

EXPANSIVENESS/ RESTRICTIVENESS OF MONETARY AND FISCAL POLICY IN THE CZECH REPUBLIC AND HUNGARY - COMPARATIVE ANALYSIS

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Abstract: Economic authorities (central bank and government), conducting the monetary and fiscal policy, affect the economy as well as each other. In pursuit of its goal, which is the desired level of inflation (the inflation target), the central bank applies appropriate monetary policy strategies with varying degrees of expansiveness/ restrictiveness measured by the interest rate. In turn, the government striving to achieve the goal which is the desired economic growth also uses strategies with a different degree of expansiveness and restrictiveness measured by the level of the budget deficit in relation to GDP. The decisions of economic authorities regarding the expansiveness or restrictiveness of policies are also influenced by many factors that the central bank and the government have no influence on, such as financial crises, supply shocks and others. The purpose of the article is to show the importance of the monetary and fiscal policy options in the economies of the Czech Republic and Hungary. It also stressed the context of monetary and fiscal game in relation to the direction (restrictiveness or expansiveness) of both policies. The study covered the years 2001-2017. To achieve the article's objective the following research methods were used: presentation of statistical data and statistical research methods. As a result, it was noticed that the character of monetary and fiscal policy plays a significant role in the economies under study. The originality of the analysis carried out in this article is to emphasize the importance of proper conduct of monetary and fiscal policy and their significance in economic processes in the countries studied.

Keywords: monetary policy, fiscal policy, expansiveness, restrictiveness, economy.

1 Introduction

Directions of monetary and fiscal policies – restrictive and expansionary – were discussed by A. Blinder¹ and later by H. Bennett and N. Loayza² in the context of monetary-fiscal game, in the result of which independent decisions of economic authorities may lead to Nash equilibrium. In contrast, according to the latest models this is the fiscal policy that influences a level of prices and an inflation path regardless of monetary policy.³ The last financial crisis resulted in changes in conducting monetary and fiscal policy, namely it induced to affirm unconventional activities of economic authorities and thereby changes in combination of policy mix.⁴

From the perspective of the monetary and fiscal game, inflation and economic growth are the lowest in an environment characterized by a combination of extremely restrictive monetary and fiscal policies. A monetary policy that is becoming more and more expansionary (successive cuts in interest rates) increases inflation and the rate of GDP growth. On the other hand, an increasingly expansionary fiscal policy (expanding the budget deficit) pushes up inflation and the rate of GDP growth. The highest rates of inflation and GDP growth are observed in countries where the economic authorities have chosen extremely expansionary monetary and fiscal policies. Woroniecka-Leciejewicz noted that the restrictiveness of a monetary policy depends on the government's fiscal policy. To prevent inflation from rising too high, the central bank tightens up monetary policy as the government makes its fiscal policy more expansionary. On the other hand, the central bank's monetary policy has influence on how restrictive or expansionary policy will be pursued by the fiscal authorities. An increasingly restrictive monetary policy leads to a more expansionary fiscal policy, because the higher interest rate the environment requires,

the more pro-growth fiscal policy to boost economic growth is, which usually increases the budget deficit.⁵ Hence the purpose of the article is to show the importance of the monetary and fiscal policy options in the economies of the Czech Republic and Hungary.

2 Analysis of restrictiveness and expansiveness of monetary and fiscal policy in Czech Republic

The presented study was based on the method used by Czyżewski and Kulyk⁶ as well as by other authors and inter alia by B. Kopeć.⁷ The area of studies concerns variations of different options of economic policy (divided into monetary and fiscal policy) between 2001-2017 in the Czech Republic and Hungary. As an instrument of monetary policy (conducted by the central bank) the study used a nominal long-term interest rate whereas as an instrument of fiscal policy (conducted by the government) the deficit of the General Government sector in relation to GDP was applied. For monetary policy a standardized ratio of long-term interest rate was calculated and for fiscal policy a standardized ratio of the GG deficit in relation to GDP. In order to determine standardized ratios an arithmetic mean and standard deviations for both, an interest rate and a budget deficit were calculated. It was assumed that the business cycle lasts 3 years. While setting a direction of economic policy the resultant of options used in monetary and fiscal policy was applied.

Table 1 presents the results concerning the direction of fiscal policy in the Czech Republic between 2001-2017. It can be observed that between 2001-2003 the General Government (GG) deficit considerably exceeded the size of deficit recommended by the EU i.e. 3% of GDP (the Maastricht Treaty). It was in 2004 that the GG deficit in the Czech Republic fell below 3%, which could be connected with the government restrictive fiscal policy conducted between 2002-2004 as well as the excessive deficit procedure imposed on the Czech Republic in 2004 and abolished only in 2008. Restrictive fiscal policy was still used in the Czech Republic in the subsequent years until 2007, which was reflected in a low GG deficit. Between 2008-2010 there was a shift in the direction of fiscal policy from the restrictive to expansionary one, which could result from a weaker economic situation connected with the global financial crisis (2008-2009). Hence, between 2009-2010 much higher GG deficit ratios are observed, which amounted to -5.5% of GDP in 2009 and to -4.2% of GDP in 2010. Growth of the GG deficit was also a reason for imposing excessive deficit procedure on the Czech Republic in 2009 (as stipulated in art.126 of the Treaty on the Functioning of the European Union⁸ and in the Protocol No 12 to this Treaty⁹). The excessive deficit procedure was abolished in 2014.¹⁰

Table 1. Direction of fiscal policy in the Czech Republic between 2002-2016

Year	GG budget deficit in [%]	Annual relative change in deficit	Standardized ratio of change in deficit	Fiscal policy in specific years	Restrictiveness/ Expansiveness of fiscal policy
2001	-5.5				
2002	-6.4	0,163636	0,113595		
2003	-6.9	0,078125	0,027564	-0,18867	restrictive

⁵ WORONIECKA – LECIEJEWICZ I.: Problem wyboru policy mix w grze fiskalno – monetarnej z zastosowaniem funkcji logistycznej, „Studia i Materiały Informatyki Stosowanej”, t. 4, No. 8, 2013, 29 – 39 pp.

⁶ CZYŻEWSKI A., KULYK P.: Relacje między otoczeniem makroekonomicznym a rolnictwem w krajach wysoko rozwiniętych i w Polsce w latach 1991-2008, „Ekonomista”, 2010/2, 2010, 189-2012 pp.

⁷ KOPEĆ B.: Identyfikacja opcji polityki gospodarczej i ich związku z inflacją i bezrobociem, Progress in Economic Sciences, No. 2, 2015, pp. 28-34 pp.

⁸ Traktat o funkcjonowaniu Unii Europejskiej: <http://eur-lex.europa.eu/legal-content/PL/TXT/HTML/?uri=OJ:C:2012:326:FULL&from=PL> (access: 17.06.2018).

⁹ Protokół (nr 12) w sprawie procedury dotyczącej nadmiernego deficytu: <http://eur-lex.europa.eu/legal-content/PL/TXT/HTML/?uri=OJ:C:2012:326:FULL&from=PL> (access: 17.06.2018).

¹⁰ SZYMAŃSKA A.: Procedury redukowania nadmiernego deficytu sektora finansów publicznych w krajach Unii Europejskiej, „Nauki o finansach”, Poland, Vol. 2(19), 2014, 33-55 pp.

¹ BLINDER A.S.: Issues in the Coordination of Monetary and Fiscal Policy [in:] Monetary Policy in the 1980s, Federal Reserve Bank of Kansas City, 1983, 3-34 pp.

² BENNETT H., LOAYZA N.: Policy Biases when the Monetary and Fiscal Authorities have different Objectives, “Central Bank of Chile Working Papers”, 2000, 66 p.

³ GRABIA T.: Sytuacja gospodarcza w krajach Grupy Wyszehradzkiej Analiza porównawcza, „Gospodarka w Praktyce i Teorii”, Poland, Vol. 2(35), 2014, 35-47 pp.

⁴ STAWSKA J.: The fiscal theory of the price level in the context of the policy mix, International Multidisciplinary Scientific Conference on Social Science & Arts 2017, Book 1: Modern Science, Economics & Tourism, Vol. IV, Bulgaria, 2017, 807 – 814 pp.

2004	-2,4	-0,65217	-0,70717		
2005	-3	0,25	0,200483		
2006	-2,2	-0,26667	-0,31932	-0,28528	restrictive
2007	-0,7	-0,68182	-0,73699		
2008	-2	1,857143	1,817384		
2009	-5,5	1,75	1,70959	1,07938	expansionary
2010	-4,2	-0,23636	-0,28883		
2011	-2,7	-0,35714	-0,41035		
2012	-3,9	0,444444	0,396108	-0,25393	restrictive
2013	-1,2	-0,69231	-0,74755		
2014	-2,1	0,75	0,703519		
2015	-0,6	-0,71429	-0,76966	-0,76567	restrictive
2016	0,7	-2,16667	-2,23086		
2017	1,6	1,285714	1,242486		

Source: Own study based on the [Eurostat] data

In turn, between 2011-2016 the government of the Czech Republic conducted a restrictive fiscal policy, which was reflected in lower ratios of the GG deficit, except the year 2012 when the GG deficit slightly exceeded the deficit criterion from Maastricht and between 2016-2017 when even some budget surplus was noted.

Table 2 presents the results concerning the direction of monetary policy in the Czech Republic between 2001-2017. In the period between 2002-2004 and between 2011-2016 the central bank in the Czech Republic conducted expansionary monetary policy, which definitely results from stability of prices in the long term. Yet, between 2005-2010 the central bank decided to implement restrictive monetary policy, which can be justified in the discussed period – the financial crisis that was a reason for fluctuations in financial markets. It influenced the condition of public finance¹¹ and also adversely affected stability of prices in the economy.

Table 2. Direction of monetary policy in the Czech Republic between 2002-2016

Year	Long-term nominal interest rate [%]	Annual relative change in long-term interest rate	Standardised ratio of change in interest rate	Monetary policy in specific years	Restrictiveness/Expansiveness of monetary policy
2001	6,31				
2002	4,88	-0,22662	-0,45504		
2003	4,12	-0,15574	-0,27569	-0,06084	expansionary
2004	4,82	0,169903	0,548219		
2005	3,54	-0,26556	-0,55356		
2006	3,8	0,073446	0,304172	0,06729	restrictive
2007	4,3	0,131579	0,451254		
2008	4,63	0,076744	0,312516		
2009	4,84	0,045356	0,233101	0,054039	restrictive
2010	3,88	-0,19835	-0,3835		
2011	3,71	-0,04381	0,007488		
2012	2,78	-0,25067	-0,51589	-0,33328	expansionary
2013	2,11	-0,24101	-0,49143		
2014	1,58	-0,25118	-0,51718		
2015	0,58	-0,63291	-1,483	-0,84539	expansionary
2016	0,43	-0,25862	-0,536		
2017	0,98	1,27907	3,354545		

Source: Own study based on the [Eurostat] data

Based on standardised ratios of fiscal and monetary policy table 3 presents differences between these policies and thereby indicates an option of economic policy in the Czech Republic. A negative value of difference suggests the expansionary economic policy and a positive value suggests the restrictive one.

Table 3. Direction of economic policy in the Czech Republic between 2002-2016

Years	Fiscal policy	Monetary policy	Economic policy	Expansiveness/restrictiveness of economic policy
2002-2004	-0,18867	-0,06084	0,12783	restrictive
2005-2007	-0,28528	0,06729	0,35257	restrictive
2008-2010	1,07938	0,054039	-1,025341	expansionary
2011-2013	-0,25393	-0,33328	-0,07935	expansionary
2014-2016	-0,76567	-0,84539	-0,07972	expansionary

Source: Own study based on the Eurostat data

The economic policy in the Czech Republic as a whole was restrictive in the period between 2002-2007. In turn,

expansionary economic policy was conducted from the very beginning of global financial crisis (2008-2009), during the imposed excessive deficit procedure (2004-2008 and 2009-2014) until 2016 i.e. during the period of low interest rates. It must be also emphasized that in some periods the policies cancelled each other, which means that when one of them was of restrictive nature, the other one showed expansiveness.

3 Analysis of restrictiveness and expansiveness of monetary and fiscal policy in Hungary

Table 4 presents the results concerning the direction of fiscal policy in Hungary between 2001-2017. In the period between 2002-2004 the Hungarian government conducted expansionary fiscal policy with the GG deficit ratios exceeding considerably the reference value from Maastricht i.e. 3% of GDP. In 2004, soon after Hungarian accession to the European Union, the European Commission decided to impose an excessive deficit procedure on the country¹² (GG deficit in 2004 amounted to -6,5% of GDP and was growing in the subsequent years to the level of -9,3% in 2006). Hence, from 2005 the government conducted the restrictive fiscal policy up to 2016, which resulted in a significant decrease of deficit that between 2015-2017 did not exceed 2% of GDP. The excessive deficit procedure was abolished in 2013¹³ in response to considerable improvement of the condition of public finance.

Table 4. Direction of fiscal policy in Hungary between 2002-2016

Year	GG budget deficit in [%]	Annual relative change in deficit	Standardised ratio of change in deficit	Fiscal policy in specific years	Restrictiveness/Expansiveness of fiscal policy
2001	-4	-	-		
2002	-8,8	1,2	3,074239		
2003	-7,1	-0,19318	-0,55891	0,746609	expansionary
2004	-6,5	-0,08451	-0,2755		
2005	-7,8	0,2	0,466435		
2006	-9,3	0,192308	0,446374	-0,11603	restrictive
2007	-5	-0,46237	-1,26089		
2008	-3,7	-0,26	-0,73316		
2009	-4,5	0,216216	0,508723	-0,09319	restrictive
2010	-4,5	0	-0,05513		
2011	-5,4	0,2	0,466435		
2012	-2,4	-0,55556	-1,50391	-0,29176	restrictive
2013	-2,6	0,083333	0,162191		
2014	-2,6	0	-0,05513		
2015	-1,9	-0,26923	-0,75723	-0,38066	restrictive
2016	-1,7	-0,10526	-0,32963		
2017	-2	0,176471	0,405074		

Source: Own study based on the [Eurostat] data

Table 5 presents the results concerning the direction of monetary policy in Hungary in the period between 2001-2017. The central bank in Hungary conducted a restrictive monetary policy between 2002-2004, which is confirmed by relatively high (compared to interest rates in the analysed period) long-term interest rates. In the subsequent three years these interest rates fell slightly while determining a shift in the direction of monetary policy to the expansionary one. Next, during the global financial crisis (2008-2009) long-term interest rates increased again under the conditions of restrictive monetary policy. It was only in the period from 2011 to 2016 that the monetary policy in Hungary was of expansionary nature with long-term interest rate of 3,14% in 2016. In turn, in 2017 that interest rate fell to the level of 2,96%.

Table 5. Direction of monetary policy in Hungary between 2002-2016

Year	Long-term nominal interest rate [%]	Annual relative change in long-term interest rate	Standardised ratio of change in interest rate	Monetary policy in specific years	Restrictiveness/Expansiveness of monetary policy
2001	7,95				
2002	7,09	-0,10818	-0,40103		
2003	6,82	-0,03808	0,067223	0,44325596	restrictive

¹² SZYMAŃSKA A.: Procedury ..., op. cit.

¹³ Ibidem.

¹¹ GRABIA T.: Sytuacja gospodarcza w krajach Grupy Wyszehradzkiej Analiza porównawcza, „Gospodarka w Praktyce i Teorii”, Poland, Vol. 2(35), 2014, 35-47 pp.

2004	8,19	0,20088	1,66358		
2005	6,6	-0,19414	-0,9753		
2006	7,12	0,078788	0,847958	-0,0540858	expansionary
2007	6,74	-0,05337	-0,03491		
2008	8,24	0,222552	1,808358		
2009	9,12	0,106796	1,03064	0,60574937	restrictive
2010	7,28	-0,20175	-1,02617		
2011	7,63	0,048077	0,642797		
2012	7,89	0,034076	0,549265	-0,0514317	expansionary
2013	5,92	-0,24968	-1,34636		
2014	4,81	-0,1875	-0,93095		
2015	3,43	-0,2869	-1,595	-0,9230451	expansionary
2016	3,14	-0,08455	-0,24319		
2017	2,96	-0,05732	-0,06133		

Source: Own study based on the [Eurostat] data

Based on standardised ratios of fiscal and monetary policy table 6 presents calculated differences between these policies and thereby indicates an option of economic policy in Hungary. A negative value of difference suggests the expansionary economic policy and a positive value suggests the restrictive one.

Table 6. Direction of economic policy in Hungary between 2002-2016

Years	Fiscal policy	Monetary policy	Economic policy	Expansiveness/restrictiveness of economic policy
2002-2004	0,746609	0,44325596	-0,30335304	expansionary
2005-2007	-0,11603	-0,0540858	0,0619442	restrictive
2008-2010	-0,09319	0,60574937	0,69893937	restrictive
2011-2013	-0,29176	-0,0514317	0,2403283	restrictive
2014-2016	-0,38066	-0,9230451	-0,542385	expansionary

Source: Own study based on the [Eurostat] data

It can be observed that the expansionary economic policy in Hungary was conducted at the beginning of the analysed period i.e. between 2002-2004 and at the end of that period i.e. between 2014-2016. In turn, starting from 2005 up to 2013 (including the last financial crisis) the restrictive policy was the prevailing option. Similarly, like in case of the economic policy in the Czech Republic it must be noted that also in Hungary in some periods these policies cancelled each other, which means that when one of them was of restrictive nature, the other one showed expansiveness.

4 Conclusions

Comparing directions of fiscal policy in the Czech Republic and in Hungary between 2001-2017 it can be observed that in both countries the policies were of restrictive nature, except the period between 2008-2010 in the Czech Republic (due to financial crisis) and in Hungary between 2002-2004 (before the accession to the European Union) when fiscal policies in the analyzed countries were expansionary. What influenced restrictiveness of fiscal policy both, in Hungary and the Czech Republic were high GG deficit ratios (in Hungary in the analysed period the GG deficit ratios were relatively higher compared to the Czech Republic) as well as excessive deficit procedures imposed by the European Commission. In turn, directions of monetary policy in the Czech Republic and Hungary between 2002-2007 were opposite i.e. in case of expansionary monetary policy in the Czech Republic between 2002-2004, the policy of central bank in Hungary was restrictive and contrary, between 2005-2007 monetary policy in the Czech Republic was restrictive, whereas in Hungary it was of expansionary nature. It was only between 2008-2016 that monetary policies in Hungary and the Czech Republic were conducted in the same direction i.e. between 2008-2010 they were restrictive (the period of financial crisis) and between 2011-2016 – in both compared countries monetary policies were expansionary (the period of economic growth stimulation) – but long-term interest rates in the analyzed period were relatively higher in Hungary than in the Czech Republic. While comparing the character of economic policy in both countries it can be observed that between 2005-2007 the economic policy in Hungary and the Czech Republic showed restrictiveness whereas between 2014-2016 – expansiveness (the period of falling interest rates). Summing up, it must be emphasized that the option of monetary and fiscal policy is of crucial importance for key variables in the economies of the Czech Republic and

Hungary. Therefore, proper implementation of monetary and fiscal policy is an important element in economic processes in the analyzed countries.

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