail sector of the economy, about 39% of firms operated in that sector. The second largest sector was real estate, renting and business services followed by the manufacturing industry. Table 9 presents the data for the Georgian Economy:

Table 9: The Distribution of Firms Based on the Number of Employees in Georgia, 2014

Economic Sector	Overall	1-9	10-19	20-49	50-99	100-249	250+
Overall	100%	62.69%	14.29%	12.64%	5.46%	3.29%	1.67%
Agriculture, hunting and forestry	1.48%	0.83%	0.32%	0.14%	0.10%	0.05%	0.04%
Fishing	0.19%	0.16%	0.01%	0.01%	0.01%	0.00%	0.00%
Mining and quarrying	1.28%	0.71%	0.28%	0.22%	0.03%	0.02%	0.01%
Manufacturing industry	15.24%	8.93%	2.14%	2.26%	1.15%	0.48%	0.29%
Electricity-, gas- and water supply	0.61%	0.17%	0.12%	0.10%	0.09%	0.07%	0.07%
Construction	9.10%	3.83%	1.61%	1.99%	1.01%	0.46%	0.20%
Wholesale and retail	45.40%	34.04%	5.54%	3.82%	1.08%	0.64%	0.28%
Hotels and restaurants	3.43%	1.79%	0.49%	0.63%	0.28%	0.18%	0.07%
Transportation, inventory and communications	6.01%	3.23%	1.27%	0.94%	0.22%	0.22%	0.13%
Real estate, renting and business services	9.29%	5.77%	1.42%	1.29%	0.46%	0.25%	0.10%
Education	2.23%	1.01%	0.33%	0.39%	0.29%	0.17%	0.04%
Health and social services	2.93%	0.83%	0.34%	0.48%	0.36%	0.60%	0.33%
Other general-, social- and personal services	2.80%	1.41%	0.41%	0.37%	0.35%	0.16%	0.10%

In the Georgian situation, the highest share of firms comes on small firms as well (about 63%) and the 45 % of forms operate in wholesale and retail sector of the economy, as in Estonia in 2000. The second largest sector in terms of concentration of firms is the manufacturing industry; a real estate, renting and business service is the third one. To see the difference between Georgian and Estonian data in more explicit way, we construct table of difference in distribution of firms.

Table 10: The Difference in the Distribution of Firms between Estonia (2000) and Georgia (2014)

Economic Sector	Overall	1-9	10-19	20-49	50-99	100-249	250+
Overall	0%	13.92%	-2.45%	-5.20%	-3.01%	-2.16%	-1.13%
Agriculture, hunting and forestry	2.61%	1.91%	0.28%	0.37%	0.06%	0.02%	-0.02%
Fishing	0.19%	0.14%	0.02%	0.02%	0.00%	0.01%	0.00%
Mining and quarrying	-1.07%	-0.63%	-0.24%	-0.17%	-0.02%	-0.01%	0.00%
Manufacturing industry	-1.70%	-1.26%	0.04%	-0.19%	-0.27%	0.00%	-0.03%
Electricity-, gas- and water supply	0.32%	0.27%	0.12%	0.07%	-0.06%	-0.04%	-0.03%
Construction	-2.11%	0.73%	-0.39%	-1.17%	-0.72%	-0.38%	-0.18%
Wholesale and retail	-6.98%	-1.86%	-1.60%	-2.13%	-0.67%	-0.50%	-0.22%
Hotels and restaurants	0.63%	1.13%	0.19%	-0.28%	-0.18%	-0.16%	-0.06%
Transportation, inventory and communications	0.94%	2.02%	-0.49%	-0.42%	-0.01%	-0.11%	-0.05%
Real estate, renting and business services	9.21%	10.23%	-0.04%	-0.48%	-0.25%	-0.16%	-0.07%
Education	-1.04%	-0.04%	-0.21%	-0.31%	-0.28%	-0.16%	-0.04%
Health and social services	-1.42%	0.25%	-0.13%	-0.34%	-0.30%	-0.57%	-0.32%
Other general-, social- and personal services	0.41%	1.04%	0.02%	-0.15%	-0.28%	-0.11%	-0.10%

If we look at the more aggregate level, the sharp difference in distribution of firms is in the share of small firms (1-9 employees), which was much higher in Estonia in 2000 than it is currently in Georgia. Moreover, a higher share of firms operated in the real estate, renting and business service sector in Estonia than in Georgia nowadays. But if we go in the more disaggregate level and consider the size and the sector together, we see that much share of difference in size comes from the difference in the share of small firms in real estate, renting and business services. This difference might be attributed to the fact that the Georgian real estate sector is more developed nowadays than the real estate sector in Estonia in 2000 and, therefore, bigger firms operate in the industry in Georgia, or it might be that some business activity in this sector is not accounted for in the Georgian case. In all other respects, the distributions of firms in size and over industries do not differ in a significant way from one another.

To generalize the argument further, we take three year averages in distributions of firms in the size and over industries in both countries and compare them. For Estonia, we take a three year average for the period of 1998-2000 and for Georgia the average of distributions of firms in the size and over industries for the period of 2012-2014. The result is given in the table below.

Table 11: Difference in the Distributions of Firms in the Size and Over Industries, Three Year Averages

Economic Sector	Overall	1-9	10-19	20-49	50-99	100-249	250+
Overall	0%	15.16%	-2.30%	-5.67%	-3.31%	-2.61%	-1.28%
Agriculture, hunting and forestry	3.03%	1.99%	0.44%	0.46%	0.13%	0.03%	-0.03%
Fishing	0.33%	0.28%	0.02%	0.01%	0.00%	0.01%	0.00%
Mining and quarrying	-0.92%	-0.53%	-0.19%	-0.17%	-0.03%	-0.01%	0.01%
Manufacturing industry	-2.41%	-1.27%	-0.18%	-0.49%	-0.33%	-0.09%	-0.04%
Electricity-, gas- and water supply	0.21%	0.24%	0.12%	0.04%	-0.07%	-0.07%	-0.05%
Construction	-1.73%	1.28%	-0.27%	-1.15%	-0.88%	-0.47%	-0.23%
Wholesale and retail	-4.20%	1.06%	-1.50%	-2.25%	-0.82%	-0.47%	-0.22%
Hotels and restaurants	0.27%	0.75%	0.12%	-0.17%	-0.19%	-0.17%	-0.06%
Transportation, inventory and communications	0.50%	1.71%	-0.50%	-0.46%	-0.06%	-0.12%	-0.07%
Real estate, renting and business services	7.24%	8.44%	-0.04%	-0.55%	-0.27%	-0.24%	-0.08%
Education	-0.90%	0.18%	-0.18%	-0.35%	-0.29%	-0.22%	-0.04%
Health and social services	-1.57%	0.18%	-0.11%	-0.37%	-0.27%	-0.62%	-0.37%
Other general-, social- and personal services	0.14%	0.86%	-0.02%	-0.22%	-0.22%	-0.14%	-0.11%

The comparison of three year averages in the distribution of firms in the size and over industries confirms the similarity between Estonian data before the tax system reform and Georgian current data of firm distribution in the size and over sectors. Also, the highest discrepancy is observed in the case of small firms (1-9 employees) in the real estate, renting and business service sector.

Next, we construct some basic firm level ratios for Estonian firms before tax system reform and for Georgian firms. First, cash to total asset and liabilities to total asset ratios will be constructed and compared in two countries. The following table shows the results:

Table 12: Cash/Total Assets and Liabilities/Total Assets Ratios in Georgia (2013-2014 average) and in Estonia (1999-2000 average)[10]

Sector	Cash/Total Assets		Liabilities/Total Assets	
	Georgia	Estonia	Georgia	Estonia
Overall	9.58%	7.36%	32.14%	53.89%
Agriculture, hunting and forestry	6.76%	4.94%	27.44%	55.51%
Fishing	5.52%	3.54%	47.54%	88.39%
Mining and quarrying	9.86%	3.43%	27.68%	34.26%
Manufacturing industry	7.76%	6.10%	32.22%	57.90%
Electricity-, gas- and water supply	8.35%	1.78%	34.48%	18.86%
Construction	14.77%	16.36%	32.37%	63.55%
Wholesale and retail	7.84%	8.96%	35.53%	71.50%
Hotels and restaurants	8.13%	8.04%	27.99%	61.38%
Transportation, inventory and communications	15.46%	9.11%	30.32%	50.91%
Real estate, renting and business services	12.76%	8.63%	26.13%	62.83%
Education	11.42%	37.13%	26.94%	65.64%
Health and social services	9.04%	13.58%	26.40%	47.08%
Other general-, social- and personal services	12.09%	13.91%	24.94%	67.10%

We see that on average cash/total assets ratio is a bit higher in Georgia than it was before tax reform in Estonia. Significant difference is observed in the mining and quarrying, electricity, gas and water supply and education sectors. In the rest of the sectors, discrepancy is not significant. An important difference is observed in the liabilities/total assets ratio. Average ratio over all sectors in Estonia in the period of 1999-2000 was approximately 54%, while in Georgia the same ratio over the period of 2013-2014 is 32%. Could this mean a lower ratio of liabilities to total assets? With existing data it is difficult to answer this question, but if we look at the same ratio in firms with different sizes for Georgia in 2014, a possible answer might be constructed.

Table 13: Liability/Total Assets Ratio

Liability/Total Assets Ratio	1-9	10-19	20-49	50-99	100-249	250+
Overall	14.11%	24.56%	27.39%	31.82%	32.81%	37.19%

The small firms have the lowest liabilities/total assets ratio, which might be driven by the fact that they face more restricted constraints to external financing. The argument is supported by the latest business surveys conducted by the World Bank in 2013. An enterprise survey is a firm-level survey of a representative sample of an economy's private sector. According to the survey, only 30.4% of small firms (5-19 employees) had a bank loan/line of credit, while 40.9% of medium size (20-99 employees) firms had bank loan/line and 71.7% of large (100+ employees) firms used bank loan/line service. Moreover, the amount of collateral needed for a loan in the case of small firms is 232% of the amount of a loan. The amount of collateral is high even in the cases of medium and large firms, but in this case the collateral is not as much severe constraint as in the situation of small firms. The rejection rate of recent loan applications is the highest among small firms (7.2%) compared to medium (1.5%) and large firms (0%). Apart from the constraints mentioned above, one more important constraint is the high lending interest rate in Georgia (even though the lending interest rate has decreased lately, it

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[10] Georgian data provided by National Statistics Office of Georgia does not allow to calculate averages over longer period

still stays at high level). The average lending interest rate in Estonia in the period of 1996-2000 was 12%, while during the year of tax system change it was 7.4%. In Georgia, the average lending interest rate in the period of 2010-2014 was 14.22%. Babych and Fuenfzig (2012), applying growth diagnostic framework to the Georgian economy, concluded that low private investment and low capital accumulation, as a results of high cost of external finance, can be considered as serious impediments to sustainable economic growth. Analyzing different possible determinants of high finance costs, which are of concern because they suppress capital accumulation and thus economic growth, authors identified main causes of high lending rates: Weak property rights, and, in particular, political and institutional instability. It is difficult to relax these impediments to growth in the short-term, therefore nullification of tax on retained earnings can be considered as an effective way in a short-run to relax mentioned binding constraint and, in this way, contribute to economic growth.

Afterwards, we compare the labor productivity in two economies. Average labor productivity growth in real terms was about 4% in Georgia in 2012-2014, while in Estonia before tax policy change, it was about 9% in 1998-2000. The detailed data is presented in the following table:

Table 14: Real Labor Productivity Growth in Georgia and Estonia

Labor Productivity Growth, % (Real)	Georgia				Estonia			
	2012	2013	2014	Average	1998	1999	2000	Average
Overall	0.12	0.08	-0.06	0.04	0.07	0.00	0.21	0.09
Agriculture, hunting and forestry	-0.09	0.12	-0.09	-0.02	0.30	0.03	0.49	0.26
Fishing	0.27	-0.04	2.92	0.68	-0.03	0.24	0.43	0.19
Mining and quarrying	-0.12	0.08	0.48	0.12	-0.21	0.10	0.18	0.01
Manufacturing industry	0.04	0.12	0.07	0.08	0.04	-0.05	0.15	0.05
Electricity-, gas- and water supply	-0.06	-0.09	0.27	0.03	-0.10	0.20	0.39	0.15
Construction	0.34	-0.16	0.46	0.18	0.25	-0.11	0.21	0.11
Wholesale and retail	0.23	-0.01	-0.13	0.02	0.04	-0.05	0.21	0.06
Hotels and restaurants	0.16	0.25	-0.06	0.11	0.00	0.04	0.14	0.06
Transportation, inventory and communications	-0.04	0.06	-0.03	0.00	0.12	0.17	0.26	0.18
Real estate, renting and business services	-0.24	0.32	0.14	0.05	0.01	0.02	0.01	0.01
Education	0.02	0.10	0.07	0.06	0.48	-0.10	0.10	0.14
Health and social services	0.12	0.56	-0.28	0.08	0.01	-0.03	0.08	0.02
Other general-, social- and personal services	0.19	-0.05	0.14	0.09	0.29	-0.07	0.23	0.14

It is true that lower labor productivity would suppress the possible positive effects to tax policy change in Georgia, but it cannot be a serious argument against policy implementation as under the current tax system there is no any mechanism that is contributing to the increase of labor productivity.

Firm level data, more precisely the distribution of firms in size and over industries mimic Estonian firm distribution. Cash to total assets ratio does not differ in a significant way on average. As for liabilities to total assets ratio, it is far lower in Georgia than it was in Estonia before the tax reform, but this difference reinforces possible positive effects of similar reform to that of Estonian tax reform in Georgia. Moreover, constraints to external finance are far more severe in Georgia than it was in the case of Estonia before the reform. Nullification of tax on retained earning can contribute to the relaxation of this binding constraint.

It is interesting to study how the institutional environment in Estonia before adopting the new Corporate Income Tax system compares with the current situation in Georgia. By institutions we mean rules, laws, regulations, policies and qualities of different important formal organizations that affect

economic incentives and thus the incentives to invest in technology, physical capital and human capital. It is a truism of economic analysis that individuals only take actions that are rewarded.[11] Institutions that shape these rewards must therefore be important in affecting all proximate causes of economic growth. Similarities in institutional set-up will be extra argument for the expectation that Estonian reform's results will be observed in Georgia as well. For analyzing similarities in the level of development in institutional quality, we use different indices that measure institutional quality of a country.

The first index we consider is the Index of Economic Freedom, based on this index the higher the score is the more free the country is considered. In Georgia, currently, it is 73.0 (in the scale from 0 to 100), while it was 69.9 in Estonia in 2000. Even though, the difference is not large in the overall indices of economic freedom, there are some discrepancies if we look at the components of this index.

Table 15: Overall Index of Economic Freedom in Georgia and Estonia

Overall Index of Economic Freedom	Estonia		Georgia	
	1997	69,1	2012	69,4
	1998	72,5	2013	72,2
	1999	73,8	2014	72,6
	2000	69,9	2015	73

Source: 2015 Index of Economic Freedom[12]

Open Markets

The Trade Freedom Index was 88.6 in Georgia in 2015, while it was 85 in Estonia by the end of 2000. In this case, the difference is not significant, but in case of investment freedom, which shows how efficiently and freely firms can allocate their financial resources, the difference is about 10 points (Georgia – 90 in 2015; Estonia – 80 in 2000). In case of financial freedom, which shows how independent is banking system from government, Estonia ranked 70th in 1998-2000 and Georgia - 60th during 2012-2015.

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[11] For detailed discussion of the role of institutions in the process of economic development see – Acemoglu, Daron, *Introduction to Modern Economic Growth*, Princeton University Press, 2009, Chapter 4.
[12] http://www.heritage.org/index/

Table 16: Open Markets in Georgia and Estonia

Open Markets	Estonia		Georgia	
Trade freedom	1997	72	2012	89.2
	1998	83	2013	89.2
	1999	85	2014	88.6
	2000	85	2015	88.6
Investment Freedom	1997	90	2012	70
	1998	90	2013	75
	1999	90	2014	80
	2000	90	2015	80
Financial Freedom	1997	70	2012	60
	1998	70	2013	60
	1999	70	2014	60
	2000	70	2015	60

Source: 2015 Index of Economic Freedom[13]

Regulatory efficiency

Business freedom is the measure of ability to start and operate the business; It was 85 during 1998-2000 in Estonia and varies from 87 to 88.6 during 2012-2015 in Georgia. Monetary Freedom is the measure of how stable prices are within the country without any intervention, in this case both Georgia and Estonia have high indices, but Georgia still performs better than Estonia. It was 74.9 in 2000 Estonia and 82.7 in 2015 in Georgia. Unfortunately, we do not have the data of labor freedom level in 1998-2000 in Estonia, which analyses the regulatory framework of labor market. Labor freedom index was 92.1 in 2012 in Georgia but it has decreased slightly since then and now it accounts for 79.9.

Table 17: Regulatory Efficiency in Georgia and Estonia

Regulatory Efficiency	Estonia		Georgia	
Business Freedom	1997	85	2012	86.9
	1998	85	2013	90.6
	1999	85	2014	87.8
	2000	85	2015	88.6
Labor Freedom	1997	…	2012	92.1
	1998	…	2013	91.1
	1999	…	2014	91.2
	2000	…	2015	79.9

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[13] http://www.heritage.org/index/

Monetary Freedom	1997	55,5	2012	74.4
	1998	63,1	2013	73.5
	1999	70,2	2014	78.4
	2000	74,9	2015	82.7

Source: 2015 Index of Economic Freedom[14]

Limited Government

Government size/spending, which measures the level of government expenditure as the percentage of GDP, was approximately 50 during 1998-1999 in Estonia and had a sharp decline by 25 points in 2000, while in Georgia the government spending currently accounts for 73.8. Fiscal Freedom index in Georgia is about 15 points higher compared to Estonia in 1998-2000.

Table 18: Limited Government in Georgia and Estonia

Limited Government	Estonia		Georgia	
Government Spending	1997	58,0	2012	55,8
	1998	53,2	2013	68,9
	1999	51,1	2014	69,7
	2000	60,1	2015	73,8
Fiscal Freedom	1997	71,4	2012	87,8
	1998	72,2	2013	88,2
	1999	72,8	2014	87,3
	2000	72,5	2015	87,2

Source: 2015 Index of Economic Freedom[15]

Rule of Law

Protection of property rights is rather weak in Georgia, which is indicated in the relevant indices. It accounted for 40 points during 2012-2015 in Georgia, while in Estonia the property Freedom Index is 70 points. Another measurement of the rule of law is freedom from corruption, which is also problematic in Georgia. In spite of many reforms adopted for eliminating corruption, Georgia still faces this problem. The index of freedom from corruption was 38 in 2012 and has increased to 49 in 2015 for Georgia, while it was 57 in 2000 in Estonia.

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[14] http://www.heritage.org/index/
[15] http://www.heritage.org/index/

Table 19: Rule of Law in Georgia and Estonia

Rule of Law	Estonia		Georgia	
Property Freedom	1997	70	2012	40
	1998	70	2013	45
	1999	70	2014	40
	2000	70	2015	40
Freedom from Corruption	1997	50	2012	38
	1998	70	2013	41
	1999	70	2014	42.8
	2000	57	2015	49

Source: 2015 Index of Economic Freedom[16]

Another useful index is corruption perception index calculated by Transparency International, which shows how corrupt country's public sector is and ranks the country by this index. According to this index Georgia ranked 50 in 2014, while Estonia ranked 27 in 2000 (based on this index the lower is rank less corrupted the country is). This index once again highlights the fact that currently Georgia is in a more degraded situation with respect to corruption rate, compared to Estonia in 1998-2000.

Table 20: Corruption Perception Index in Georgia and Estonia

Corruption Perception Index	Estonia		Georgia	
	1998	26	2012	51
	1999	27	2013	45
	2000	27	2014	50

Source: Transparency International[17]

Next we consider the Global Competitiveness Index, which is defined as the set of institutions, policies, and factors that determine the level of productivity of a country. It consists of 12 components: Institutions (determined by the legal and administrative framework within which individuals, firms, and governments interact to generate wealth); infrastructure; stability of the macroeconomic environment; health and primary education; higher education and training; goods market efficiency; labor market efficiency; financial market development; technological readiness; market size; business sophistication and innovation.

According to the Global Competitiveness Report 2014-2015[18], Estonia ranks 29 out of 144 countries by the Global Competitiveness Index and it appears to be the best performing country in Eastern Europe. The country has strong, transparent, and efficient institutions, a solid macroeconomic environment and high levels of education and training. Its labor market is also more efficient than in

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[16] http://www.heritage.org/index/
[17] http://www.transparency.org/research/cpi/overview
[18] The Global Competitiveness Report 2014-2015, Klaus Schwab, World Economic Forum
http://www3.weforum.org/docs/WEF_GlobalCompetitivenessReport_2014-15.pdf

most countries. Georgia's GCI is 4.22 (out of 7)[19], by which its rank is 69 out of 144 countries. Most problematic areas in Georgia are: innovation; business sophistication; market size; financial market development and technological readiness. More precisely, most problematic areas for making business are: Inadequately educated workforce; access to financing and inadequate supply of infrastructure.

Global Democracy Ranking ranks countries by their democracy level. The basic formula that this ranking uses is following:

Quality of Democracy = (freedom & other characteristics of the political system) & (performance of the non-political dimensions)

The non-political dimensions are: Gender, economy, knowledge, health, and the environment.

Dimensional structure and weights are Politics (50%); Gender (10%); Economy (10%); Knowledge (10%); Health (10%) and Environment (10%)[20]. According to this ranking Estonia performs much better than Georgia.

Graph 1: Quality of Democracy, Comparison Chart
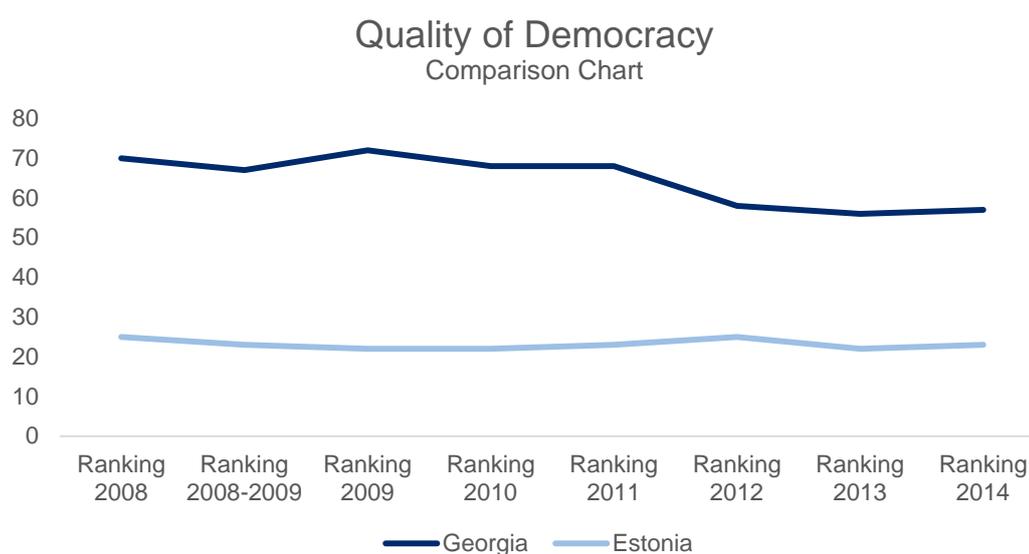
Source: Global Democracy Ranking[21]

The global democracy score for Estonia in 2000 was 65.51 out of 100 compared to 56.9 out of 100 in Georgia in 2013.

The comparison of different indices shows that there is some difference between Georgia and Estonia in observance of the private property rights and in the level of democracy. These variables play an important role in country risk premium, which itself is one of the main determinants of high lending interest rates. But it should be noted that the differences mentioned above do not decrease the potential effects of nullification of retained earnings tax. However, abolition of retained earnings tax will relax the constraint imposed by poor property protection and lower level of democracy. Moreover, in many respects, the Georgian economy is more elastic and fit for readjustments, as business, labor

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[19] The Global Competitiveness Report 2014-2015, Klaus Schwab, World Economic Forum
http://www3.weforum.org/docs/WEF_GlobalCompetitivenessReport_2014-15.pdf
[20] Source: Global Democracy Ranking. Campbell, David F. J.; Thorsten D. Barth; Paul Pölzlbauer; Georg Pölzlbauer, 2015
http://democracyranking.org/?page_id=14
[21] http://democracyranking.org/?page_id=14

and monetary freedom are far higher in Georgia nowadays than they were in Estonia before the reform.

In conclusion, the comparison of firm characteristics and the distribution of firms in size and over industries, plus contrast of institutional level of development between current Georgia and pre-reform Estonia do not provide any arguments against implementing the Corporate Income Tax reform.

8. REVIEW OF SOME POTENTIAL RISKS OF THE ESTONIAN CIT MODEL IMPLEMENTATION IN GEORGIA

There is a general agreement among fiscal policy experts that Estonian CIT is more economic growth oriented, promotes investment incentives and contributes to long-term sustainable economic development in a more robust way than Georgian Corporate Income Tax; profitable companies can maintain accumulated funds and increase their liquidity; consequently, companies reduce their expenses and dependence on external loans; complex accounting is not needed (e.g. calculation of depreciation). However, in the Estonian system monthly declaration is obligatory rather than an annual declaration. The system is based on cash accounting and not on accrual accounting, which simplifies the declaration process; Estonian CIT system is composed of small exceptions and dismissals, which also simplifies the use of the system. All non-economic costs and income is taxed in the same way and the number of dismissals or special schemes is very low.

Along with macroeconomic benefits, concluded through the general equilibrium model, implementation of the Estonian CIT model in Georgia could bear some risks, which needs to be considered and discussed. Potential legislative and other risks have been identified by Mr. Vazha Petriashvili, AYEG Tax Expert. Mitigation of these risks requires a comprehensive legal and institutional analyses, as well as relevant capacity for formulating and enforcing legislative changes.

Below is provided some potential legislative risks need to be taken into consideration by the MoF:

- Georgian current tax legislation stimulates accumulation of the capital assets through allowing full depreciation to fully deduct the value of acquired fixed assets (immovable or movable property) in the year of purchase. As a result, most taxpayers are already capable to postpone Corporate Income Tax via the 100% depreciation system. Taxpayers are used to the current system, hence imposing Estonian CIT model that also encourages capital accumulation, will probably cause distortion of taxpayers decisions and take time to adjust to a new system.

- In 21 countries which have a double taxation treaty with Georgia, dividends are exempt from taxation at source. If Corporate Income Tax is to be charged at the same 20% rate as Personal Income Tax, investors will pay more than they are paying now. In some cases, such as for example, a taxpayer has financial profit, but loss for tax purposes (due to the 100% depreciation system) and at the same time an investor is a resident of the country with which Georgia has double tax treaty based on which Georgia is limited to tax dividends at the source, a taxpayer could get a dividend without paying taxes (Corporate Income Tax and dividend withholding tax).

- If Corporate Income Tax rate will increase and become 20%, an issue of the compliance with the *Liberty Act* may arise. According to *Liberty Act* tax rates cannot be increased, although currently Corporate Income Tax rate is 15% and dividend tax rate is 5%, actual tax burden is not always 20% (it depends on the share of distributed earnings). Incomes of permanent establishments in Georgia are taxed at a 15% rate, and distributed profit is not taxed by dividend tax or any other specific taxes. If the Corporate Income Tax rate is increased to the level of Personal Income Tax rate, the profit of permanent establishments in Georgia will be taxed at a higher rate. Furthermore, it would contradict the *Liberty Act*.

- According to the Georgian tax system, dividends are not included in taxable income in order to avoid cascading taxation. The dividend is taxed only in the case when it is issued to individuals, non-residents or non-entrepreneurial organizations. If Corporate Income Tax becomes 20% (that is current Personal Income Tax rate) tax due for legal enterprises will increase compared to the current system. If there is multi-level company holding structure, the tax due will increase even more.

- Georgian legislation on the Corporate Income Tax system is mainly based on international practices and principles. Consequently, the Government of Georgia has the opportunity to become familiar with various countries' experiences in this context, to analyze it and make a decision based on international best practice. So far the Estonian CIT model is adopted only by Estonia and is not widely used and analyzed in terms of risks and advantages in other countries. Therefore, Georgia has limited opportunity to analyze the model implementation challenges and post-reform developments in different countries that would have decreased risks and potential impediments to CIT reform implementing in Georgia.

- Estonian system provides for broader definition of related parties that increases the likelihood of using a market price or transfer pricing system. Taxpayers may need additional costs to assess the operations with related parties.

- Accumulated tax losses will be canceled for enterprises, including for those who use the 100% depreciation system. Therefore, enterprises will have to pay tax on distributed dividends, while they would not pay any profit and sometimes dividend taxes under current system.

- The adoption of a new system may take from a few months to several years to be properly implemented and followed. Transition period will be required to make changes in definitions, manuals and other legislative acts. Furthermore, intensive training must be carried out to avoid some problems.

- There is a risk that some problems may remain unresolved by transition to the new system (production losses, the market price, the indire method, the revenues received from Georgian sources, etc.).

Mr. Petriashvili' also provided an alternative assessment of the budget loss due to the reform, which is more than the model's estimate. According to Mr. Petrishvili, in Georgia, Corporate Income Tax revenues are estimated to be 965 million GEL in 2017, based on the MoF's 3 year budget revenues forecast. Assuming that appropriate legislation will be enacted in 2017, the loss in tax revenues in 2017 will be about 540 million GEL. The remaining revenues of 437 million GEL will be accumulated from declared Corporate Income Taxes for the past year. During this period, the government will not be able to compensate for the revenue loss by taxing dividends, because the companies have already paid Corporate Income Taxes on the same revenue in the previous years and they will not be subject to the increased dividends tax.

According to forecasts, in 2018 and 2019 Corporate Income Tax revenue will be about 1.05 and 1.15 billion GEL respectively. In these years it would already be possible to tax dividends for profits gained in 2017 and 2018. Neither the National Statistics Office of Georgia nor the Revenue Service (RS) have information about the amount of dividends paid. According to the data from international index S&P, dividends payout ratio is less than 40%, and 10-year average of dividend payout ratio is about 35%. If you assume that the dividends will be continued to be paid according to the same ratio, the revenues will decrease by approximately 60-65%. Therefore, tax income loss will be approximately 600 million GEL for 2018 and 650 million GEL for 2019.

The budget losses may be compensated by increasing the rates on the other taxes from which Georgia has substantial tax revenues (either Personal Income Tax or VAT (Value Added Tax)). Hence, VAT should be increased from 18% to 20.34% or Personal Income Tax should be increased from 20% to approximately 24%, in order to compensate for the revenue shortfall.

9. CONCLUSIONS

In our analysis we tried to assess the possible macroeconomic effects of introduction of the Estonian CIT model in Georgia. For that reason we constructed the neo-classical general equilibrium growth model. In the baseline scenario our goal was to make the model comparable to the real situation in Georgia. We have calibrated the model with as much realistic parameters as possible. The model generates outcomes that are in close agreement with reality. After implementing the baseline scenario, we have imposed regulatory intervention on the model and introduced Estonian CIT model in the system. The analysis shows that:

- The reform has investment favoring effect. The stock of capital will increase by 3.23% within 1.5 years. This means that the net investment is increasing. Economic agents will invest more than they used to invest.

- Real GDP will increase by 1.44% roughly within 1.5 years.

- Aggregate private consumption will increase by approximately 0.85% within 1.5 years.

- The reform will increase the government annual budget deficit by 3% at most. To show the magnitude of compensating actions, based on the model, we have calculated that 1 percentage point increase in Personal Income Tax or 1.25 percentage point increase in consumption tax would be enough to neutralize the loss of budget tax collections. For smooth transition to new equilibrium, government might consider not to increase government spending for next couple of years (2-3 years).

- Current Account deficit as it is defined in the model will slightly decrease, implying some of dividends that were leaving the country will stay in Georgia due to investment favoring effect.

- The analysis of stability of the model and convergence speed to new equilibrium reveals that these results will be realized approximately within 1.5 years.

Graph 3: The Main Impacts of the Reform
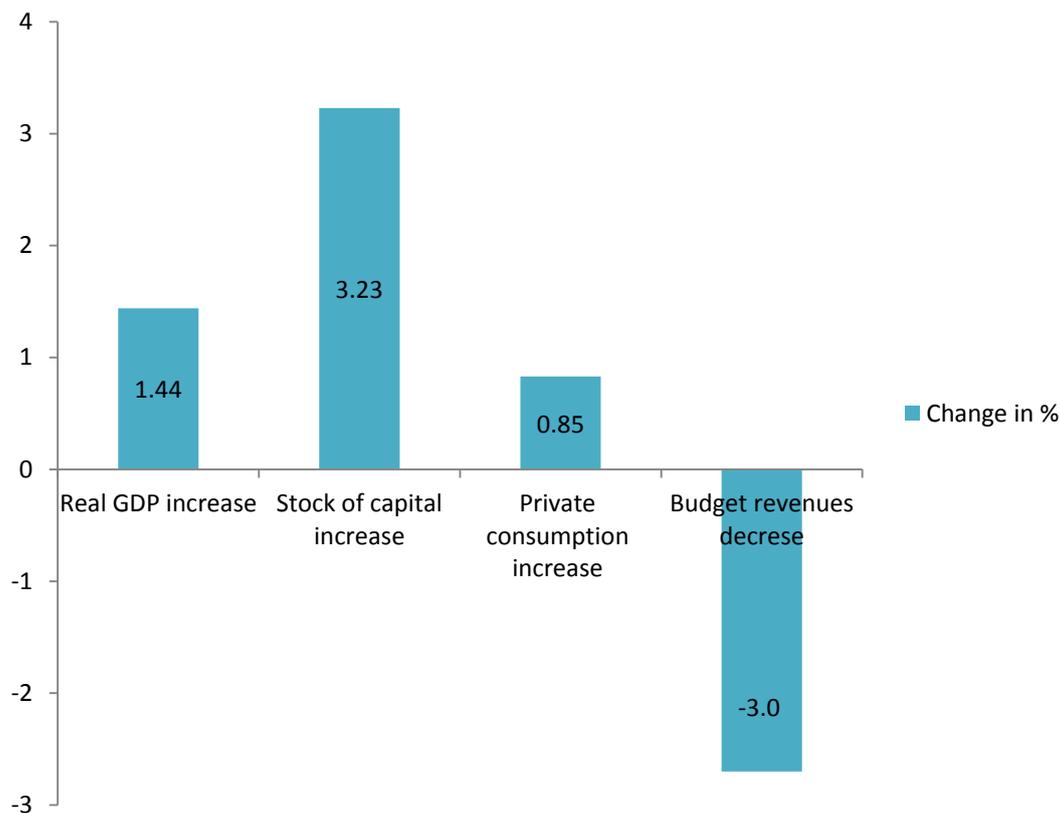
In addition to predictions of the model, we have carried out comparative study of pre-reform Estonian business and institutional environment to that of Georgia. The analysis revealed that:

- Firm level data, more precisely the distribution of firms in size and over industries mimic Estonian firm distribution.

- Cash to total assets ratio does not differ in a significant way on average.

- As for liabilities to total assets ratio, it is far lower in Georgia than it was in Estonia before the tax reform, but this difference reinforces possible positive effects of similar reform to that of Estonian tax reform in Georgia, as constraints to external finance are far more severe in Georgia than it was in the case of Estonia before the reform. Nullification of tax on retained earning can contribute to the relaxation of this binding constraint to economic growth.

The comparison of different global indices shows that there is a discrepancy between Georgia and Estonia in private property protection issues and in the level of democracy. These variables play an important role in country risk premium, which itself is one of the main determinants of high lending interest rates. However, the differences mentioned above will not decrease the potential effects of nullification of retained earnings tax, but quite opposite, the abolition of retained earnings tax will give positive incentives to the investors' expectations. Moreover, in many respects, the Georgian economy is more elastic and able to readjust, as business, labor and monetary freedom are far higher in Georgia today than they were in Estonia before the reform.

The results show that implementation of reform in Georgia will have positive macroeconomic effects. Moreover, as in the last few years, average economic growth rate has decreased and, therefore, this reform can be seen as a push for the economy not to stay in low economic growth trap. Even though reform has strong investment favoring effect, other developments in the economy, for example increase in ambiguity or institutional instability might override the growth promoting incentives that reform creates.

10. MONITORING AND EVALUATION

Policymakers should be able to track the implementation of the regulatory reform and evaluate the extent to which the policy is achieving its objectives. Monitoring should be conducted by the MoF to evaluate the actual impact on the country's macroeconomic parameters and demonstrate accountability towards completion of policy goals. Quantitative data for monitoring should be collected by the MoF through various sources, including the statistics of the MoF and National Statistics Office of Georgia. Qualitative evaluation should be conducted via consultations with private sector, business association and other relevant stakeholders. Table 21 presents the proposed list for the progress indicators.

Table 21: Progress Indicators to Measure Progress towards Meeting the Objectives

INDICATOR	FREQUENCY OF EVALUATION	RESPONSIBILITY FOR MONITORING
% Increase in investment volume	Yearly	MoF
% Increase in employment % Increase in capital stock %Increase in output	Yearly	MoF
Number of newly created companies	Yearly	MoF
% Increase in ratio of cash and equivalents to total assets	Yearly	MoF
% Increase in GDP growth rate	Yearly	MoF

APPENDIX A: SUMMARY OF CONSULTATION PROCESS

STAKEHOLDER/ GROUP OF STAKEHOLDERS	TIMING OF CONSULTATION	CONSULTATION METHOD	CONSULTATION OUTPUT/SUMMARY OF RESPONSES	COMMENT
Nikoloz Gagua, Head of Macroeconomic Analysis and Forecasting Department/MoF	August 17-21, 2015 September 30, 2015	Interview	• Provided overall guidance for assessment • Provided list of impacts to be assessed • Advice on the methodology and data sources	
Pridon Aslanikashvili Deputy Head of Macroeconomic Analysis and Forecasting Department/MoF	August 18, 2015 September 30, 2015	Interview	• Provided overall guidance for assessment • Provided list of impacts to be assessed • Advice on the methodology and data sources	
Bakar Devdariani, Head of Audit Department, RS/MoF	October 19, 2015	Interview	Provided information about the tax administration process	
Lasha Tutberidze, Head of Main Division Audit Department, RS/MoF	October 19, 2015	Interview	Provided information about the tax administration process	
Shota Komladze, Business Association of Georgia	October 16, 2015	Focus Group	• Georgian Corporate Income Tax model is simple and tax rate is lower than in many other countries • Estonian CIT system stimulates reinvestment • In the long-run investment will increase in Georgia under Estonian CIT model • Estonian CIT system will encourage startups and new businesses • Demand on loans will decrease under Estonian CIT model • Estonian CIT model will encourage investment in new businesses • Tax payers will need three or four months to get acclimated to the new tax system • Tax administration will need three or four months to get acclimated to the new tax system • Companies' saving behavior will change under Estonian CIT model	Provided written response

			• Number of fines will decrease • New system will not create an incentive for people to show personal income and do personal consumption through a company	
Nika Nanuashvili, Business Association of Georgia	October 16, 2015	Focus Group	• Georgian Corporate Income Tax model is simple and tax rate is lower than in many other countries • Estonian CIT system stimulates reinvestment • In the long-run investment will increase in Georgia under Estonian CIT model • Estonian CIT system will encourage startups and new businesses • Demand on loans will decrease under Estonian CIT model • Estonian CIT model will encourage investment in new businesses • Tax payers will need three or four months to get acclimated to the new tax system • Tax administration will need three or four months to get acclimated to the new tax system • Companies' saving behavior will change under Estonian CIT model • Number of fines will decrease • New system will not create an incentive for people to show personal income and do personal consumption through a company	Provided written response
Ruslan Akhalaia, Dechert Georgia LLC	October 16, 2015	Focus Group	• Estonian CIT system is relatively easier mainly due to the fact that to certain extent it is cash based • Estonian CIT model is absolutely different from current Georgian system. Therefore, its introduction may be confusing for both: tax administration and the tax payers • Estonian CIT model in Georgia will not have much influence on investment decision • Introduction of Estonian system will somehow effect on the business in the future but not directly i.e. no one will open a startup just because of new tax system. Likely, Estonian system will help to attract inventors to Georgia and inflow of money will contribute to the opening of start-ups in the future • Borrowing capacity of firms will increase • Company's liability will not be changed. Equity structure may change though. Companies may opt for lending/borrowing money	Provided written response

			• Estonian system probably will change saving behavior • Introduction of absolutely new system may confuse tax authorities as well as taxpayers. Tax disputes will increase in the first year of operation of the system • Tax payers will need two or three years to get acclimated to the new tax system • Tax administration will need one or two years to get acclimated to the new tax system • Estonian CIT system will lead to decrease the fining level of tax payers by making less mistakes only after three years period from the introduction of the new system. • Estonian system is likely to create an incentive for people to show personal income and do personal consumption through a company • Estonian system probably will not create incentive to shift profits outside of Georgia to low-tax territories	
Shalva Kilasonia, BDO LLC	October 16, 2015	Focus Group	• Advantage of Georgian Corporate Income Tax model is its simplicity • There are deficiencies in tax administration process in Georgia • Estonian CIT model provides possibility to retain profit • Monthly declaration liability is disadvantage of Estonian CIT model • Imposing Estonian model in Georgia may encourage to increase the number of startups • Estonian CIT model will not hinder investing in new companies • Equity structure will change under Estonian CIT model • Estonian CIT model will stimulate reinvestment • Taxpayers will need a year to get acclimated to the new tax system • Tax administration will need a year to get acclimated to the new tax system • New tax system will not decrease number of fines paid for mistakes in tax declarations	Provided written response
Gigla Mikautadze, Tax Payers Union; TBSC Consulting	October 16, 2015	Focus Group	• Advantage of Georgian Corporate Income Tax model is its simplicity • There is deficiencies in tax administration process in Georgia • Estonian CIT model provides possibility to retain profit • Monthly declaration liability is disadvantage of Estonian CIT model • Imposing Estonian model in Georgia may encourage to increase the	

			• number of startups • Estonian CIT model will not hinder investing in new companies • Equity structure will change under Estonian CIT model • Estonian CIT model will stimulate reinvestment	
Vakho Baramidze, Free University	October 16, 2015	Focus Group	• Advantage of Georgian Corporate Income Tax model is its simplicity • There are deficiencies in tax administration process in Georgia • Estonian CIT model provides possibility to retain profit • Monthly declaration liability is disadvantage of Estonian CIT model • Imposing Estonian model in Georgia may encourage to increase the number of startups • Estonian CIT model will not hinder investing in new companies • Equity structure will change under Estonian CIT model • Estonian CIT model will stimulate reinvestment	
Jaba Balakhashvili, GoG's Economic Council Office	October 16, 2015	Focus Group	• Advantage of Georgian Corporate Income Tax model is its simplicity • There are deficiencies in tax administration process in Georgia • Estonian CIT model provides possibility to retain profit • Monthly declaration liability is disadvantage of Estonian CIT model • Imposing Estonian model in Georgia may encourage to increase the number of startups • Estonian CIT model will not hinder investing in new companies • Equity structure will change under Estonian CIT model • Estonian CIT model will stimulate reinvestment	

APPENDIX B: FOCUS GROUP SIGN-IN SHEET

მონაწილეთა სია

16/10/2015

სახელი, გვარი	ორგანიზაცია	ტელეფონის ნომერი	იმეილი	ხელმოწერა
დითა ქოქიძ	Estonian tax... agency	531 22 46 33	skomladze@bag.ge	
ნიკა ნანუაშვილი	Estonian tax agency	577 47 19 99	nnanuashvili@bag.ge	
რუსლან ნიუმან	GSI agency	577 91 46 26	ruslannewman@gmail...	
ასა ბალახაშვილი	Georgian local service...	577 05 53 35	jbalakhashvili@geo.gov.ge	
გიორგა კილასონია	GSU ბიზნეს	595 034950	skilasonia@bdo.ge	
ვახო პეტრიაშვილ	შპს „LTA Partners"	595 900 100	vazlu.petriashvili@atapartners.ge	3.10...
ლ. ჭ...	Free University		l.chue...@freeuni.edu.ge	
გიო მიქ...	ქართული კომპანია TBSC Consulting	577 080060	gm@tqu.org.ge	
ვახო ...	Free University	591 01 4364	v.kavamidze@freeuni.edu.ge	

APPENDIX C: QUESTIONARY FOR FOCUS GROUP ATTENDEES

1. What are the advantages of Georgian Corporate Income Tax?
2. What are the disadvantages of Georgian Corporate Income Tax?
3. What are the advantages of Estonian CIT?
4. What are the disadvantages of Estonian CIT?
5. How often the 100% depreciation system is used and how much it promotes investments?
6. Does Georgian Corporate Income Tax promote investments and by what mechanisms?
7. What are the three main reasons of disputes with the tax authority?
8. How frequently non-residents work through permanent establishment based on your practice?
9. Do you expect that investments will increase after adopting Estonian CIT? Are there any differences for different types of companies? Are there any differences for different types of investment?
10. What effect might the Estonian system have on the number of start-ups and new entrepreneurs entering into business?
11. What effect do you expect that adoption of the Estonian system will have on borrowing capacity of firms? Are there different effects for different type of firms?
12. Would the Estonian system promote or hinder investing into new companies?
13. Would the system change companies' liability and equity structure and how?
14. Would the Estonian system change saving behavior?
15. How much time do you need to fill out a new Corporate Income Tax declaration?
16. What is the main problem in filling out the declarations?
17. Does Estonian CIT promote investments and by what mechanisms?
18. What difficulties can cause the adoption of Estonian CIT system for tax payers?
19. How much time the tax payers will need to get acknowledged to the new tax system?
20. How much time the tax administration will need to get acknowledged to the new tax system?
21. Will the new tax system decrease the fining level of the tax payers by making less mistakes?
22. Would the Estonian system create an incentive for people to declare personal income and make personal consumption through a company?
23. Would the Estonian system create incentive to shift profits outside of Georgia to low-tax territories?
24. Will it be necessary or not for tax payers to prepare the financial statements in case of adopting Estonian CIT system?
25. If it will be necessary, then how much additional time and resources businesses will need in order to prepare the financial statements?
26. Will the new Corporate Income Tax system have positive effects on investments, if the other taxes increase in order to compensate the budget losses caused by the new Corporate Income Tax system?
27. Should Georgia adopt the Estonian CIT model and why?

APPENDIX D: THE DRAWBACKS OF ESTONIAN SYSTEM – SCIENTIFIC ARGUMENTS

Although many op-ed and other media articles have been written and published in Estonian newspapers discussing the problems of the Estonian CIT system, there are only a handful citable academic papers on the subject and even fewer which have measured the economic extent of the problems. The main problems associated with the Estonian CIT model are summarized below.

The main concern related to the Estonian CIT system is the possible (illegal) shifting of profits abroad, to lower tax rate countries, where the profits can be distributed more cheaply. Since all profits leaving the Estonian companies, except for business related distribution, should be taxed, this is a problem. Although the public opinion seems to be quite condemning of the system in this regard, there is little academic proof of large-scale profit shifting. The only large economic study[22] conducted on the subject (based on a survey of entrepreneurs) did not confirm that the higher statutory tax rate would tempt companies to avoid taxes by shifting profits abroad. Although many respondents said that the system might stimulate profit shifting, only a few knew of specific cases of this. The study concluded that it is more of a pseudo-problem. This is not to say that an abuse of the system is ruled out.

There are several ways of abusing the system which are listed and discussed as follows.

Profit shifting with transfer pricing adjustments

There is a body of evidence (Clausing (2003))[23] which shows that transfer pricing adjustments are being used internationally as a tool for avoiding some of the tax burden. Non-market value prices are used when transferring goods from one country to another, thus changing the seeming profitability of different subsidiaries of a company and thus changing the tax obligations.

A recent master's thesis (Paltser 2015)[24] was defended and published which analyses this and other problems of the system from Estonia's perspective. It says that since Estonia has a higher statutory Corporate Income Tax rate than many other countries, there might be an incentive there to shift profits to places where the tax rate is lower. However, this conclusion cannot be made by looking only at the tax rate difference. Since only distribution is taxed and not profits as a whole, the risk of tax avoidance is that much lesser to begin with. In a traditional system, the transfer pricing adjustments are being used to increase the taxable income, but in Estonia, the transfer pricing adjustments are treated as a new taxable event. So there is a problem of a possible double taxation of profits in the traditional system. Since pricing adjustments increase the profit, there should be a corresponding decrease of profits on the other side. In Estonia, the situation is simpler. Since profits are not taxed, they cannot be decreased when the other parties' profits have been increased. Also the Estonian system has a regulation which allows the receiving end of transfer prices (similar to the receiver of dividends) to pay out tax free dividends in the amount of transfer pricing adjustments. The author concludes that the Corporate Income Tax system itself as it stands in the law does not promote a large scale abuse of the system using transfer prices and there are no legal loopholes as well. This is not to say that the system can't be abused at all, but that there are no large cases discovered of this and that the system should work well with an efficient tax authority. However, there are no academic papers which estimate the economic scale of the problem in Estonia.

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[23] Clausing, K. A. *Tax Motivated Transfer Pricing and US Intrafirm Trade Prices*, Journal of Public Economics 2003, pp. 2207-2223
[24] Paltser, Liisa, *The Advantages and Disadvantages of the Taxation of Distributed Profits in International Competition,* University of Tartu, 2015, p. 77 http://dspace.ut.ee/bitstream/handle/10062/47586/paltsar_liisa.pdf

Profit shifting using intra-group loans

Literature suggests that intra-group loans are being used to avoid taxation by companies internationally (Buettner and Wamser (2007)).[25] The scheme is quite simple – a company can transfer cash to a parent in the amount of their unrestricted equity. Transfers can be made also as a group contribution. Additionally, subordinated loans can be used. Profits have left the company but no tax has been paid. A recent master's thesis (Paltser 2015) was defended and published which analyses this and other problems of the system from Estonia's perspective. It says that in accordance with relevant case law, corporate loans can be considered as illegal transfer of profits when certain conditions are met. For example, if the loan has been given for a too long of a period, or if it can be concluded from the contract or of the way in which the money has been used, that the contracting parties do not intend to pay the loan back then the tax officials can levy Corporate Income Tax on the loan. Relevant case law and the Corporate Income Tax Act give the tax officials enough means to tackle tax avoidance. A problem arises when it comes to obtaining evidence of abusing the system. The tax authority can tax loans which it can prove have no link to normal business activity. For this, it can judge the business as a whole, but finding concrete evidence that will hold up in court, is difficult in practice.

The related problem is that there are no rules for thin capitalization. Since Estonia has no rules for thin capitalization, then companies have the opportunity to minimize dividends and maximize interests. Since interests are income tax exempt, then it allows the companies to decrease the amount of Income Tax that they would be liable to pay on dividends.

The public discussion in Estonia is mostly focused on this intra-group loan issue with several large companies named as possible tax avoiders. However, there are no academic papers which estimate the economic scale of the problem in Estonia.

Profit shifting using interest payments, license fees and fees for services rendered

There are some ways of distributing profits to non-residents using ways which lie in the legal gray area. These are using interest payments for loans, using license fees and using fees for services rendered (consultancy, management, accountancy etc.). In the study by Praxis *et al* (2010)[26] data analysis on these ways of profit distribution was conducted and the results show that most of these are not used for profit shifting since the profits are not being distributed to places where the tax rates are lower at a statistically significant amount. The only link between lower tax rate and profit distribution across border is with using interest payments, but the aggregated amounts are still not very large. Although these ways of tax avoidance exist, they cannot be used on a larger scale because it would certainly attract the attention of the tax administration.

Mergers and acquisitions

Since the companies' activities have increasingly become more international it is necessary that the tax system enables investors to be flexible without any threat of double taxation. Cross-border mergers and acquisitions are the new rising challenges for different tax systems. Usually, double taxation is avoided on the second level, i.e. the profits of the company are taxed according to the law but different exemptions apply to dividends on their distribution. At the EU level, the Merger Directive has been implemented. The aim of the directive is to guarantee that cross-border mergers and acquisitions do not bring extra fiscal burdens upon the companies. Mergers and acquisitions need to be tax neutral. (Paltser 2015)

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[25] Buettner Thiess, Wamser Georg, *Intercompany loans and profit shifting: evidence from company-level data,* CES working paper, No1959, 2007

[26] Poliitikauuringute Keskus Praxis. Ettevõtete jaotamata kasumi mittemaksustamise mõju investeeringutele ja majandusarengule. Study on Impact of Undistributed Corporate Income Tax Reform on Investments and Economic Development. Tartu-Tallinn, 2010, p. 214

https://riigikantselei.ee/sites/default/files/content-editors/TOF/TOF_uuringud/74_ettevotete_kasum_rm_raport.pdf

It is important to point out that cross-border mergers will not be accompanied by an obligation to pay tax if the company's, who was deleted from the registry, money will still be used for economic activity in Estonia (i.e. in a different company). In that case the company is not reliable to pay Corporate Income Tax.

Lock-in-effect

The Estonian system has been criticized (e.g. by OECD (2009))[27] as having a lock-in-effect, meaning that since it is more expensive to distribute than reinvest, companies have less incentive to aid economic restructuring, i.e. creating new firms in new economic sectors.

The study by Praxis *et al* (2010) showed that this is not really a problem for Estonia because foreign companies usually come to Estonia to invest into one field of activity; also, Estonian companies usually expand within a single company. The entrepreneurs also find almost unanimously that the system does not hinder new investment. Also, the analysis of the business registry data showed that resource allocation component of total factor productivity growth has grown.

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[27] OECD (2009). Estonia. OECD Economic Surveys. Volume 2009/3. April 2009, 151 p

APPENDIX E: FINDINGS AND COMMENTS OF ESTONIAN CIT EXPERT

GENERAL FEATURES OF CORPORATE INCOME TAX MODEL

	Georgia (current law)	Estonia	Changes required?	Comments (if any)
Tax residency for legal entities	Based on incorporation and place of management	Based on incorporation. European Company (SE) or European Cooperative Society (SCE) whose head office is registered in Estonia is also considered to be Estonian tax resident.	No	The Georgian and Estonian definitions of tax resident differ but there is no inevitable need to change the Georgian law for implementing the Estonian CIT law.
Taxable period	Calendar year	Calendar month	The calendar month shall be introduced as taxable period.	Technically, under the Estonian CIT model, the taxable period can be calendar year but this is not advisable for cash flow and tax compliance purposes. It is easier for companies to declare and settle any Corporate Income Tax amounts together with payroll taxes on a monthly basis.
Territorial scope	Worldwide income	Worldwide income	No	

TAX EXEMPTIONS

	Georgia (current)	Estonia	Changes required?	Comments (if any)
Tax exemption for dividends received from resident and non-resident companies (participation exemption for dividends).	Yes	Yes	No principle changes required. Only wording of the law and tax declaration forms needs to be adjusted.	
Interest income (incoming)	Various exemptions.	No special rules (taxable as part of distributed profit).	Need to consider taxation under general rules.	Exemptions for various types of income (including interest income from certain sources) would reduce the transparency of tax system and it would make the Corporate Income Tax model more complex. The postponement of Corporate Income Tax liability partly compensates the negative effect of tax incentive abolishment.
Capital gains from securities	Several exemptions (e.g. government securities, free trade securities, non-resident issuer's securities, etc.).	Taxable under general rules. Estonia is considering the exemption but no draft law published.	Georgia needs to consider whether such capital gains should be exempt or not.	Exemption for capital gains from securities would generally increase the attractiveness of Georgia as holding company location. On the other hand, it would reduce the transparency of tax system and it would make the Corporate Income Tax model more complex. The postponement of Corporate Income Tax liability partly compensates the negative effect of tax incentive abolishment. If Georgia decides to have exemption on capital gains then it should be applicable to the gain part (not to the entire amount of sale proceeds).

	Georgia (current)	Estonia	Changes required?	Comments (if any)
Tax exemption for profits derived by companies that provide medical and agricultural services that are reinvested for a period of 3 years from the end of the relevant tax year.	Yes	N/A	In principle, it may be possible to maintain the tax incentive but then it would be necessary to make separate calculation for such income and relevant expenses. Increases admin burden.	Exemptions for various types of income or various types of taxpayers would reduce the transparency of tax system and it would make the Corporate Income Tax model more complex. The postponement of Corporate Income Tax liability partly compensates the negative effect of tax incentive abolishment.
Profits of Special Trade Companies from certain permitted activities	Exempt	N/A	Need to consider taxation under general rules or the necessity to keep separate regulations.	Exemptions for various types of income or various types of taxpayers would reduce the transparency of tax system and it would make the Corporate Income Tax model more complex. The postponement of Corporate Income Tax liability partly compensates the negative effect of tax incentive abolishment.
Profits derived by free industrial zone entities from permitted activities	Exempt	No special rules.	Need to consider taxation under general rules or the necessity to keep separate regulations.	Exemptions for various types of income or various types of taxpayers would reduce the transparency of tax system and it would make the Corporate Income Tax model more complex. The postponement of Corporate Income Tax liability partly compensates the negative effect of tax incentive abolishment.
Grants and membership contributions received by agricultural cooperatives	Exempt	No special rules.	Need to consider taxation under general rules or the necessity to keep separate regulations.	Exemptions for various types of income or various types of taxpayers would reduce the transparency of tax system and it would make the Corporate Income Tax model more complex. The postponement of Corporate Income Tax liability partly compensates the negative effect of tax incentive abolishment.

Tax exempt reserves	Banks, credit unions, insurance and leasing companies may have tax-exempt reserves.	No	To be abolished.	Georgia may decide to take the tax exempt reserves into account in the transitional provisions, For example the amount of tax exempt reserves may reduce right to pay out "old" profits as tax exempt dividends (see p 7.1. in the table below).
Income from hydrocarbon resources	Preferential 10% tax rate.	No	Georgia should consider whether to maintain special tax rate. In case of multiple activities, distinguishing the activities may cause significant administrative burden.	Exemptions for various types of income or various types of taxpayers would reduce the transparency of tax system and it would make the Corporate Income Tax model more complex. The postponement of Corporate Income Tax liability partly compensates the negative effect of tax incentive abolishment.
Permanent establishments (PE) of non-resident companies	Profit earned by a non-resident through its Georgian PE.	Special regulation but generally Corporate Income Tax is payable under the same principles as for Estonian tax resident companies (distributed profit).	Some adjustments and practical guidance to taxpayers will be required (i.e. guidance on which transfers between the PE and foreign head office are considered to be taxable distributions).	
Non-profit organizations	Income from commercial activity is subject to Corporate Income Tax.	Corporate Income Tax base: 1) Expenses not relating to the activities specified in the Articles of Association of a non-profit organization. 2) Payments made on the basis of missing or non-compliant source	Some adjustments are required.	

document;

3) Fines and penalties imposed on the basis of law;

4) Late tax payment interest;

5) Value of assets confiscated from the taxable person;

6)Environmental charges paid or damage compensation charges paid pursuant to elevated rates;

7) Bribes granted to other organizations or individuals.

TAX ADMINISTRATION

	Georgia (current)	Estonia	Changes required?	Comments (if any)
Calculation of annual profit for tax purposes	Yes	No	To be abolished.	For practical reasons no need to calculate tax profit.
Deadline(s) for Corporate Income Tax return	31 March next year	10th of month following to the taxable period	Yes	It is easier for companies to declare and settle any Corporate Income Tax amounts together with payroll taxes on a monthly basis.
Deadline(s) for Corporate Income Tax payment	Advance payments by 15 May, 15 July, 15 September and 15 December.	10th of month following to the taxable period	Yes	

TECHNICAL ISSUES

	Georgia (current)	Estonia	Changes required?	Comments (if any)
Accrual vs cash basis	Accrual method compulsory for VAT payers. Taxpayers who are not VAT registered can opt between accrual and cash accounting methods.	Cash	Cash method should be introduced for all taxpayers.	Cash-based method is more in line with the ideology of Estonian CIT model.
Equity calculations for tax purposes	No	Yes	Yes, to be established.	In order to avoid misuse of the Estonian CIT model, there shall be calculation of amounts contributed in to the equity and the amounts taken out from the equity. The calculation shall include transfers that increase or decrease the equity of company, e.g.: 1) monetary and non-monetary contributions; 2) share buy-back transactions; 3) share capital reductions (unless no payments are made to shareholders); 4) payment of liquidation proceeds to the shareholders etc. Dividend distribution is not part of the calculation because it is taxable under separate regulations.
Special regulation for self-employed persons (special bank account) for achieving similar result	N/A	Yes. Generally, the annual increase of special bank account is deductible from the taxable annual profit of a self-employed person. Any non-business transfers of such special bank account will be ignored for tax	Needs to be considered.	Due to the popularity of self-employment in Georgia, it may be necessary to introduce a special regulation (special account) for self-employed persons in order to achieve similar tax regime for self-employed persons. For Estonian self-employed persons certain minimum social tax liability exists even if the taxable profit is zero. The aim of such minimum requirement is to ensure the coverage by state health insurance. However, in Georgia this is not applicable, as Georgia does not

		calculation purposes.		have social taxes or contributions.
Tax depreciation and amortization regulations	Yes	No	To be abolished.	No amortization or depreciation regulations for tax purposes are required.
Carry-forward of tax losses	Yes	No	To be abolished.	No carry-forward rules because tax profit is not calculated.
Accelerated depreciation	Used in respect of certain assets, such as computers, electronic facilities, trucks and pipelines.	None	To be abolished.	No amortization or depreciation regulations for tax purposes are required.
Group taxation	No	No	No	Both in Estonia and Georgia, each company is considered to be a separate taxpayer. Estonia has not considered any group taxation regime under its current Corporate Income Tax model.

WITHHOLDING TAXES

	Georgia (current)	Estonia	Changes required?	Comments (if any)
WHT on dividends	5% on dividends paid to individuals and non-residents (without PE in Georgia)	No	No	The change of Corporate Income Tax model does not require the abolition of dividend WHT. Based on the Estonian previous experience (when Estonia also applied WHT on dividends together with the postponed Corporate Income Tax) simultaneous collection of two taxes may cause misunderstandings, particularly in the international taxation context.
WHT on interest	5% WHT irrespective of the recipient. 15% WHT if paid to a low tax territory. No WHT on	Only in specific case: interest paid by contractual investment fund to a non-resident who holds at least 10%	Minor changes required.	WHT deducted from interest payments made to Georgian resident companies can be credited against Corporate Income Tax payable by the interest recipient (when such company distributes profit or incurs other taxable events).

	interest paid by financial institutions.	participation in that fund only if more than 50% of the fund´s assets consist of (or any time during the 2 previous years consisted of) Estonian real estate.		
WHT on royalties	10% WHT if paid to non-residents. 15% WHT if paid to a low tax territory.	10% WHT if paid to non-residents. Exemptions applicable under the EU Interest-Royalty Directive.	No	

ANTI-AVOIDANCE

	Georgia (current)	Estonia	Changes required?	Comments (if any)
Restrictive rules for intragroup loans instead of dividends	N/A	No	Yes	Estonia currently does not apply any restrictive regulations against the misuse of Estonian CIT model. Estonian companies tend to grant loans to their related entities (instead of dividend distributions). Loan period in the contract is usually realistic (e.g. one year) but the loan agreements are renewed and the loan amounts are increasing. It is advisable for Georgia to have specific regulations in place from the beginning. Introduction of such limits at a later stage may cause negative feedback from taxpayers and may be technically and politically more sensitive.
Transfer pricing regulations	Yes	Yes	Minor changes required.	The potential changes only relate to the wording of the law (taxation of unearned profit or excess expense as hidden profit distribution).
Restrictive measures against the use of low tax territories	Partial	Yes	Need to be strengthened.	1. Estonia applies 20% WHT on service fees paid to a low tax territory (irrespective of the place of service); 2. Estonia taxes loans and prepayments to legal entities situated in a low tax territory (20/80

				Corporate Income Tax on the top of full loan amount). Tax is refundable when loan is repaid to the Estonian lender. 3. Estonia taxes all acquisitions of shareholdings in low tax territory companies as non-business expense (20/80 Corporate Income Tax on the top of such cost).
Thin capitalization regulations	Planned entry into force from 2016.	No	No	It may be advisable to consider the OECD BEPS initiative and its developments.

TRANSITIONAL ISSUES

	Georgia (current)	Estonia	Changes required?	Comments (if any)
Transitional regulation for distribution of profits earned under the old regime.	N/A	Yes (expired by now)	Yes	Under the Estonian transitional regulations, the Estonian companies fixed their retained profit amount as at the end of previous Corporate Income Tax model. In addition, each company calculated its effective tax rate (actual rate under the previous Corporate Income Tax model). When distributing the "old" profits, only the difference between the general (nominal) tax rate and the effective tax rate was payable. Alternatively, Georgia may decide to allow tax-exempt distribution of "old" profits whereas such right is decreased by the amount of tax-exempt reserves. In any case Georgia may impose 5% WHT on dividends sourced from "old" profits.
Compensation of unused tax losses generated under the traditional Corporate Income Tax system.	Currently N/A	None	Georgia may decide to have a compensation mechanism.	Estonia did not have specific transitional regulations for unused tax losses and it did not cause any negative feedback from taxpayers.

APPENDIX F: BIBLIOGRAPHY

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