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ANALYSIS OF FISCAL POLICY SUSTAINABILITY ON THE BASIS OF NET WORTH IN SOME EUROPEAN COUNTRIES

Introduction

The government's policy on public finance should focus on maintaining long-term sustainability in order to create conditions for long-term economic and social development.

Conventional indicators of fiscal policy, among them deficit and debt ratios, do not give enough information on long-term sustainability of public finance, with respect to fiscal policy. The main reason for their low informative value lies in the fact that they do not take into account future development and their financial consequences. The other problem is that the "traditional" measures show only the liabilities side of the financial situation of a given country and the current budget situation. The aim of this paper is to show that the evaluation of public finance condition and fiscal policy sustainability should include an analysis of the whole balance sheet in order to show how public property is managed and whether public wealth is created or spent on current consumption. On the basis of data available in the Eurostat database an analysis of debt, deficit and financial net worth ratios was conducted for eight European countries: Belgium, Bulgaria, Greece, Spain, Italy, Hungary, Poland and Sweden in the period of 1999–2010. These countries have been selected in order to show the different types of issues in fiscal policy sustainability which could be observed on the basis of a comparison of tendencies in the financial net worth and gross debt and deficit measures.

Public finance sector risks

Governments in Europe and all over the world are facing increasing fiscal risks and uncertainties. Considerable volatility of private capital flows and increasing dependence of countries on foreign capital have worsen the vulnerability of their domestic financial and corporate sectors, and therefore, implicitly, that of the government. Proper relation between risk and the rate of return is the most important investment decision criterion on global capital markets. Due to the ease of global capital flow, domestic assets of any country are subject to the rapidly changing preferences of foreign investors. Emerging market economies and

economies in transition are especially prone to high volatility of capital flows. The following risks are typical of the public finance sector¹:

- policy high exchange and interest rates,
- valuation of domestic assets (assets bubble).
- intermediation interest rate differential and weak domestic financial system.
- borrowing over-borrowing and short-term borrowing by government and market institutions.

The interrelation between these risks may lead to the dumping of domestic equity, bonds and currency by investors. For example, such conditions occurred in 1990s in Mexico, Asia and Russia and caused a crisis which partly had to be solved at taxpayers' expense.

Additionally, it has to be noted that governments have also transformed their role – they no longer directly provide and finance services but guarantee conditions for the private sector to accomplish certain outcomes. Although this helps to reduce the current financial obligations of the government, it does not reduce the risk. It rather increases the uncertainty about future public financing requirements. There is always a possibility that a guarantee will be called or that the reserve funds will not be sufficient to cover the losses.

Implementation of off-budget policies by government is also an important issue. This approach involves taking more financial risk but require less immediate financing. In a short-term political horizon and in the time of deficit reduction, policymakers exploit the fact that off-budget commitments and obligations might not be reported and therefore the cost of government policies is hidden. There are many examples of fiscal opportunism in the countries adjusting to the Maastricht Treaty criteria². Off-budget forms of government support include state guarantees, direct credit, absorption of private liabilities and bad assets. In consequence, that kind of activity increases government contingent fiscal risks but the costs and probable cash outflows of such decisions will be seen in a distant future.

Explicit state guarantees and insurance schemes result in implicit understanding that the government will rescue a business unit in the case of any market failure. Such assumptions generate serious problems of moral hazard in the markets. Namely³:

- loans and investments with a full guarantee suffer from insufficient analysis and creditors' supervision,
- beneficiaries of poorly designed state insurance schemes tend to expose themselves to excessive risks.

¹ H. Polackova: *Contingent liabilities: a threat to fiscal stability*, World Bank PREM notes No. 9, November 1998, p. 3.

² The 1992 Treaty of Maastricht sets the following fiscal limits: general government deficit as a net borrowing requirement, 3 percent of GDP and total gross debt at nominal value outstanding at the end of the year and consolidated within general government, 60 percent of GDP. Both deficit and debt are calculated according to the European System of National Accounts ESA78. ESA78 only roughly defines the general government and does not require the recording of government transactions on an accrual basis and of assets at market value.

³ H. Polackova: op.cit., p. 6.

When such kind of market behaviour is observed, it is more likely to expect that governments will be called on to provide financial support in a certain future.

Given that a government owns certain commitments and promises outside the budgetary system, it can be expected that the analysis of the past fiscal performance and future fiscal developments will be incomplete and biased. More importantly – the contingent fiscal risks are becoming visible only ex post, when an unexpected requirement for public financing appears. Only few countries estimate and report on fiscal risks and contingent liabilities (USA, Brazil, New Zealand, Australia, and, partially, Italy). Proper analysis of the public finance situation should include all those off-budget forms of government's support in order to estimate the risk correctly.

Fiscal performance evaluation criteria

Until now there has not been any generally and internationally accepted fiscal performance estimation criteria to address contingent government expenditure and encourage governments to report sound fiscal performance and focus on fiscal stability in the long term perspective. The tradeoff between long-term fiscal stability and the target level for the budget deficit and debt, and between the quality of fiscal adjustment and the speed of deficit reduction may surface through fiscal opportunism and non-sustainable policies.

Current requirements of international authorities and institutions, for example the convergence criteria for countries bidding for European Monetary Union membership, focus on a cash-based budget, deficits and debt. This leads to the distortion of government decisions about spending priorities and the timing and form of government support.

Some opportunistic government behaviours have been identified to meet the convergence criteria of the Maastricht Treaty, among them: selling state assets and postponing infrastructure investment and maintenance expenditure, as well as favouring trade credit as a form of support (of financing)⁴.

Public finance sector net worth concept and practical aspects of estimation

A broader analysis of the public finance condition, extending beyond the static debt and deficit measures, is a challenge. Net worth is a concept known and accepted among economists. Change in net worth as a definition of deficit is recognized as the right conceptual measure, although various authors define net worth in different ways⁵.

⁵ A.F. Ott, J.H. Yoo: *The Measurement of Government Saving*, [in:] *The Government and Capital Formation*, ed. G.M. von Furstenburg, Ballinger Publishing Company, Cambridge MA 1980; W. Buiter: *Measurement of the Public Sector and Its Implications for Policy Evaluation and Design, IMF Staff Papers*, Vol. 30 (June 1983); M.I. Blejer, A. Cheasty: *The Measurement of Fiscal Deficits: Analytical and Methodological Issues*, Journal of Economic Literature, vol. XXIX (December 1991).

⁴ See the full list in H. Polackova: op.cit., p.13

According to M.I. Blejer and A. Cheasty⁶, government assets should include:

- financial assets,
- real capital including nonmarketable social overhead capital,
- equity (mainly in public enterprises partly marketable),
- land and mineral assets (discovered and undiscovered partly marketable).
- present value of the future tax program (including social security contributions),
- imputed present value of seigniorage.

And liabilities should include:

- government debt (domestic and foreign, indexed or not),
- the stock of high-powered money,
- present value of social insurance and other entitlement programs (including guarantees).

Net worth is the difference between assets and liabilities. Unfortunately, this conceptual framework is very far from being operational, although it is a clear and financially grounded objective concept. The definitions of the capitalized value of tax and spending programs are very controversial. Equally difficult is the valuation of tangible assets due to the massive scale resulting from the size of complete public sector holdings. Moreover, prices might be hard to identify. There are also problems with the reporting requirements applied in individual countries and those that must be met for statistical purposes. Eurostat does not require reports on the value of nonfinancial assets; therefore the only data available refers to financial assets.

In the basic concept of net worth all financial and nonfinancial assets accumulated over the years are summed up on one side, and all debt and other liabilities on the other – the difference is the public sector net worth. By recording both assets (nonfinancial and financial) and liabilities, the balance sheet enables analysts to assess the impact of fiscal policies on net worth and to evaluate trends in net worth over time as a basis for determining the sustainability of fiscal policies⁷.

Balance sheet positions of general government reported by Eurostat include in total assets: non-financial assets and financial assets. Financial assets include: currency and deposits, securities other than shares, loans, shares and other equity, other financial assets. Liabilities include: currency and deposits, securities other than shares, loans, shares and other equity, other liabilities. Therefore, net worth could be equal to the total assets net of liabilities, provided that data on non-financial assets were available.

In 2001 the International Monetary Fund presented a methodology of calculating net worth for public finance⁸, including the change in net worth recommended as a ratio dedicated to estimate the sustainability of fiscal policy. Additionally, the IMF recommended the

⁶ M.I. Blejer, A. Cheasty: op.cit., p. 1669, cited after W. Buiter: op.cit., p. 310.

⁷ B. Traa, A. Carare: *Government's Net Worth*, Finance & Development, Volume 44, No. 2, IMF June 2007, p. 3.

⁸ Government Finance Statistics Mannual 2001.

use of the ratio of financial net worth given as the difference between financial assets and liabilities when it is not possible to estimate the value of non-financial assets.

Theoretically, adjustment of fiscal policy to the deficit and debt criteria should also lead to positive changes in net worth. If net worth stays unchanged, fiscal adjustment can be called an illusion9.

Some ways of adjusting fiscal policy where the value of assets decreases but the value of net worth remains constant include¹⁰:

- selling state owned companies,
- decreasing public investment when fiscal policy is tightened it is capital expenditure that decreases first; it decreases to a higher extent than current expenditure.
- decreasing maintenance costs of assets reduces accumulation of assets.
- postponing infrastructure expenditure,
- bringing forward tax collection,
- delaying financial crisis in bank sector disclosure where the government has explicit or implicit guarantees,
- government can require the pension funds to lend to the government at a negative real interest rate11.

Selling assets could indirectly weaken the fiscal discipline, as it could create the "illusion" that when gross debt is lowered public finances are more sustainable and consequently tax discipline could be relaxed. Examples of asset sales are given in Table 1.

Table 1 Examples of operations involving sales of nonfinancial assets in European countries in 2000–2006

Country	Years	Type of operation	Value [% of GDP]
Belgium	2001–2006	sales of public assets	0,9
Greece	2000–2001	securitization operations	2,6
Italy	2000–2006	securitization and sales of real estate assets	1,9

Source: on the basis of S. Fabrizio: Should Italy Sell Its Nonfinancial Assets to Reduce the Debt?, IMF Policy Discussion Paper PDP/08/1, April 2008, p. 5.

For example, in Italy the sale of assets and other one-off measures¹² were used extensively during 1997-2006 and helped Italy to formally comply with the Maastricht fiscal criteria. However, these measures have not generally been accompanied by structural mea-

⁹ W. Easterly: When fiscal adjustment is an illusion?, The World Bank, Policy Research Working Paper Series, nr 2109, 1999, p. 2.

¹⁰ *Ibidem*, p. 3–8.

¹¹ For example Costa Rica, Ecuador, Egypt, Peru, Turkey. The lowest rate was in Peru in the amount of -37,4%.

¹² One-off measures refer to government decisions of a non-recurrent nature. They affect general government net lending/borrowing for a few years but not permanently.

sures¹³ to reduce the deficit and debt. It will be shown in the following part of the paper that the reduction of debt was accompanied by the reduction of the financial net worth in Italy.

Belgium is also an example of assets sale. But the fiscal discipline was relaxed to a far less extent than in Italy, which had implications for the financial net worth amounts. Corporate tax rates in Belgium were reduced in 2002 from the level of 40,2% (in force since 1993) to 34%, and they were constant until 2011. In Italy on the other hand, tax rates have been lowered continually since 2000 from 37% up to 27,5% in 2011 (in force since 2008).

Analysis of public finance ratios in selected European countries

Selected European countries were studied using the financial net worth methodology. These countries included Belgium, Bulgaria, Hungary, Italy, Greece, Spain, Poland, and Sweden. All these countries represent a different type of problems and public finance policies, as well as different phase of European Union membership, which is important from the point of view of meeting the convergence criteria. The study focuses on differences in public finance evaluation done on the basis on debt and deficit convergence criteria (only the liabilities side of the balance sheet) and the evaluation including the financial net worth. All the amounts are analyzed in relation to GDP. The data were obtained from Eurostat online resources.

An analysis of gross debt, together with general government deficit/surplus¹⁴ and financial net worth can show a different perspective of the actions taken by governments in order to deal with public finance problems. A general overview of the situation in the countries under study is given. The purpose of this analysis is to show that the evaluation of public finance situation should not be done only on the basis of basic debt, budget and deficit measures. When the scope is enlarged by the net worth measure or at least financial net worth measure, the analysis can lead to reverse conclusions.

Additionally, in order to show the weaknesses and strengths of fiscal policy and public finance condition in particular countries an analysis of correlation between changes in assets and changes in liabilities and also changes in liabilities and changes in net worth was conducted.

¹³ Structural measures, in this context, refer to government decisions that permanently affect general government net lending/borrowing.

The general government deficit/surplus is defined in the Maastricht Treaty as general government net borrowing/lending according to the European System of Accounts (ESA95). It is the difference between the revenue and the expenditure of the general government sector. The government deficit data related to the EDP (EDP B.9) differs from the deficit according ESA95 (B.9) for the treatment of interest relating to swaps and forward rate agreements. The general government sector comprises the sub-sectors of central government, state government, local government and social security funds. The series are presented as a percentage of GDP and in millions of euro. GDP used as a denominator is the gross domestic product at current market prices.

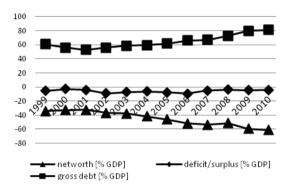


Figure 1. Ratios of gross debt, deficit/surplus and financial net worth in relation to GDP in the period of 1999–2010 in Hungary

Source: own calculations on the basis of Eurostat data.

The situation in Hungary is a classic example of the increase of gross debt along with the decrease of financial net worth. Although current budget deficit fluctuates around 5–7% in relation to GDP, and there were actions taken to decrease the deficit¹⁵, the debt increases relatively fast, especially in years of economic slowdown and the crisis on financial markets in the period of 2008–2010.

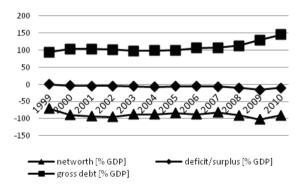


Figure 2. Ratios of gross debt, deficit/surplus and financial net worth in relation to GDP in the period of 1999–2010 in Greece

Source: own calculations on the basis of Eurostat data.

The problems of the Greek public finance do not result only from the high levels of gross debt in relation to GDP. When the relation of financial net worth to GDP is analysed,

¹⁵ Including increase of corporate tax in 2006 from 16% to 17,33% and another one in 2007 up to 20%.

one can notice that Greece has a very low level of financial assets in relation to GDP. At the same time, while debt increases, net worth decreases. This shows that debt is used to finance current consumption.

Although the current situation of Italian public finance is not as dramatic as that of Greece, comparison of the measures taken by the two countries shows that the ratios stay at similar levels. The tendencies of debt increase and financial net worth decrease are similar to those in Greece.

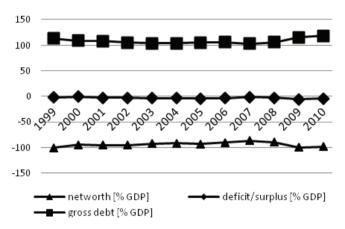
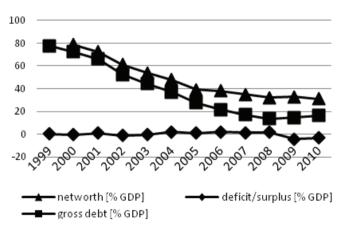


Figure 3. Ratios of gross debt, deficit/surplus and financial net worth in relation to GDP in the period of 1999–2010 in Italy

Source: own calculations on the basis of Eurostat data.



Financial assets and liabilities data were not available for 1999.

Figure 4. Ratios of gross debt, deficit/surplus and financial net worth in relation to GDP in the period of 1999–2010 in Bulgaria

Source: own calculations on the basis of Eurostat data.

The Bulgarian example shows a very dynamic decrease of gross debt which is observed along with a net worth decrease in relation to GDP. When reference is made to real values, one can observe that gross debt fluctuates around a similar value, but the pace of GDP growth is intense, therefore the decrease of the ratio results from the changes of GDP. Bulgaria is one of a few countries in Europe with a positive value of financial net worth, which indicates a big value of financial assets resulting from the high value of currency and deposits and shares and other equity. This results from the conservative management of public assets and central bank reserves. When Bulgaria joined the European Union in 2007, its gross debt in relation to GDP stabilized, but the financial net worth was still declining, although the pace of the decline was lowered considerably.

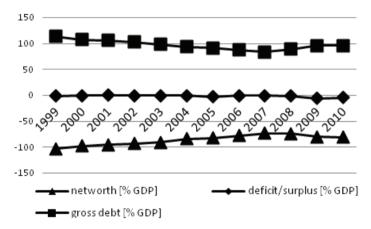


Figure 5. Ratios of gross debt, deficit/surplus and financial net worth in relation to GDP in the period of 1999–2010 in Belgium

Source: own calculations on the basis of Eurostat data.

The ratios of Belgium could be analyzed along with those describing Spain. The trends to reduce debt, increase financial net worth and keep deficit close to zero were similar until 2007. An increase of deficit started in 2008 along with the increase of gross debt and decrease of financial net worth. This shows that problems in public finance sector started during the financial crisis, but also due to the pace of changes, which were much more intense in Spain than in Belgium. One can say that Belgium's public finance were much more sustainable than the Spanish ones, although the gross debt (financial net worth) of Spain was decreasing (increasing) much faster than in Belgium. This could be an indicator of a better condition of Spain, especially that the relation of gross debt (financial net worth) to GDP is much higher (lower) in Belgium than in Spain.

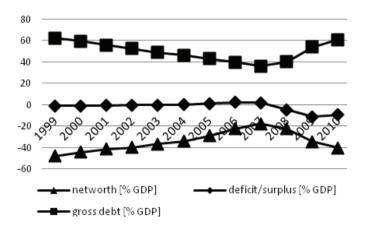


Figure 6. Ratios of gross debt, deficit/surplus and financial net worth in relation to GDP in the period of 1999–2010 in Spain

Source: own calculations on the basis of Eurostat data.

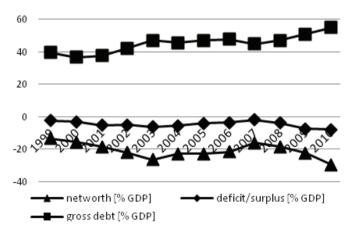


Figure 7. Ratios of gross debt, deficit/surplus and financial net worth in relation to GDP in the period of 1999–2010 in Poland

Source: own calculations on the basis of Eurostat data.

The Polish situation, in comparison with other European countries under study, could be evaluated as positive; especially the tendency in years 2003–2007 where along with the constant relation of gross debt to GDP the financial net worth was increasing. The negative trend of the gross debt increase started in 2008, but in 2010 it was still at the acceptable

level, compared to the other European countries¹⁶. The main problem was the radical decrease of financial net worth in 2010 that was higher than the increase of gross debt, which could indicate an additional decrease of financial assets along with the increase in liabilities proportionally to the debt incurred.

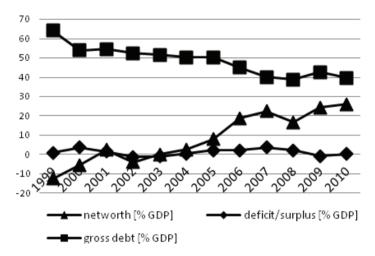


Figure 8. Ratios of gross debt, deficit/surplus and financial net worth in relation to GDP in the period of 1999–2010 in Sweden

Source: own calculations on the basis of Eurostat data.

Sweden represents the Scandinavian government as the most positive example compared to Finland and Denmark. It has had the highest budgetary surplus, decreased its public debt and increased its financial net worth in the whole period of analysis. In Finland and Denmark the economic downturn was visible in public finance measures; the Swedish government maintained the increasing trend in financial net worth with a slight dropdown in 2008, as well as the decreasing trend in gross debt and the general government surplus.

The analysis of correlation of changes in financial net worth and changes in liabilities produced three types of results and conclusions about the public finance situation. In Greece, Spain, Italy and Hungary the correlation is very high, which means that the increase in liabilities was almost in 100% responsible for the increase in financial net worth in absolute values. Taking into account the previous analysis, it is obvious that the increase in gross debt caused further decrease in the financial net worth value and therefore there was no increase in the value of financial assets. We can also notice that the countries under analysis have a very low correlation of changes in assets and liabilities which indicates that debt was

¹⁶ Although it is getting dangerously close to Polish limit of debt discipline, which is 60% of GDP.

incurred to pay current obligations. In other words, it was spent on current consumption and not to invest in assets. The worst result was obtained for Greece, which ex post indicates the current public finance crisis in that country. In the case of Poland and Sweden the values of both correlations are similar although the reasons for that differ a lot. Sweden is a very good and the only example of a country in the European Union¹⁷ which together with the reduction of the gross debt increased the value of financial net worth. When Polish results do not show a significant relationship, it is due to the absorption of EU funds and an extensive debt financing in 2003–2007.

Table 2 Correlation of changes in financial net worth and changes in liabilities (r_{NL}) and correlation of changes in financial assets and liabilities (r_{AL}) in 2001–2010

Country	r_{NL}	r_{AL}
Belgium	0,77	0,65
Bulgaria	-0,62	0,35
Greece	0,91	0,04
Spain	0,95	-0,06
Italy	0,94	0,33
Hungary	0,91	0,36
Poland	0,27	0,74
Sweden	0,24	0,70

Source: own calculations on the basis of Eurostat data.

The Bulgarian example shows a negative correlation between changes in net worth and changes in liabilities due to the fact that in real values gross debt was not declining in every period of the analysis as it was in relation to GDP (see Fig. 4); it increased in 2001, 2007, 2009 and 2010, and in the period of 2004–2008 the net worth in real values was increasing. Therefore, the relationship between changes in those variables is not significant.

Conclusions

The analysis of the financial net worth, along with the gross debt and deficit/surplus ratios, could be a very useful tool to observe general tendencies in the implementation of the public finance policy and the effectiveness of actions taken by governments in order to improve it. The analysis of financial situation in countries bidding for EMU and taking actions to adjust to convergence criteria is especially interesting. The analysis of the countries under study revealed that only Belgium and Spain succeeded (but only before 2007)

Ratios were calculated for all 27 EU countries, but results presented in this paper encompass only 8 countries.

in lowering the relation of their gross debt to GDP along with the decrease of the negative relation of the financial net worth to GDP. Most of the other countries, except for Sweden and Bulgaria, have severe problems with the increase of gross debt and further decrease of net worth. On the basis of the analysis the most sustainable fiscal policy can be observed in Sweden, while the most doubtful situation can be observed in Greece and Spain.

In a subsequent study each country could be analyzed separately to show how the decisions made in the period of analysis influenced the ratios presented in the article. Special effort should be put on the identification of changes in nonfinancial assets in order to show the total net worth, and not only the financial net worth. This could be a future field of research. The main purpose of this article was to show how an analysis conducted only on the basis of debt and deficit measures, without any closer look into the balance sheet of public finance sector, could be misleading, and how, on the basis of aggregated measures, a general comparison and overview of public finance sector sustainability and fiscal policy could be done.

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Summary

This paper aims to show that evaluation of the public finance condition and fiscal policy sustainability should include an analysis of the whole balance sheet in order to show how the public property is managed, and whether public wealth is being created or spent on current consumption. On the basis of the data available in the Eurostat database an analysis of debt, deficit and financial net worth ratios was conducted for eight European countries: Belgium, Bulgaria, Greece, Spain, Italy, Hungary, Poland and Sweden in the period of 1999–2010. The countries were selected in order to show different types of issues in the fiscal policy sustainability that could be observed on the basis of comparison of tendencies in the financial net worth and gross debt and deficit. Additionally, an analysis of correlation between changes in financial assets and changes in liabilities and also changes in liabilities and changes in financial net worth was conducted to show the weaknesses and strengths of the fiscal policy and public finance condition in the countries in question.

ANALIZA STABILNOŚCI POLITYKI FISKALNEJ NA PODSTAWIE WARTOŚCI NETTO W WYBRANYCH KRAJACH EUROPEJSKICH

Streszczenie

Celem artykułu jest wykazanie, że ocena kondycji finansów publicznych oraz stabilności polityki fiskalnej powinna zawierać analizę całego bilansu państwa tak, aby można było ocenić w jaki sposób zarządza się własnością publiczną w państwie oraz czy następuje tworzenie wartości lub czy fundusze publiczne są przeznaczane na bieżące wydatki państwa. Na podstawie danych dostępnych w bazie Eurostatu przeprowadzono analizę wskaźników zadłużenia, deficytu oraz wartości netto dla ośmiu europejskich krajów, w tym: Belgii, Bułgarii, Grecji, Hiszpanii, Włoch, Węgier, Polski i Szwecji w latach 1999–2010. Kraje zostały wybrane tak, aby pokazać różne grupy zagadnień dotyczących stabilności polityki fiskalnej, które zostały przeanalizowane na podstawie porównania tendencji w kształtowaniu się wskaźników wartości netto, długu publicznego oraz deficytu. Dodatkowo przeprowadzono analizę korelacji zmian poziomu aktywów finansowych i zmian poziomu zobowiązań oraz korelacji zmian poziomu wartości netto i zmian poziomu zobowiązań. Na tej podstawie zaprezentowano słabości oraz silne strony polityki fiskalnej i kondycji finansów publicznych analizowanych krajów.