

PUBLIC DEBT SUSTAINABILITY AND THE IMPACT OF THE COVID-19 PANDEMIC: THE CASE OF LATVIA

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Abstract. The Covid-19 pandemic has had a significant impact on economic growth. Many countries are trying to stimulate their economies and help their citizens through fiscal policy, which have led to a significant increase in government debt. A significant increase in Latvia's general government debt is also being forecasted. Excessive debt threatens the sustainability of public finances and has a negative impact on the country's economic growth.

The aim of this study is to assess the sustainability of general government debt in Latvia, taking into account the impact of the Covid-19 pandemic. The results of the study show that the increase in Latvia's general government debt as a result of the Covid-19 pandemic is not considered to be a threat to government debt sustainability; according to the authors' forecasts, general government debt will decrease over time if the general government structural deficit does not exceed 2.2% of GDP or the primary deficit does not exceed 1.3% of GDP.

Key words: *debt sustainability, Covid-19, fiscal policy.*

JEL code: E62, H63

Introduction

The sustainability of government debt has long been an open question in scientific literature. Given the impact of the Covid-19 pandemic and national efforts to stimulate the economy through fiscal policy, the issue of government debt sustainability will become even more pressing in the coming years. For EU countries, fiscal policy is determined on the basis of the Stability and Growth Pact (SGP) (European Commission, 2020), which details the mechanism for monitoring fiscal policy. General government deficit of 3% of GDP and general government debt of 60% of GDP are used as the most important benchmarks for monitoring fiscal policy. EU Member States have tried to comply with the SGP in their fiscal policy, but since 1999, when the corrective measures entered into force (European Commission, 2020), only two EU Member States have never exceeded a general government deficit above 3% of their GDP: Luxembourg and Sweden. Although EU Member States have shown better discipline in meeting general government debt condition, the debt of four Member States has not fallen below 60% since 1999: Austria, Belgium, Greece and Italy (Eurostat, 2020). In view of the spread of the Covid-19 pandemic, the European Commission has decided to activate a general escape clause of the EU fiscal framework, which stipulates that EU Member States do not have to comply with the SGP until 2021, i.e. general government deficits may exceed 3% of GDP until 2021 (European Council, 2020). Such a decision will contribute to the recovery of economic growth rates, but will lead to increase in the general government budget debt for Member States. In several countries, the sharp rise in debt is accompanied, alongside Covid-19, by a fall in credit ratings (Bulow et al., 2020). S&P Global has issued 1,190 credit rating downgrades, which is only 136 less than in 2009, including 26 credit rating downgrades for countries, and Fitch has made almost 1,500 downgrades, 19 of which affected credit ratings of countries (Reuters, 2020), resulting in the possible increase of interest expenditure.

As in other EU countries, the general government budget forecasts for Latvia follow the general escape clause, as a result of which the planned general government budget deficit is 7.6% of GDP for 2020 and 3.9% of GDP for 2021 (Ministry of Finance, 2020). In such circumstances, general government debt is growing significantly, and the issue of general government debt sustainability is becoming pressing.

The aim of the research is to assess the sustainability of general government debt in Latvia, taking into account the impact of the Covid-19 pandemic.

In order to achieve the aim of the research, the following objectives were set: analyse the findings of the scientific literature on government debt sustainability, assess the impact of the Covid-19 pandemic on the debts of euro area countries, study government debt development and its contributing factors in Latvia; compare the GDP growth rate with interest expenditure relative to debt, assess whether additional fiscal effort is needed to achieve government debt sustainability.

Scientific methods used in the research: analysis of scientific literature regarding the impact of government debt sustainability on the public finance and economic situation, empirical analysis and decomposition of data, simulations and sensitivity analysis.

Novelty of the study – the impact of the Covid-19 pandemic on the sustainability of government debt is assessed, as well as the need for additional fiscal effort to achieve the sustainability of government debt is evaluated.

The theoretical and methodological basis of the research is scientific literature, including the works of IMF and European Commission economists, planning documents of the Republic of Latvia, Eurostat and Ameco data.

Theoretical background

In scientific literature, government debt is sustainable if the country is able to meet its obligations in the long term without significant adjustments, including tax increases (Wyplosz, 2007). However, cases such as debt restructuring and late payments are also considered to be cases of government debt insolvency (Panizza et al., 2009). There is a correlation between the amount of debt, expressed as a percentage of GDP, and the likelihood of national insolvency, i.e. the higher the government debt, the more likely it is that the government will be unable to meet its obligations. In their study, Reinhart and Rogoff, analysing historical data on debt insolvency in 89 countries between 1827 and 2003, found that debt levels increased significantly shortly before the onset of national insolvency (Reinhart et al., 2009). However, there is no clear answer in the scientific literature as to what level of debt is considered to be a threat to the country's financial sustainability. For example, Greece had a debt of 172.1% of its GDP in 2011, followed by debt restructuring in 2012 (Zettelmeyer et al., 2013), whereas before Russia's debt insolvency in 1998, the government debt was below 60% of its GDP (Santos, 2003).

Government debt insolvency makes it difficult for countries to raise financing and it is very costly (Arellano, 2008). Capital controls and other restrictions are used to compensate for the inability to raise capital, which have a significant impact on companies' ability to trade in the short term (Gennaioli et al., 2014). The financial markets have a short memory and countries usually are able to successfully raise capital in just one or two years after the default (Gelos et al., 2011). Even if the countries are able to resume cooperation with international financial markets, private sector companies still experience difficulties in raising financing, and the financial sector suffers significantly, with local banks experiencing a deterioration in the quality of their balance sheets (Gennaioli et al., 2014). For example, in 1998, Russia's debt insolvency had a significantly negative impact on Russian banks, which had invested heavily in government bonds. Bank losses, coupled with the devaluation of the rouble, contributed to a significant downturn in the financial market (IMF, 2002). Scientific literature distinguishes between two cases of government-bank interactions: the 'Greek style' crisis, where the government debt crisis creates fragility in the banking sector, and the 'Irish style', where the banking sector crisis puts pressure on government debt (Acharya, 2013).

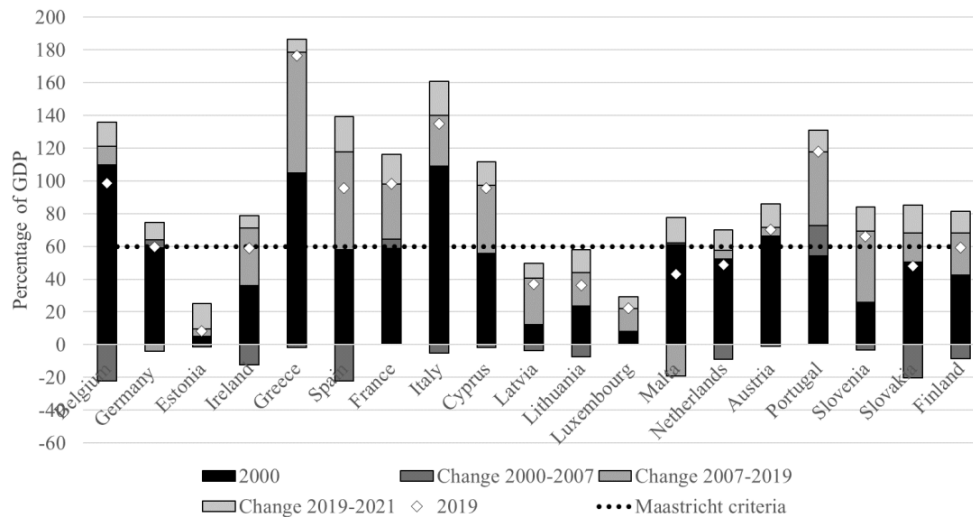
In most cases, government debt insolvency is also accompanied by a deep economic crisis (Arellano, 2008), and high government debt is also associated with lower economic growth. Reinhart and Rogoff, when compiling information on government debt and economic growth, found a weak negative correlation between debt and economic growth in countries with debt-to-GDP ratios below 90%, while if debt-to-GDP ratios were above 90%, economic growth was significantly lower in both developed and developing countries (Reinhart and Rogoff, 2010). Whereas Caner's study concluded that the debt threshold is 77% of GDP if debt rises above 77% of GDP, then economic growth declines by 0.017 percentage points, and developing countries have a lower debt threshold of 64% of their GDP (Caner, 2010). In another study, the debt threshold was set at 85% of GDP (Cecchetti et al., 2011). The IMF study on the long-term impact of government debt on economic growth concluded that a 10 percentage point increase in the government debt-to-GDP ratio leads to a 0.2 percentage point annual decline in real GDP per capita growth, also the higher initial government debt, the greater the negative impact of government debt growth (Kumar, 2010). Although there is no specific debt threshold that would serve as a signal of possible financial and economic problems, there is a clear trend in the scientific literature – the higher the debt, the greater the financial and economic problems.

One of the key questions is how does government debt affect output? What channels are contributing to the transmission of the financial crisis onto the economy? Panizza's study concluded that government debt insolvency exposes underlying issues in the economy, leading to a capital outflows, thus reducing investment and private consumption in the economy (Panizza et al., 2009). The impact of high debt on the economy can be described as follows: in order for the country to successfully make increasing interest payments, at some point the government will have to raise taxes, which in turn may force out private investment in the economy. As private investment declines, the price of capital rises. Lower investment significantly reduces the potential of the economy (Elmeskov et al. 2012). The Argentine debt crisis of the 1980s, where the post-crisis period is referred to as the lost decade, has been extensively studied in scientific literature. As a result of the crisis, the output of the working-age population fell by 30% and was 20% lower than projected at the end of the decade, debt service costs rose sharply and the trade balance deteriorated (Kydland et al., 2003, Arellano 2008).

As a result of the Covid-19 pandemic, many countries imposed various restrictions, closed borders, cancelled flights, restricted access to catering and entertainment services, etc., which had a significant impact on economic growth. Countries are trying to stimulate their economies. As monetary

policy has already reached the zero lower bound, fiscal policy is now a more effective tool (Curdia, 2020 un Arque, 2020). The scientific literature has concluded that the fiscal policy expenditures multiplier works better during an economic slowdown. Ramey’s study (2011) concluded that the value of the fiscal multiplier under normal conditions is 0.8, while during an economic recession it increases to 1.5 (Ramey, 2011). Similar conclusions were expressed by Auerbach and Gorodnichenko, who argue that the value of the expenditure multiplier may exceed 2 during an economic recession (Auerbach and Gorodnichenko, 2012).

The authors of this study, based on the findings in the scientific literature, conclude that fiscal policy is an effective tool for stimulating economic growth in times of crisis. Figure 1 shows the dynamics of general government debt to GDP in euro area countries from 2000 to 2021. According to Figure 1, several trends emerged – during the 2000–2007 period general government debt to GDP declined in most euro area countries, whereas an increase in debt burden can be observed starting from 2007 mainly due to the financial crisis of 2008–2009, which led to a decline in government revenues and the adoption of expansionary fiscal policy. According to the forecasts of euro area member states for 2020–2021, indicated in Draft budgetary plans (European Commission, 2020), the general government debt of euro area countries will increase by 13.8 percentage points, which is 2.8 percentage points lower than the increase in general government debt during the financial crisis of 2008–2009; however, it should be noted that these projections were developed under conditions of great uncertainty and did not incorporate the second wave scenario of the Covid-19 pandemic.



Source: Authors’ construction based on Eurostat database and European Commission Draft budgetary plans of euro area member states

Fig. 1. Development of general government debt as % of GDP in euro area member states during 2000-2021

Analysing the scientific literature, the authors of this study conclude that the increase in government debt has a negative impact on the sustainability of public finances and economic growth, and under normal circumstances, increase in government debt is not desirable if its costs outweigh the potential benefits. It should be taken into account that every year significant funds are diverted from the state budget for debt service, which in turn reduces the funds available for public services (health care, education, etc). However, given the situation created by the Covid-19 pandemic and the limited range of economic policy instruments available, stimulating the economy through fiscal policy is the appropriate solution. This situation causes an inevitable increase in government debt, but there is no clear answer as to whether it means that national budgets need to be consolidated or taxes need to be raised in the future.

In the scientific literature, government debt is considered sustainable if the country is able to fully meet its accumulated obligations. In fact, the sustainability of government debt is determined according to the following equation:

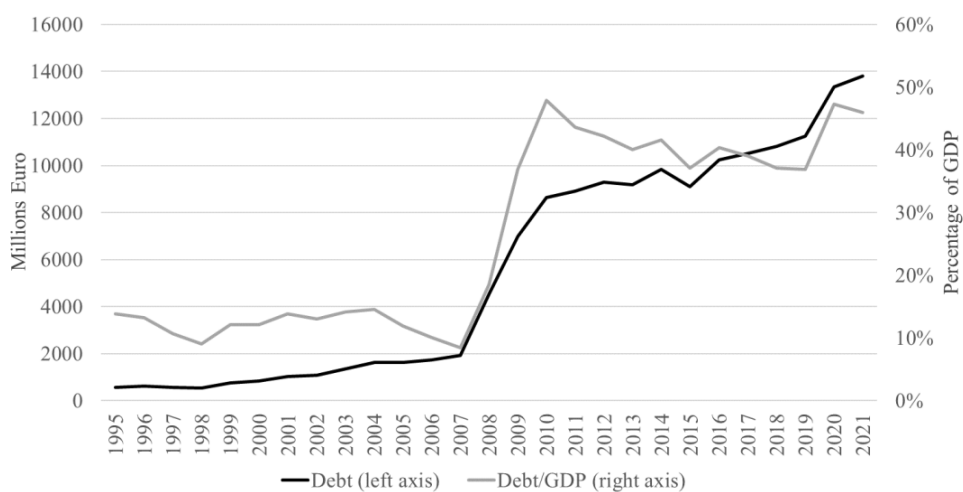
$$\Delta b_t = \frac{r_t - g_t}{1 + g_t} b_{t-1} - pb_t + dda_t \quad (1)$$

which helps to identify the factors that influence changes in government debt (Δb_t) relative to GDP, which is formed by the snowball effect – the effect of the difference between the average nominal interest rate on government debt and the growth rate of gross domestic product, which is multiplied by the ratio of government debt to GDP in the previous period; primary budget balance (pb_t); deficit-debt adjustment (dda_t), which consists of transactions that do not affect the government budget deficit, but affect the government debt (purchase and sale of financial assets, revaluation, etc.), as well as the raising of funds, which provides the necessary liquidity (Bouabdallah et al., 2017). In his research, Blanchard has

further developed the idea that government debt is considered sustainable if the difference between interest expenditure growth and economic growth is negative ($r-g$), i.e. interest expenditure grows slower than the economy grows, thus government debt as a percentage of GDP decreases over time and is considered sustainable. According to Blanchard, it is precisely the negative difference between these two indicators that is the main reason why countries need to carry out fiscal expansion in order to stimulate the economy, especially at low interest rates (Blanchard 2019). However, lower interest expenditure growth relative to economic growth is not new phenomena and has been observed in the past. Rogoff emphasises that sooner or later interest expenditure will increase and countries will have to be able to meet their obligations (Rogoff, 2020). At the same time, Rogoff emphasises that an expansionary fiscal policy, at current rates, is an appropriate tool to finance infrastructure projects and provide additional investment to reduce cyclical fluctuations. IMF researchers conclude in their study that over a span of 70 years, periods when the $r-g$ margin is negative become shorter as debt increases (Weicheng et al., 2020). However, this approach has two limitations: 1) small changes in interest expenditure growth or small changes in economic growth rates may change the trajectory of sustainable debt growth to unsustainable; (2) in the case of similar economic growth rates and interest expenditure growth rates, small shocks could have a significant impact on the sustainability of government debt (Briceno et al., 2020).

Debt Sustainability in Latvia

Data on general government debt in Latvia is available from 1995 (see Fig. 2.), when the debt was 13.9% of GDP. Latvia's debt was relatively stable until 2007, but during the financial crisis of 2008–2009, the value of debt rose to 47.9% of GDP. Starting from 2010, a gradual reduction in debt could be observed until 2020, when the government adopted a series of measures to support the economy as a result of the Covid-19 pandemic, which, together with declining tax revenues, had a significant impact on debt growth. Taking into account the adopted support measures, the general government debt-to-GDP ratio is projected to increase to 47.3% (Ministry of Finance, 2020), which is 0.6 percentage points less than after the financial crisis of 2008–2009. For comparison, in 2010 the government debt in Latvia increased by 39.5 percentage points compared to 2007, while in 2020, compared to 2019, it is planned that the debt will only increase by 10.4 percentage points, which shows how different the situation in Latvia was during the financial crisis of 2008–2009.

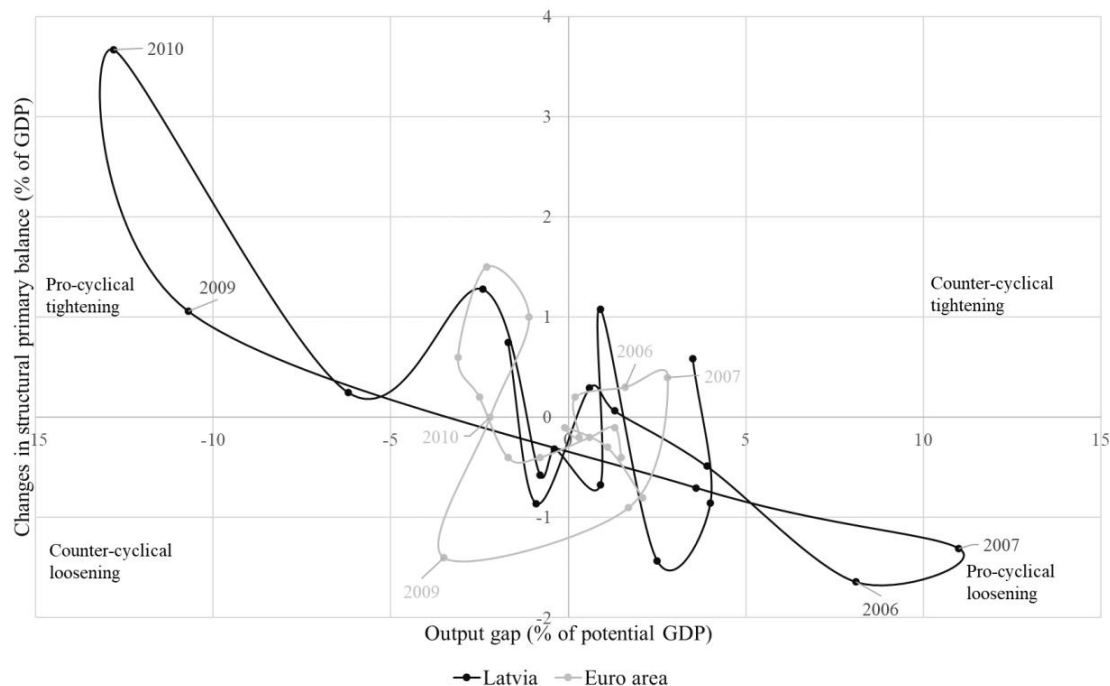


Source: Authors' construction based on Eurostat database and Latvia's Draft budgetary plan 2021

Fig. 2. Development of general government debt in Latvia from 1995 to 2021

Comparing the impact of the financial crisis of 2008–2009 on the general government debt in Latvia with the euro area average, it can be concluded that Latvia's debt increased by 39.5 percentage points, while the average increase in euro area countries was 16.6 percentage points. Such a large difference can be explained by the fiscal policy pursued before the financial crisis (see Fig. 3). In 2006 and 2007, in addition to the positive output gap – the economy was above potential, expansionary fiscal policy was also pursued – the changes in the primary balance were negative, indicating that before the financial crisis of 2008–2009 no funds were accumulated to stimulate the economy during a business cycle change. Whereas, in euro area countries, contractionary fiscal policy was pursued with a positive output gap, thus creating a surplus in the primary balance. At the onset of the most serious phase of the financial crisis in 2009, euro area countries pursued expansionary fiscal policy, in keeping with Keynes' policy of increasing spending at a time of economic downturn. In Latvia, on the other hand, in line with IMF conditions, spending was significantly

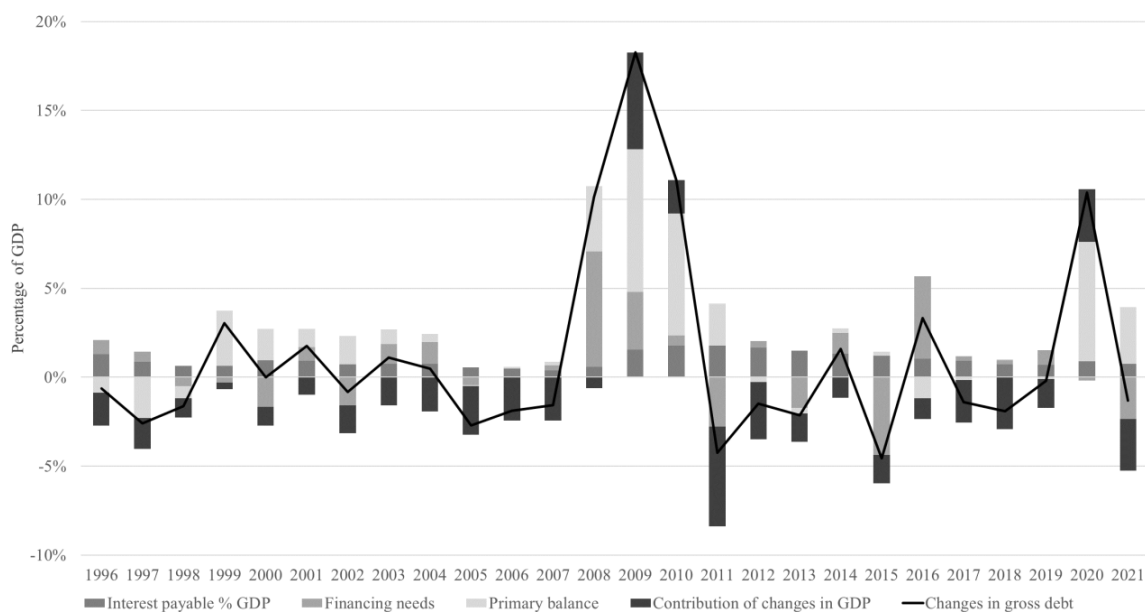
curtailed, thus exacerbating the economic recession. The authors of this study have no answer as to whether, given the lack of financial resources and the inability to attract them from the financial market, Latvia had other options for overcoming the economic recession.



Source: Authors` construction based on Ameco database

Fig. 3. Fiscal policy stance in Latvia and Euro area from 2001 to 2019

By dividing general government debt into components, it is possible to determine which factors have contributed to the increase or decrease of debt-to-GDP (see Fig. 4). During the financial crisis of 2008–2009, the increase in debt was driven by the primary budget balance deficit and the decline in GDP, while, in the post-crisis period, debt-to-GDP was reduced mainly by GDP growth. The primary budget surplus has had a significant positive impact on general government debt-to-GDP only in 2016. Of the 10.4 percentage point increase in total debt in 2020, 3.0 percentage points are expected to be a result of a fall in GDP, while 6.7 percentage points are expected to be a result of the primary balance deficit, taking into account both declining tax revenues and discretionary decisions by the government. The rest of the increase is related to interest expenses. Financing needs are transactions related to liquidity provision.

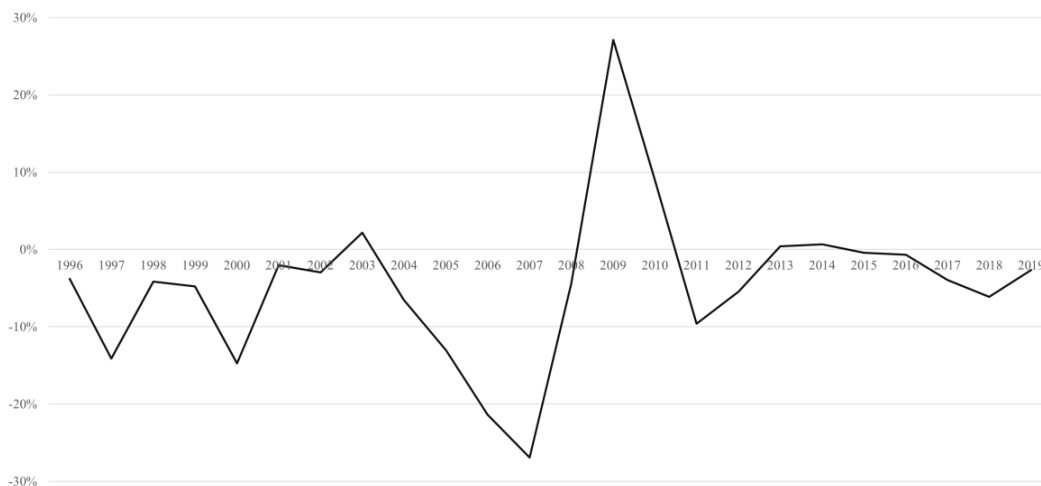


Source: Authors` construction based on Eurostat database and Latvia`s Draft budgetary plan 2021

Fig. 4. Decomposition of general government debt in Latvia from 1995 to 2021

The general government debt decomposition strongly demonstrates that the rather large fluctuations in debt-to-GDP are related to the provision of liquidity – the Treasury raises funds both to ensure current payments and to repay the principal amount of the debt, for example in 2015. Liquidity provision on average accounted for 7.7 percentage points of total debt in the period from 2010 to 2019, but at the same time this indicator is characterised by large fluctuations. For the debt sustainability analysis, it will be assumed that no liquidity provision activities will be performed in the future.

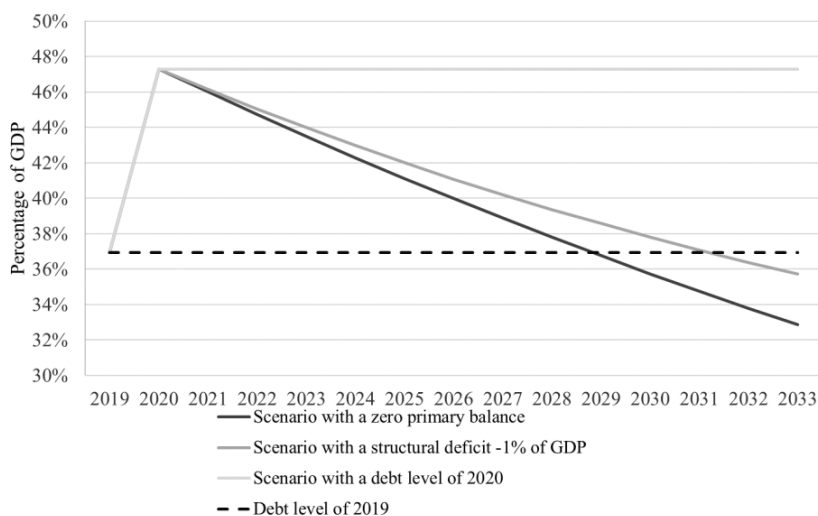
In addition, in order to check whether the condition $r < g$ is valid in Latvia, r is expressed as interest payments in year t against total government debt in year t , according to Bouabdallah (2017) and Blanchard (2019) (see Fig. 5). Since 1996, interest expenditure in Latvia has only been higher than the economic growth rate in 5 years – two of them (2009 and 2010) during the financial crisis, when a significant decline in GDP was observed.



Source: Authors' construction based on Eurostat database

Fig. 5. Difference between interest rate and economic growth in nominal terms in Latvia from 1996 to 2019

The average GDP growth rate (4.7%) at current prices for the period 2013-2019 is used in the analysis. Time period 2013-2019 was selected to avoid excessive pre-crisis, crisis and post-crisis cyclical fluctuations in GDP. While data on GDP growth before accession to the EU is too outdated and does not reflect the current economic structure. The interest rate of 2019 (1.8%) is used in the analysis. The interest rate fell from 3.8% in 2013 to 1.8% in 2019; given the ECB's accommodative monetary policy and the current economic stance (ECB, 2020), there is no reason to believe that the interest rate could rise significantly in the near future. Based on the information gathered, the authors of this study believe that economic growth will continue to exceed interest expenditure in the near future, thus reducing the general government debt resulting from the Covid-19 pandemic over time without additional fiscal effort.



Source: Authors' construction

Fig. 6. General government debt development scenarios in Latvia

Figure 6 shows the results of the analysis. The general government debt forecast for 2020 has been used in accordance with the Latvia's Draft budgetary plan (Ministry of Finance, 2020). In the scenario where the primary balance is equal to 0, general government debt will return to the level of 2019 after 8 years, while in the scenario where the structural deficit is -1% of GDP (according to the SGP, the general government structural deficit target for euro area member states should not exceed 1% of GDP), the general government debt will return to 2019 level in 11 years. If the government chooses to keep general government debt at the level of 2020, then the government may plan a fiscal policy with a structural deficit of 2.2% of GDP or a primary deficit of 1.3% of GDP, in which case the terms of the SGP would be violated. The question of whether the conditions of the SGP are in line with the situation in Latvia remains open – it is possible to avoid an increase in the general government debt by planning the general government budget deficit above the targets set in the SGP.

According to the obtained results and based on the findings of the analysis of the scientific literature, the authors of the study conclude that the increase in general government debt as a result of the Covid-19 pandemic is not considered to be a threat to debt sustainability, as debt is projected to decline over time if general government budget deficit will not exceed 2.2% of GDP. However, the situation may change if economic growth is lower than the assumption used by the authors or interest expenses increase rapidly due to changes in the ECB's monetary policy stance or investors demanding a higher premium on Latvian debt securities (roll-over risk). Additionally, in the case of Latvia, worrying threats to fiscal sustainability are related to the demographic situation – the declining population of Latvia (on average by 2% annually) and the aging of the population, which requires additional expenditures from the state budget and slows down the GDP growth. Thus, the debt burden may increase in the future and may lead to a review of existing tax policies to increase budget revenues. Unexpected burden on public finances can also be caused by various external shocks, such as a deterioration in the geopolitical situation, a slowdown in growth in major export markets.

Conclusions

1. In scientific literature, government debt is considered to be sustainable if the country is able to meet its obligations without significant adjustments, including tax increases, but cases such as debt restructuring or late payments are considered to be cases of government debt insolvency.
2. Scientific literature does not indicate a specific amount of government debt, which negatively affects the sustainability of public finances or economic growth, but there is a trend – the higher the debt, the more threatened the stability of public finances and the lower the economic growth.
3. According to the Draft budgetary plans of euro area member states, as a result of the impact of the Covid-19 pandemic, government debt will increase on average by 13.8 percentage points, which is only 2.8 percentage points less than it was after the financial crisis of 2008–2009.
4. Latvia's general government debt is projected to increase by 10.4 percentage points, which is 29.1 percentage points less than the increase in general government debt during the financial crisis of 2008–2009.
5. Since 1996, interest expenditure on general government debt in Latvia has only been higher than the GDP growth rate for 5 years, as a result debt-to-GDP has decreased significantly due to GDP growth.
6. The increase in Latvia's general government debt as a result of the Covid-19 pandemic is not considered to be a threat to government debt sustainability; according to the authors' forecasts, general government debt will decrease over time if the general government structural deficit does not exceed 2.2% of GDP or the primary deficit does not exceed 1.3% of GDP.
7. The sustainability of Latvia's general government debt may be adversely affected by lower economic growth, restrictive monetary policy, higher premium for investors, as well as negative demographic development and population ageing.

Bibliography

- Acharya, V.V., Drechsler, I., Schnabl, P., 2013. *A Pyrrhic Victory? Bank Bailouts and Sovereign Credit Risk*. Working paper, NYU Stren.
- Arellano, C., 2008. Default Risk and Income Fluctuations in Emerging Economies. *American Economic Review*, 98(3), 690-712.
- Arquie, A., Hericourt, J., Tripier, F., 2020. *Covid-19: Has the Time Come for Mainstream Macroeconomics to Rehabilitate Money Printing?* CEPII Policy Brief, No 31 [Online] Available at: http://www.cepii.fr/PDF_PUB/pb/2020/pb2020-31.pdf [Accessed 4 November 2020].
- Auerbach, A.J., Gorodnichenko, Y., 2012. *Fiscal Multipliers in Recession and Expansion. Fiscal Policy After the Financial Crisis*. National Bureau of Economic Research, pp. 63-98.
- Blanchard, O.J., 2019. Public Debt and Low Interest Rates. *American Economic Review*, 109(4), 1197-1229.

- Briceno, H.R., Perote, J., 2020. Determinants of the Public Debt in the Eurozone and Its Sustainability Amid the Covid-19 Pandemic. *Sustainability*, 12(16), 6456, <https://doi.org/10.3390/su12166456>.
- Boreinsztein, E., Panizza, U., 2009. The Costs of Sovereign Default. *IMF Staff Papers*, 56, 683-741.
- Bouabdallah, O., Checherita-Westphal, C., Warmeding, T., Stefani, R., Drudi, F., Setzer, R., Westphal, A., 2017. *Debt Sustainability Analysis for Euro Area Sovereigns: a Methodological Framework*. ECB Occasional Paper Series No. 185, April, 2017, [Online] Available at: <https://www.ecb.europa.eu/pub/pdf/scpops/ecbop185.en.pdf> [Accessed 4 October 2020].
- Bulow J., Reinhart C., Rogoff K., Trebesch C., 2020. *The Debt Pandemic*. Finance & Development, September 2020 [Online] Available at: <https://scholar.harvard.edu/files/rogoff/files/debt-pandemic-reinhart-rogoff-bulow-trebesch.pdf> [Accessed 7 October 2020].
- Caner, M., Grennes, T., Koehler-Geib, F., 2010. *Finding the Tipping Point – When Sovereign Debt Turns Bad*. World Bank Policy Research Working Paper, No. 5391.
- Cecchetti, S., Monhanty, M., Zampolli, F., 2011. *The Real Effects of Debt*. BIS Working Paper No.352.
- Curdia, V., 2020. *Mitigating COVID-19 Effects with Conventional Monetary Policy*. Federal Reserve Bank of San Francisco [Online] Available at: <https://www.frbsf.org/economic-research/files/el2020-09.pdf> [Accessed 4 November 2020].
- Elmeskov, J., Sutherland, D., 2012. *Post-Crisis Debt Overhang: Groth and Implications across Countries*. OECD, [Online] Available at: <http://www.oecd.org/dataoecd/7/2/49541000.pdf> [Accessed 26 October 2020].
- European Central Bank, 2020. *Monetary Policy Decisions*. [Online] Available at: <https://www.ecb.europa.eu/press/pr/date/2020/html/ecb.mp201029~4392a355f4.en.html> [Accessed 15 November 2020].
- European Commission, 2020. *Annual Draft Budgetary Plans (DBPs) of Euro Area Countries*. [Online] Available at: https://ec.europa.eu/info/business-economy-euro/economic-and-fiscal-policy-coordination/eu-economic-governance-monitoring-prevention-correction/stability-and-growth-pact/annual-draft-budgetary-plans-dbps-euro-area-countries_en [Accessed 8 November 2020].
- European Commission, 2020. *History of the Stability and Growth Pact*. [Online] Available at: https://ec.europa.eu/info/business-economy-euro/economic-and-fiscal-policy-coordination/eu-economic-governance-monitoring-prevention-correction/stability-and-growth-pact/history-stability-and-growth-pact_en [Accessed 1 November 2020].
- European Commission, 2020. *Stability and Growth Pact* [Online] Available at: https://ec.europa.eu/info/business-economy-euro/economic-and-fiscal-policy-coordination/eu-economic-governance-monitoring-prevention-correction/stability-and-growth-pact_en [Accessed 1 November 2020].
- European Council, 2020. *Statement of EU Ministers of Finance on the Stability and Growth Pact in the Light of the Covid-19 Crisis*. [Online] Available at: <https://www.consilium.europa.eu/en/press/press-releases/2020/03/23/statement-of-eu-ministers-of-finance-on-the-stability-and-growth-pact-in-light-of-the-covid-19-crisis/> [Accessed 1 November 2020].
- Eurostat, 2020. *Government Finance Statistics*. [Online] Available at: <https://ec.europa.eu/eurostat/web/government-finance-statistics/overview> [Accessed 1 November 2020].
- Gelos, R.G., Sahay, R., Sandleris, G., 2011. Sovereign Borrowing by Developing Countries: What Determines Market Access? *Journal of International Economics*, 83(2), 243-254.
- Gennaioli, N., Martin, A., Rossi, S., 2014. Sovereign Default, Domestic Banks, and Financial Institutions. *Journal of Finance*, 69(2), 819-866.
- International Monetary Fund (IMF), 2002. *Sovereign Debt Restructuring and the Domestic Economy Experience in Four Recent Cases*.
- Kumar, M. S., Woo, J., *Public Debt and Growth*. IMF Working Paper 10/174, July 2010.
- Kydland, F.E., Zarazaga, C.E., 2003. *Argentina's Lost Decade and Subsequent Recovery: Hits and Misses of Neoclassical Growth Model*. Center for Latin America Working Papers 0403, Federal Reserve Bank of Dallas.
- Ministry of Finance of the Republic of Latvia, 2020. *Draft Budgetary Plan 2021*. [Online] Available at: https://www.fm.gov.lv/lv/sadala/tautsaimniecibas_analize/fiskala_politika/latvijas_visparejas_valdibas_budzeta_plana_projekts/ [Accessed 18 November 2020].
- Panizza, U., Sturzenegger, F., Zettelmeyer, J., 2009. The Economics and Law of Sovereign Debt and Default. *Journal of Economic Literature*, 47(3), 651-698.
- Ramey V.A., 2011. Can Government Purchases Stimulate the Economy? *Journal of Economic Literature*, 49(3), 673-685.
- Reinhart, C.M., Rogoff, K.S., 2010. Growth in Time of Debt. *American Economic Review*, 100(2), 573-578.
- Reinhart, C.M., Rogoff, K., 2009. *This Time is Different: Eight Centuries of Financial Folly*. Princeton, NJ: Princeton University Press.
- Reuters, 2020. *How the Coronavirus is Crushing Credit Ratings*. July, [Online] Available at: <https://in.reuters.com/article/us-health-coronavirus-ratings-graphic-idINKCN24U18Y> [Accessed 14 October 2020].
- Rogoff, K.S., 2020. Falling Real Interest Rates, Rising Debt: A Free Lunch? *Journal of Policy Modeling*, 42(4), 778-790.

Santos, A., 2003. *Debt Crisis in Russia: the Road from Default to Sustainability*. Russia Rebounds: International Monetary Fund, 154-183.

Weicheng, L., Presbitero, A.F., Wiriadinata, U., 2020. *Public Debt and r-g at Risk*. IMF Working Paper, WP/20/137.

Wyplosz, C., 2007. *Debt Sustainability Assessment: The IMF Approach and Alternatives*. HEI Working Paper No: 03/2007.

Zettelmeyer, J., Trebesch, C., Gulati, M., 2013. The Greek Debt Restructuring: An Autopsy. *Economic Policy*, 28(75), 513-563.