

# Impact of the Funding for Growth Scheme on the Hungarian economy\*

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*In this paper, I examine the efficiency of the Funding for Growth Scheme (hereinafter FGS or Scheme), based on the loans disbursed until the end of 2015. The FGS is an unconventional instrument of the Magyar Nemzeti Bank, launched in 2013, the purpose of which is to provide micro, small- and medium-sized enterprises (SME) sector with loans on favourable terms. The efficiency of the Scheme means, on the one hand, to what extent the problem addressed by the Scheme was relevant, and on the other hand, the type of solution provided by it, and whether it did not involve excessive cost and risk compared to the anticipated results. I regard these as the two main pillars based on which its efficiency can be judged. I also present the Scheme's descriptive data and practical implementation. According to the conclusions, the Scheme offered an adequate solution for a problem of national economy significance, it has set lending to SMEs on a growth path and also contributed to economic growth, with relatively low costs and risks compared to the achievements.*

**Journal of Economic Literature (JEL) codes:** E43, E50, E52, E59, H58

**Key words:** Funding for Growth Scheme, unconventional monetary policy, credit crunch

## 1. Introduction

In the public opinion, credit is a negative phenomenon for many, associated with the notions of dependency and vulnerability. On the other hand, in the absence of credit, economic agents can only rely on their present wealth, which is usually too small to maximise their future revenues with the utilisation thereof. Economists agree that in the absence of an equilibrium level of debt of adequate size, the performance of an economy will be lower. In Hungary – and in the overwhelming part of the developed world – during the post-crisis period outstanding borrowing gradually moved away from the equilibrium level, which was felt in the real sector.

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\* The views expressed in this paper are those of the author(s) and do not necessarily reflect the official view of the Magyar Nemzeti Bank.

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Central banks applied a number of unconventional instruments to address this, with varying success. In accordance with the decision of the Monetary Council, the Magyar Nemzeti Bank announced the Funding for Growth Scheme in April 2013, the first phase of which commenced in June of the same year, with a view to mitigating the persistent market strains experienced in lending to the SME sector, and through this to fostering economic growth, strengthening financial stability and reducing the external vulnerability of Hungary. This paper analyses the background of the Scheme based on the sources available. After discussing the considerations underlying the launch of the Scheme, I also present its individual phases and achievements in detail. By presenting its effects, I provide a view of its impacts exerted on the real economy, its costs and risks, with a view to providing an overall picture of the Scheme and answering as many as possible questions and criticism – which arose not only in scientific circles – related to the FGS.

## **2. The need for the FGS**

In the next section, I present the post-crisis persistent decline in corporate lending, which was addressed by the FGS. Lending is broken down into demand and supply factors, to identify the impacts that influenced the decisions of the actors in a way which gave rise to a decline in lending. I examine the credit market from the outbreak of the crisis until the announcement of the FGS; hereinafter I refer to this time interval as the period under review. I also look for correlations in the region, as in the beginning of the period under review corporate lending declined in all countries of the region, but the decline either turned around or stopped gradually, while this was not the case in Hungary (*Figure 1*). Summarising these, I come to a final conclusion about the disturbances to corporate lending. According to my assumption, the decline in SMEs' outstanding borrowing was the result of several impacts that reinforced each other, but the most important factors were the high funding costs of loans and the decline in the willingness to lend.

### **2.1. Situation of the Hungarian SME sector**

First of all, I examine why it is (was) an important objective to support the SME sector. A well-functioning SME sector fosters enterprising spirit, new companies may appear on the scene or existing ones may expand their capacities, thereby employing more people and serving consumers' need with their products. In Hungary, this sector provided a living for 73 per cent of all employees, i.e. almost 2 million people, while its contribution to GDP in 2012 was merely 33.6 per cent. In addition, there is high concentration within the SMEs as well: micro enterprises, employing 1 million people in total, realised roughly the same sales revenues as medium-sized companies, which employ a little fewer than half-million people. This disproportion is natural to some extent, as with the increase in the employees'

headcount the corporations' production per capita rises to a much higher degree all over the world. On the other hand, of the countries listed in Table 1, this sector has the lowest output compared to the employees, in Hungary. Based on these facts, we can state that productivity in the Hungarian SME sector is quite low, which alone is a sufficient reason to support the convergence of SMEs.

The picture worsens further when broken down by regions. There is a major concentration in Central Hungary: the per capita gross value added of each SME is three times higher than in each of Hungary's other regions, and the per capita investment values in certain eastern regions are hardly half of that measured in Central Hungary (*cf. HCSO 2014*).

<b>Table 1</b>				
<b>International comparison of SME sectors</b>				
<i>(per cent)</i>				
Country	Share of SMEs in all enterprises'			
	Number	Sales revenue	Gross value added	Number of employees
European Union total (EU28)	99.8	55.1	57.9	67.2
<b>Of this:</b>				
Hungary	99.9	57.0	53.7	71.3
Austria	99.7	65.8	61.1	68.0
Croatia	99.7	59.5	54.5	68.3
Romania	99.6	58.0	–	66.5
Slovakia	99.9	55.3	62.7	71.2
Slovenia	99.8	67.6	63.0	72.3
Estonia	99.7	76.9	73.7	78.0
United Kingdom	99.7	44.3	50.6	53.6

*Source: HCSO (2014).*

## **2.2. Supply and demand factors in corporate lending**

Real economy developments impact lending from the demand side. The financial sector is destined to serve the real sector by facilitating financing, whereas during a crisis the capital assets, which would require financing, deteriorate. When there is a decline in the real sector, companies will produce less due to the lower demand, and thus their current assets needs will be also lower, resulting in low or no investment. On the other hand, the causal connection exists in the other way around as well: the phenomenon known as a creditless recovery has already been examined by numerous empirical researches, drawing the conclusion that in the case of a (corporate) credit crunch, long-term growth will be extremely fragile and much lower than possible (*Claessens–Kose–Terrones 2009*). Accordingly, the real

economy and lending exercise mutual influence in an endogenous manner, mutually reinforcing each other.

Hungary's activity situation was poor even by regional standards, as it outstripped only Romania, where growth was negligible even in 2011 (*Figure 2*). This should be compared with the figure comparing corporate lending at international level, where Romania already exceeded its 2008 level from 2012 Q2 and a year later it achieved the highest growth among the countries under review. The Czech Republic followed a similar growth path in 2011–2012 as Hungary, while its corporate credit portfolio increased in 2011 and stagnated in 2012, where it declined sharply in Hungary during the same period. There was also a robust increase in the outstanding borrowing of corporations in these two years in Poland and Slovakia, where activity was high already right after the crisis.<sup>1</sup> It follows from this that GDP growth fosters an increase in the corporate credit portfolio, but the expansion thereof may also be achieved without that.

The other credit demand factor is the interest rate. The interest rate on corporate loans is comprised of the cost of funds and the interest rate spread. A commercial bank may obtain funding (liquidity) from depositors, the interbank market, sales of its assets or from loans taken from the central bank. Apart from the sales of assets, all of these depend on the base rate in the longer run, following a similar path; accordingly, in order to compare the funding costs in the countries of the region by their magnitude, it is sufficient to examine the base rates.

Interest rate spreads are influenced mostly by two factors. One of them is the operating costs and cost of capital, while the other one, having a larger share, is the risk spread (*MNB 2013a*). Risk spreads are determined by the banks in such a way that they charge an interest rate spread to companies with a given probability of default that ensures that the non-defaulted ones cover the unrecovered parts of the loans.

Hungarian corporate interest rate spreads were absolutely in line with the regional average and also did not materially depart from the euro loan interest rate spreads (they were more or less above 2 per cent in the period under review), and thus I do not regard them as a factor relevant for the decline in lending. On the other hand, the funding costs are much more determinant, as is also reflected by *Figure 3*. After the onset of the crisis – as soon as the inflation outlooks and the financial stability considerations permitted it – the high base rates declined both in the region and in Hungary. In spite of this, the rate of decline in corporate lending did not decrease at all in Hungary, and in parallel with the additional interest rate

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<sup>1</sup> The economy was able to grow even during the crisis in Poland.

cut in August 2012, outstanding borrowing by corporations continued to contract (*Bihari 2013*). In the credit market, the decrease in the price (interest rate) of the products (loans) does not necessarily entail higher sales volume. This is due to the fact that apart from the interest rates, another factor, i.e. non-price terms, also determines developments in the volume of credits. This is necessary, because the price is not always able to play a market clearing role. If the banks want to reduce their credit supply, after a certain they point their tighten the conditions rather than raise the interest rates. This is due to the fact that the higher credit costs (interest rate spread) paid by the corporation for its level of risk only makes its profitability even lower, thereby increasing the probability of bankruptcy, i.e. the defaulting on the loan (*Fábián–Hudecz–Szigel 2010*). This consideration – after a crisis that was caused by the underestimation of the probability of a systemic default – is rather important for the decision-makers of the banking system.

This is how it is possible that in the credit market – contrary to a normal market – on the basis of the changes in prices it cannot be established for sure whether the change is caused by the decline in supply or in demand. It is quite possible that 1) interest rates rise, while the non-price terms remain constant or become tighter, 2) it is also possible that the interest rates remain constant and only lending conditions are tightened (i.e. only better performing companies are eligible for credits),<sup>2</sup> but it may as well be that a fall in interest rates is accompanied by the tightening of conditions (*Fábián–Hudecz–Szigel 2010*). The lending conditions simultaneously reflect the banks' lending capacity (capital position, cost of finance, liquidity) and willingness to lend (changes in the real economy, competition between banks).

As regards lending capacity, following a fast recovery after 2008, lending capacity once again started to weaken from the end of 2011 (*Balogh et al. 2012*). From the capital side, the rise in credit losses and the early repayment of the household loans at preferential exchange rate represented an obstacle. From the financing side, the persistently high domestic funding costs experienced during the period, the rise in the price of external funding and the withdrawal thereof lowered lending capacity (*MNB 2012a*). It should be mentioned that the high base rate, as a hindering factor, appears in this respect as well. Since Hungary experienced a foreign currency loan crisis, the withdrawal of external funds was to some extent a natural consequence, while on the other hand, it was also attributable to the decrease in the willingness to lend. However, after a while the decline in corporate lending was the consequence rather than the cause of the withdrawal of funds. 20 per cent of the outflow can be regarded as a negative process (*MNB 2013b*). Liquidity was no longer a material constraint to lending already one year before the introduction of the FGS (*MNB 2012b*), and thus lending capacity hindered lending activity only to a minor extent, while willingness

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<sup>2</sup> "Flight to quality" phenomenon, see *Bernanke et al. (1996)*.

to lend was a much more determinant factor (*Balogh et. al. 2012; Sóvágó 2011*). According to some studies, liquidity at that time was illusory, as a major part thereof was held by foreign-owned banks due to the requirements, and from a lending point of view this is almost the same as a liquidity crisis (*Balog et. al. 2014*).

On the credit demand side, the real economy effect did not justify – apart from 2009 and 2012, i.e. the periods of recession – the dramatic fall in outstanding lending. By contrast, on the supply side this factor was deemed to have the greatest explanatory power; banks tightened their conditions most often and to the largest degree as a result of the anticipated downturn in real economy and the industry problems (*MNB 2012b*). These, on the one hand, were only the fears of the banks, as they did not ease the conditions despite the economic expansion in 2010 and 2011, and on the other hand, there were also country-specific factors in these years such as the increased uncertainties surrounding the macro and regulatory environment (*Balogh et. al. 2012*). As a result, the banks' excessive risk aversion made a major contribution to the decline in lending, particularly in the period of 2010–2011, when two thirds of the fall in outstanding lending was attributable to the supply component (*Hosszú et. al. 2013*). Thus, during the recession, the development in the real economy is a significant factor on the credit demand side, but on the supply side there are also other factors.

It should be mentioned that it is easy to underestimate credit demand, particularly in a post-crisis period, as there are companies that do not appear at the credit institutions with their credit applications, as they are convinced that they would be denied anyway. However, these surveys examine the credit applications submitted to the banks, rather than asking the companies directly (*Fábián–Hudecz–Szigel 2010*).

### **2.3. Impact of close-to-zero funding costs**

If we continue with the regional comparisons, it becomes clear that from the start of the crisis until April 2010 the Czech Republic experienced a decline in corporate lending of the same degree and rate, but this trend turned around thereafter and lending embarked on a growth path. When we compare this with the changes in the base rates, we see that it was roughly at the time of the turnaround when an interest rate cutting cycle ended there, pushing the base rate down to 1–0.75 per cent. I believe that this played a major role in the corporate credit boom. On the one hand, this had a liquidity expanding effect, as banks could obtain domestic funds at lower price. On the other hand, as a result of the low base rates, more companies satisfy the tighter conditions, as the lower interest burden reduces the probability of default. In addition, if the loan funding cost is very low, i.e. close to zero, banks may apply higher risk spreads on the lending rates more daringly, to cover the defaulted parts of loans, as a result of which companies earlier rated as uncreditworthy may get access to loans. In addition to the supply side, there may be a strong effect on the demand side as well, since the interest rate on loans fall

due to the lower funding costs and companies can finance their investments and current assets at a lower price. This triple effect – the decline in the probability of default, the larger credit supply due to the higher interest rate spread and the stronger credit demand resulting from lower loan interest rates – may be powerful in sectors such as the SME sector.

#### **2.4. Special features of lending to SMEs**

The general picture outlined in the previous section on corporate lending is even worse in the case of SMEs. It is much more difficult for this sector to obtain funding at any time, as their indicators are worse (they are less profitable and represent higher risk) than those of the large corporations, and thus they are positioned higher up compared to the average loan interest rates, and upon the tightening of the non-price terms they tend to be squeezed out to a much greater degree. The external financing of Hungarian SMEs is practically monopolised by the banking sector: going public in the period under review was only a theoretical option,<sup>3</sup> primarily due to the high specific costs thereof; in addition, the possibility of raising private funds was also negligible (*Mikesy 2015*).

It may be generally stated that Hungarian-owned SMEs have always been underfunded. This is supported by the fact that the majority of the domestic SMEs are present in the less capital-intensive industries and generally pursue more narrow, easy-to-specify activity; they are not characterised by diversification, thus their operation represents higher risk. The greatest disadvantage is attributable to the fact that most of them produce for the domestic market only (Walter 2014). As a result, they strongly depend on domestic business cycles; during times of recession they are less inclined to invest, but even if they find it feasible, it is less probable that they would get a loan in recession than an exporter company. If they applied for foreign currency loan, they would also face – not only during the crisis – tighter credit terms, but even if their application is granted, in the absence of export revenues, they would bear the potential negative consequences of the exchange rate risk in full. In the case of forint loans, in addition to the high funding costs seen in the period under review, SMEs are required to pay much higher spread – i.e. 5–7 per cent – compared to the previously mentioned low spread of around 2 per cent, and thus additional SMEs were prevented from borrowing, or they did not even apply to credit institution, as under the high interest rates the investment was less likely to recover.

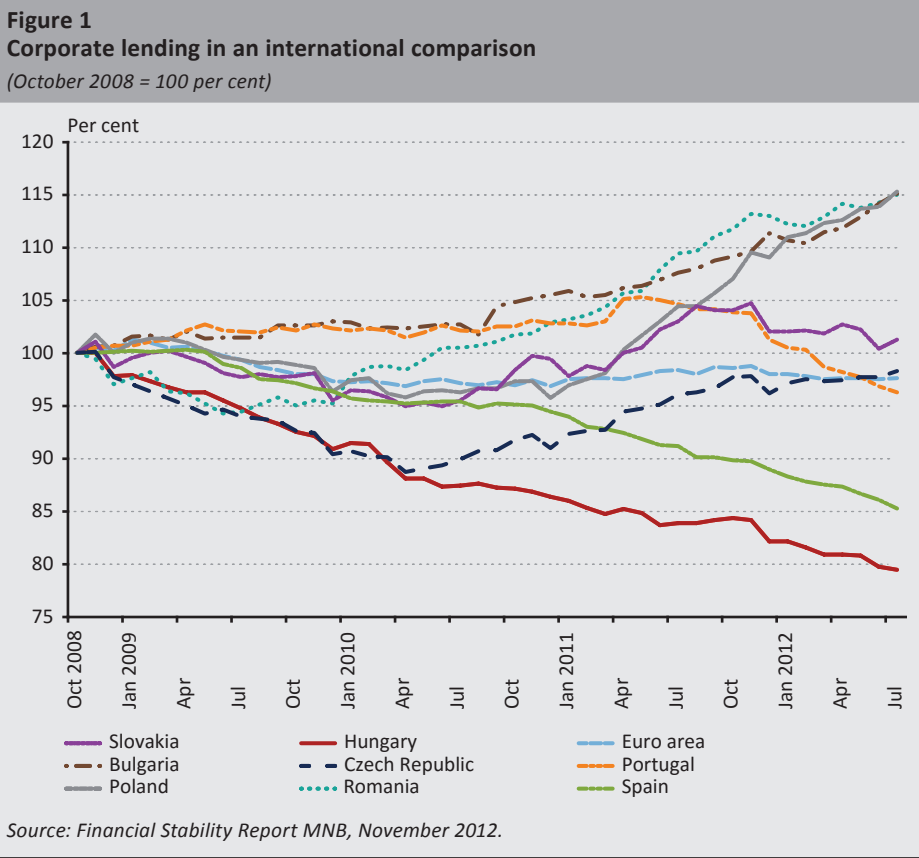
#### **2.5. Summary**

Many of negative impacts were felt much more strongly in lending to SMEs than in the entire corporate lending. One of these is that they produced only for the domestic market. In addition to the high funding costs, they also faced significantly

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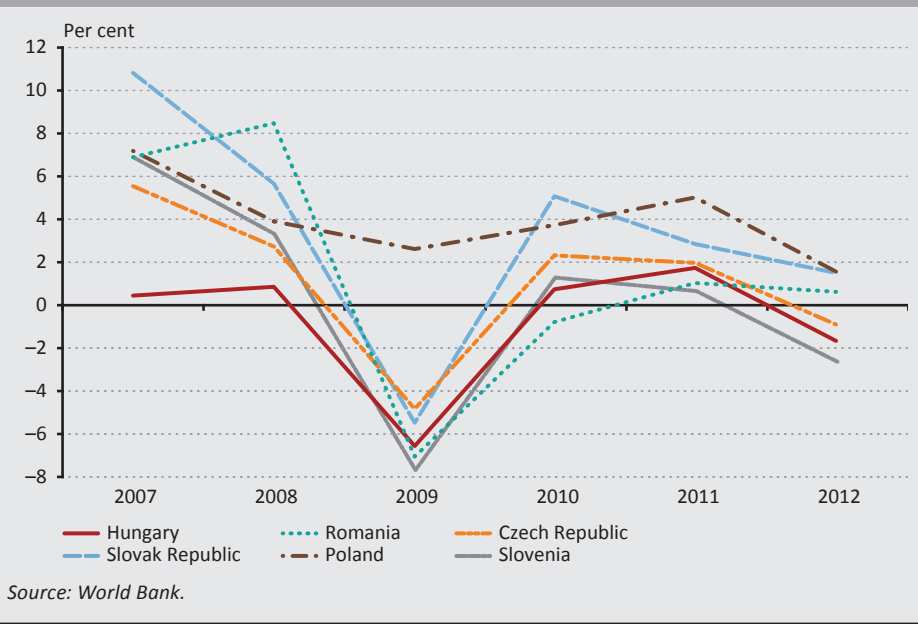
<sup>3</sup> In the strategy of the Budapest Stock Exchange, which commenced in 2016, the public offering of domestic SMEs is a priority objective, supporting the implementation thereof by various services and programmes (source: <https://bet.hu/Rolunk/a-budapesti-ertektozsderol/A-BET-2016-2020-as-strategiajanak-fo-iranyai>).

higher credit spreads than large corporations. Thus, in a poor cyclical situation they are burdened by extremely high credit costs. The supply side – i.e. the banks – faced capital and liquidity constraints from the start of the crisis until 2012; on the other hand, in 2012, when their creditworthiness recovered, they were less willing to lend, particularly to the SME sector, i.e. the sector most vulnerable to the domestic activity trends. Through these factors, the credit demand and supply both contributed to the contraction in SME loans, moreover in a self-reflective manner. Furthermore, SMEs were burdened by their previous loans, i.e. in the case of forint loans by the higher interest rates, while in the case of foreign currency loan by the increased loan amount. Consequently, the central bank deemed it justified to reinstate lending to the SME sector, and announced the Funding for Growth Scheme in April 2013. Of the problems listed in the foregoing, the Scheme reduced the high interest rate on loans, which extremely weakened the demand side and also improved the banks' profitability and willingness to lend.

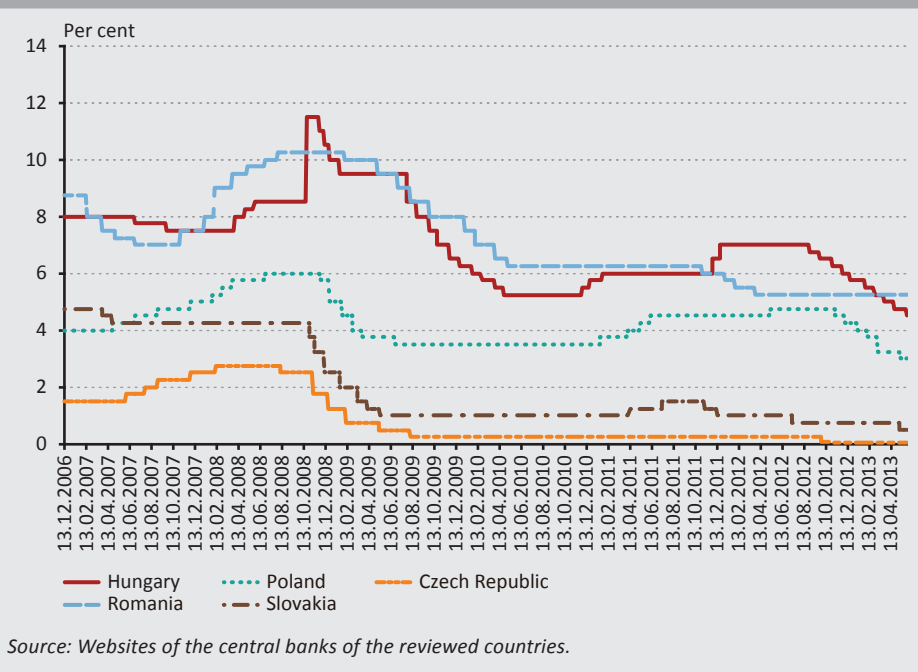




**Figure 2**  
**GDP growth**



**Figure 3**  
**Base rates in the region**



### 3. Features and achievements of the individual phases of the Funding for Growth Scheme

Having discussed the reasons underlying the launch of the FGS, in this chapter I describe the Scheme in detail. The Scheme is divided into three phases, which I will present separately in order to highlight their specific features.

#### 3.1. First phase

In Pillar 1 of the Scheme, the MNB granted refinancing loans to the credit institutions at 0 per cent interest for loans extended to SMEs for maximum 10 years with a fixed interest margin capped at 2.5 per cent. Enterprises could use these loans for working capital financing, for the own contribution and pre-financing of the EU grants, or for the refinancing of loans or financial leases, disbursed originally for such purposes in forint. SME clients could use the loans received under Pillar 2 to refinance foreign currency or foreign currency-denominated loans or financial leases from domestic credit institutions with forint loans. In both cases, the contract amount was specified as a minimum of HUF 3 million and a maximum of HUF 3 billion (*MNB 2013c*). That is, under the FGS, SMEs could borrow new forint loans or replace their existing foreign currency loan or forint loans bearing higher interest rate with forint loans with a capped, 2.5 per cent interest rate, with the result that their outstanding debt was in domestic currency, thus supporting financial stability, specified as one of the objectives, and reducing dependency on external funds. Foreign currency loans pose two additional threats: the exchange rate risk and the reference rate of loans, which change independently of Hungary's financial sector. In view of the keen interest in the FGS, the Monetary Council already raised the credit facility amount before launching the Scheme by 50 per cent to HUF 750 billion. Demand was indeed assessed correctly, as loan contracts were concluded for 93.5 per cent of the facility, i.e. HUF 701 billion, representing 10,000 contracts.

Meanwhile, Pillar 1 attracted even stronger interest, and accordingly the MNB permitted the reallocation of the still unutilised part of the facility allocated to Pillar 2 to Pillar 1. Consequently, 8,131 credit transactions, in the amount of HUF 472 billion, were concluded under Pillar 1, while 1,713 foreign currency loan loans were refinanced under Pillar 2 in the amount of HUF 229 billion. Loan contracts could be concluded until end of August; those concluded until that date had to be submitted and the first tranche disbursed by the end of September, while the remaining tranches had to be drawn down, in the case of investment loans, by the end of March 2014 (*MNB 2013c*). The first phase of the Scheme had an outstanding impact, as the amount drawn down in that phase alone was of almost the same magnitude as the amounts disbursed in the previous quarters. At the same time, it is also worth examining the type and structure of the FGS loans. In the first phase, the ratio of refinancing loans was extremely high: these loans accounted for all of Pillar

2 and 40 per cent of Pillar 1 (*MNB 2013c*), and thus the actual amount of new loans taken by SMEs was “only” HUF 210 billion. This explains the very high amount in 2013 Q3; the FGS did not have such a large impact on new loans, as shown by Figure 1, which illustrates developments in new corporate loans. However, the volume of new loans of HUF 210 billion, created by the Scheme, is still an extraordinary achievement, as in the few periods that preceded the FGS the volume of forint loans taken by the entire corporate sector hardly exceeded this value. In addition, as regards its structure, it is important to differentiate the short-term working capital loans from the longer-term investment loans. 61 per cent of the HUF 210 billion went to finance new investment loans in the amount of HUF 128 billion, which is also a robust figure compared to the earlier data.

### **3.2. Impacts of the first phase**

The impacts and results of the first phase of the FGS can be deemed positive on the whole: the Scheme increased the funding of the SME sector to a large degree, helping to stabilise its financial situation. The FGS also reduced the interest burdens of the participating SMEs to a great degree. At the beginning of 2013, the two worst, but still creditworthy SME client groups had access to loans only at a much higher spread (475–700 basis points) than the market average, on top of the base rate, which was 4 per cent at the time of the first phase (*cf. MNB 2013c*). Thus, as a result of the interest rate spread cap of 2.5 per cent and zero funding cost in the FGS, interest rates on new loans fell by 6.25–8.5 percentage points.

The easing of corporate lending conditions also started during this period, in which the FGS played a significant role due to the zero funding cost. Competition among lenders appeared indirectly, due to the abundance of funds, which also contributed to the easing of conditions. Competition was further boosted under the FGS by the possibility of changing banks, which was used by 20 per cent of clients, as small and medium-sized banks received proportionately higher credit facility under the Scheme than the cooperative societies (*MNB 2013a*).

Irrespective of the foregoing, the non-price terms were still tight during this period, and no willingness to ease them could be observed. As a result of the large volume of refinancing, corporations removed their exchange rate exposure, and their interest burdens also decreased: in Pillar 1 interest rates on investment loans and working capital loans fell to 2.5 per cent from the average of 5.9 and 5.8 per cent, respectively. In Pillar 2, interest rates on investment loans and working capital loans fell from 3.7 per cent and 4 per cent, respectively, to 2.5 per cent. These factors greatly assist corporations in fulfilling the non-price terms during their future borrowing.

The tenor of the loans drawn down is relatively even (*MNB 2013c*), and thus there is no risk of concentrated credit demand in the future related to a specific period, which would jeopardise banks' liquidity.

The distribution of the loan types among the SMEs of various size can also be deemed efficient. 60 per cent of the loans taken under the Scheme by micro enterprises – which represent the highest risk on average, and thus meet the credit terms to the least extent – are new investment loans, amounting to HUF 66 billion.

The distribution of the credit size can be deemed particularly favourable. 70 per cent (in terms of quantity) of the loans remained below HUF 50 million, which is an optimal figure, as the size of these is not so small that they do not permit the implementation of larger investments, while on the other hand, this amount is not concentrated only at a few companies, which is a positive factor in the case of credit defaults. In addition, the FGS had a positive impact on the regional distribution of the outstanding borrowing of SMEs. The concentration in Central Hungary decreased under the Scheme, and more loans were disbursed particularly in the east and south-east regions (*MNB 2013c*).

#### **4. Presentation and analysis of the second phase**

In terms of its nature, the second phase of the Scheme is the continuation of the first phase, as the lending facilities and loan types are the same, and some of the results are also very similar. With this in mind, I have combined the description with the evaluation.

The second phase of the Scheme commenced right after the completion of the first phase, i.e. on 1 October 2013; the end of the drawdown period in Pillar 1 will be 31 December 2016 and in the case of Pillar 2 it was the end of 2015. Until the very end of 2015, i.e. for more than 2 years, almost 27,000 companies submitted loan contracts in the amount of HUF 1,402 billion, 95 per cent of which were new loans and 60 per cent of which financed investments (*MNB 2016a*).<sup>4</sup>

This means that during this period of just over two years, investments of HUF 89 billion per quarter could be implemented on average in the SME sector, only through the FGS, and thus the decline in credit demand in 2012 was only a temporary phenomenon. Moreover, the remaining demand was generally related to the financing of investments.

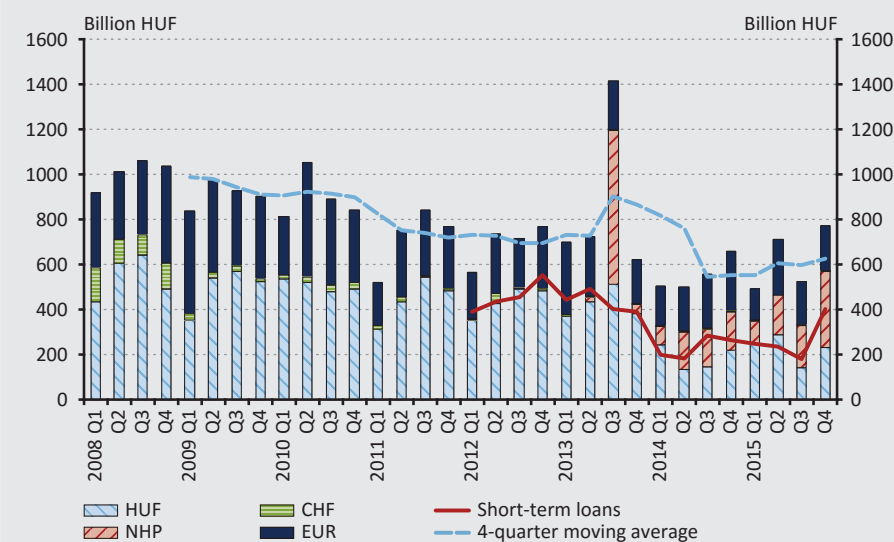
During the two-year term of the second phase, the drawdown of non-FGS forint loans (hereinafter: forint loans) fell drastically. The relatively high weight of the FGS within forint loans and the decline in forint loans (*Figure 4*) suggest that

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<sup>4</sup> In this phase, refinancing accounted for roughly 10 per cent of the facility amount only.

a crowding-out effect occurred, meaning that a large part of the SMEs would have become borrowers even without the FGS. According to a questionnaire-based survey conducted at the end of October 2014, this was only true to a small degree. According to the responses, almost 30 per cent, i.e. HUF 220 billion, of the new loans taken in the first one and a half years would have materialised without the FGS, and the same proportion would have been realised only in part (MNB 2014a). This alone suggests that it is not correct to assume a crowding-out effect, but if we examine the distribution by the number of companies, we get an even brighter picture: significantly fewer companies would have been able to borrow in the absence of the FGS, i.e. many small-value loans would have not been concluded: 70 and 65 per cent of the respondent micro and small enterprises, respectively, would have been unable to borrow in the absence of the FGS.

**Figure 4**  
New corporate loans in the credit institution sector as a whole

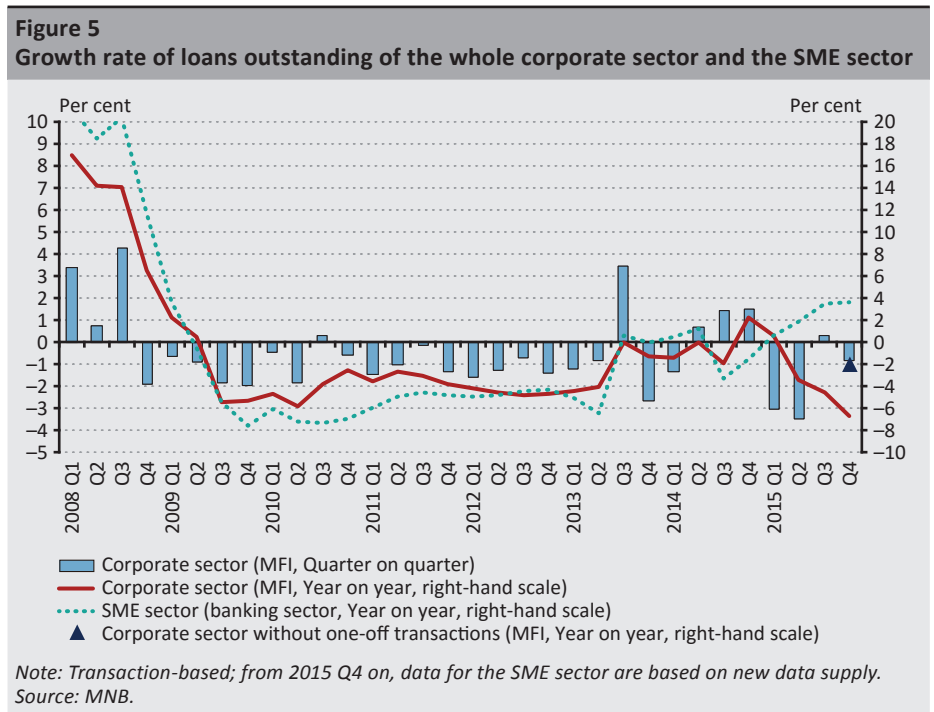


Source: MNB Trends in Lending, February 2016.

In addition, the second phase also deserves credit for the fact that micro enterprises, which have the greatest growth potential, concluded FGS loan contracts for HUF 501 billion, and 76 per cent of their loans were new investment loans. Small enterprises took FGS loans in the amount of HUF 468 billion, half of which were investment loans. About 30 per cent of all loans were concluded at small and medium-sized banks and cooperative banks, which is a much higher ratio than in the case of the forint loans (MNB 2015a). EU loans were shared equally between micro, small and medium-sized enterprises, which is important, as this helps them obtain additional funding and thereby achieve higher growth potentials.

The regional distribution of the second phase is less concentrated than the pre-FGS SME loan portfolio: before the FGS, 54 per cent of SME loans were taken in Central Hungary, while in the second phase this amounted to 34 per cent only, with the South Great Plain and South Transdanubian regions benefiting from the difference.

The greatest achievement of the second phase of the FGS was that whereas the outstanding borrowing of corporations, adjusted for individual transactions, decreased, the SME credit portfolio expanded (Figure 5). The negative change in SME loans recorded in 2014 Q3 was only attributable to the fact that growth is calculated in annual terms, and the outstanding first phase was launched in 2013 Q3. Based on this, it can be stated that the new loans of SMEs showed a continuous upward trend from the start of the FGS until the end of 2015, while the total outstanding borrowing of corporations steeply declined in 2015.



## 5. Monetary policy effects of the FGS

Having looked at the practical implementation of the FGS, it should be clarified where the Scheme is positioned in the monetary policy framework. The FGS is part of the set of monetary policy instruments, and more particularly it is an unconventional instrument. The application of unconventional instruments may be justified in three cases. Obviously, if the conventional instrument – i.e. the base

rate – is no longer effective or it is close to zero, i.e. no further monetary easing can be performed through the short-term interest rates, the central bank needs to resort to unconventional instruments. On the other hand, the application of such instruments may also be justified even when the base rate is above zero, if there is such a financial market conflict, distrust or constraint that severely prejudices the transmission mechanism, and thus interest policy cannot be as effective as usual. In Hungary, the failure of the financial market was represented by the decline in corporate lending, discussed in Section 1, which cannot be managed only by the reduction of the base rate, as SME loan interest rates remained high.

“By the manner of interventions, three types can be differentiated: 1. instruments providing commercial banks with liquidity, 2. direct credit market interventions, 3. the purchase of government securities” (*Balogh et. al. 2012*).

“The liquidity providing instruments essentially include the loans and refinancing schemes provided to the financial intermediary system. In many cases, the central banks modified and expanded their own former, traditional liquidity providing instruments, operating with much larger volumes (often unlimited) and more favourable terms (tenor, interest rate spread, range of collaterals) than before. The objective of these instruments is to stabilise the key financial markets, to reinstate transmission and to strengthen the banks’ lending capacity by mitigating their liquidity constraints. However, the degree to which the instrument reducing the funding costs of the financial intermediary system appears in the private sector’s loan conditions, depends on the banks’ attitude” (*Balogh et. al. 2012*). This means that if, in addition to the liquidity problems, the financial market in question is also confronted with other lending constraints – arising from capital adequacy, cyclicity or competition – the application of the instrument is not necessarily successful.

“As a result of the decrease in the excessive spreads which developed in the markets playing an important role in transmission – the interbank market and the government securities market – the liquidity providing instruments usually also reduce the difference between the key policy rate and the bank’s funding cost, i.e. the refinancing costs” (*Bini Smaghi 2009*). This happens when the banking sector is provided with large volume of funds or even unlimited funds at the base rate. Right after the crisis, most of the developed countries used this instrument in this way and successfully (*Balogh et. al. 2012*).

In a sense, the FGS belongs to this group of liquidity providing instrument, as it increases the liquidity of the banking system, albeit it cannot be fit into any of the categories. However, in contrast to other central banks’ instruments of this type, the MNB provides refinancing in a very targeted manner, i.e. related to certain SME loans, for longer term, even for 10 years, with a fixed 0 per cent interest rate, which is lower than the central bank base rate. The question is, whether there

were better alternatives to the Scheme, and whether the central bank could have achieved better effect or the same effect at lower costs – or better effects at lower costs – in the SME credit market.

The purchase of government securities takes place in a way that the central bank buys government bonds in the secondary securities market, as a result of which their prices go up and their yield drops, thereby making other instruments more attractive. If other instruments are purchased – bank or corporate bonds, or mortgage bonds – the same effect prevails with them as well, i.e. the funding costs decline both for households and corporations (*Bank of England 2010*).

Accordingly, it affects not only the corporate credit market, but also has broader impact, the objective of which is generally to ensure that the central bank channels cash into the economy and reduces long-term yields. This is less targeted than the FGS. Moreover, due to the prohibition of monetary financing of the budget deficit, the purchase of government securities is permitted only in specific cases, usually when there are disturbances in the government securities market.

“During the direct interventions in the credit market, the central banks purchase corporate securities and mortgage bonds, or – rarely – extend loans to corporations. By doing so, the central bank partially assumes the credit risk of the private sector. The purchase of instruments is essentially feasible where the economy has a developed securities market, which provides substantial securities-based corporate finance, and the companies finance their activity in large numbers (across several sectors) and to a large degree by bonds and bills” (*Balogh et al. 2012*). In terms of its goal, it is closer to the FGS than the purchase of government bonds; however, the feasibility thereof would have been rather questionable: in Hungary, the corporate sector raises only a few per cent of its funds from the bond market, while in the case of SMEs this is not typical at all.

In the broader sense, the FGS is a lending incentive instrument, which intends to remedy the post-crisis aversion to risk and the lengthy and expensive deleveraging across the whole economy (*MNB 2014a*). In the first phase of the FGS, the prevalence of refinancing meant the replacement of the former expensive debts by cheap ones. It was only after this that SMEs could afford new borrowing, but only at low and predictable interest rates, which they could repay. The interest rates were sufficiently low to revive credit demand.

The placement of an FGS loan in practice does not represent extra costs<sup>5</sup> for the bank, and thus it can increase willingness to lend, thereby also strengthening the supply side.

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<sup>5</sup> The placement of loans has one-off costs, but in the case of longer terms it is recovered through the moderate spread.



Thus, a second central bank rate appeared in addition to the key policy rate, and the more funds the central bank channels to the economy using this rate, the larger the decrease in the actual interest rate (i.e. the average of the base rate and the funding rate). The larger the volume of preferential funds and the range of users, the more the base rate loses its significance (*Bihari 2013*). In the case of the FGS, there is no such threat, bearing in mind that within lending in general it influences only corporate SME loans.

## **6. Macroeconomic effects – revenues, costs and risks**

The individual results of the various phases were outlined in the previous section; in this section I present the impact exerted by the Scheme on macroeconomic indicators (e.g. GDP, investment, employment). Knowing the theory of its functioning, we can examine the macroeconomic costs and risks of the FGS, as both negative factors derive from the effects thereof.

### **6.1. Real economy impact of the Scheme**

The FGS primarily impacts GDP via growth in investments. On the one hand, it reduces corporations' borrowing costs, and thus they can take out higher loans for investment (as well). On the other hand, due to the lower instalments, the cash flow of corporations will also be higher, which improves their creditworthiness, and thus they can borrow more, or they can save the higher cash flow or use it for the financing of investments without saving. As a result of the latter impact, later on SMEs will be less dependent on external financing, and thus this effect reduces future borrowing (*MNB 2016a*). The higher cash flow exerts an impact not only through investments, but may also facilitate a potential wage increase. Investments raise GDP through the increase in aggregate demand. The rise in GDP results in wage increases and corporate profit, and the use of higher wages for consumption or the profit for investment or consumption, generates additional second-round demand effects.

The macroeconomic effect of the FGS can be estimated both from the demand and supply sides. On the supply side, we have the structural vector auto regressive (SVAR) model examining the real economy impacts of the credit supply shocks (*Tamási–Világi 2011*), which calculates GDP not only through the investment effect. In this model, we must choose which one of the shocks on risk assumption, interest rate spread and monetary policy may have been generated by the FGS. Since the FGS is an unconventional instrument and covers only part of outstanding borrowing, it causes no shock in monetary policy (*MNB 2016a*). Based on the estimate prepared among the borrowers of new FGS loans in 2014, borrowers participating in the FGS do not represent a higher risk than the creditworthy SME group, selected

as the benchmark,<sup>6</sup> and thus the Scheme also has no impact on the Bank's risk assumption (*MNB 2014b*). The interest rate spread generated a shock, and thus the real economy effect of the FGS is estimated on the basis of this (*MNB 2016a*).

According to the calculations of *Bauer (2016)*, the GDP increasing effect of the FGS was 1.7 per cent in 2013–2015, which roughly amounts to HUF 550 billion. The effect in the coming years is expected to be more moderate, as the corporations immediately use the loans requested for specific purposes, and thus the investments and current asset purchases financed by the FGS have already materialised. However, the surplus output of the investments have a long-term effect in most industries, and thus the FGS will increase Hungarian GDP in the future as well.

The effects of the FGS on employment can be deduced from its effect on GDP, using a macroeconomic model (DELPHI). According to the results, the FGS increased employment by 17,000 persons in the period 2013–2015.

The model estimating investment based on micro data from the demand side was prepared on the basis of the financial statements of the corporations that borrowed new FGS loans. Thus, we can estimate how investment would have developed in the absence of the Scheme, and manage the opposite of this, i.e. those investments of companies that would have been implemented anyway, even in the absence of the Scheme. However, it is a disadvantage that the model can only manage changes in tangible assets, which may differ from the investment realised in macro-statistics (e.g. when second-hand assets are purchased).

Based on the calculations of *Bauer (2016)*, the loans drawn down in the first and second phase of the FGS generated new investments in the amount of HUF 137 and 210 billion, respectively. One unit of loan generated 0.5 unit of additional new investment in both phases (*MNB 2016a*).

## 6.2. Costs and effect on the budget

The previous section made it clear that the FGS is a refinancing loan for the commercial banks, diverted downwards from the base rate. Commercial banks lend this amount on to the SMEs. If the SMEs received and used the amounts – for investments or current assets – sooner or later the funds will appear as money on the account of a commercial bank. From then on, no matter how that commercial bank decides to use this excess liquidity, in terms of the entirety of the banking system, it will be returned to the central bank, in the largest part through the main policy instrument, i.e. the three-month deposit<sup>7</sup> (*cf. Balogh 2009*). It follows from

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<sup>6</sup> See more on this in the section on risks.

<sup>7</sup> It can be also channelled back to the central bank via the overnight deposits and the clearing accounts. In the first case, the funds may be channelled back to the central bank at a cost lower than the base rate, but as the ratio of overnights within the banks' liquid assets is negligible, for the sake of simplicity we disregard this option.

this that the central bank pays the base rate to the commercial banks on the three-month deposit, while it granted the FGS free of charge. Accordingly, the central bank's cost on the FGS will be the FGS portfolio outstanding at any time multiplied by the interest rate paid on the deposits.

In my calculations, I used the annual average outstanding borrowing and the weighted average base rate for the period of 2013–2016. Looking ahead, the recent quantitative restriction of the main policy instrument somewhat decreases the average sterilisation costs compared to the base rate, and therefore, for the post-2016 period I use the market expectations regarding BUBOR instead of the anticipated path of the base rate. When estimating the outstanding borrowing in the given year, I assumed that it peaks at HUF 1,500 billion in 2016 and due to the maximum 10-year tenor, it is repaid by 2026. I assumed fixed instalments during the 10 years.

Based on my estimations, the expected costs of the FGS between 2013 and 2026 is roughly HUF 200 billion. This amount is fully borne by the MNB, but the finances of the central bank form part of the budget, i.e. if it has no sufficient retained earnings and it makes a loss, it will have to resort to the state, and therefore the FGS can be regarded as a budget expenditure at the level of the consolidated general government.

Due to the costs of the FGS, it is important how much tax revenue is generated by the Scheme. It increased the tax base of most tax types through employment, consumption and investments. Bearing in mind its effect on GDP and the tax centralisation of the Hungarian economy, in the period of 2013–2015 budget revenues increased by roughly 0.68 per cent of GDP due to the FGS, which amounts to approximately HUF 220 billion. Accordingly, the budget revenues generated by the Scheme in 2013–2015 almost equal the costs that the central bank is likely to incur during the next 10 years. Moreover, although the degree to which GDP will exceed in the coming years the level that would have been realised in the absence of the Scheme cannot be determined precisely, almost 40 per cent of the surplus output compared to that appears annually as additional budget revenue as a result of the tax centralisation, and thus taking the 10 years together, the tax revenues realised at the general government are likely to be well above the costs incurred by the MNB.

### **6.3. Risks**

One of the risks of the FGS, as in the case of all loans, is credit default. Due to the abrupt pick-up in demand and as a result of the competition, there is a chance that banks may act irresponsibly and place FGS loans with clients representing a much higher risk. Due to the fact that the commercial banks must repay the refinancing loan to the central bank, the prevention of credit default enjoys the

same priority as in the case of funds sourced from the market. This was confirmed by the estimation prepared by *Endrész et al. (2014)*, which measured the average and median risk of the companies participating in the first phase between 2007 and 2011 compared to the SMEs that borrowed then or already had a loan. Based on the logit estimation thus prepared, in 2011 of the companies with future FGS loans, only the group of those that refinanced foreign currency loans represented higher risk by 1.5 per cent, while those with new FGS loans or refinancing forint loans represented roughly the same risk as the SMEs that already had loans then (4.5 per cent). It is a question to what extent their risk level has changed by 2013, i.e. by the time of the borrowing. Based on estimation prepared for this, the average and median risk of the companies participating in the FGS fell by 0.5–1 percentage point from 2011 to 2013 (*MNB 2014b*).

The critics of the Scheme were of the opinion that the FGS loans are not profitable for the commercial banks – or in the short run they may even generate losses – as the margin of 2.5 per cent appears to a great degree (or in full) as a risk spread, which is not a revenue for the banks. They explained this by saying that the high, 3–5 per cent pre-FGS risk spread surely has not dropped to such a low level that it would be more profitable to lend at a 2.5 per cent margin than without FGS. The only reason why banks join the FGS is scheme is competition, to ensure that later on the clients remain with them and they may lend to them at a profit after the phase-out of FGS. In order to confirm or refute this opinion I conducted a questionnaire-based survey among the banks with larger corporate exposures. All respondents noted that there was substantial competition, and thus their clientele hardly expanded at all, and it was more typical that the existing clients once again became borrowers or they took on larger loans. The profit realised on the margins show a mixed picture depending on the tenor and the change in the base rate, but on the whole, the FGS had a positive impact on banks' profitability due to the higher demand for loans.

Under the FGS – due to the mechanism presented before – the interest rate risk is borne by the MNB instead of the SMEs, and a future high base rate represents a higher burden for the general government. The question is which factors may increase the expected interest level, discussed in the section on costs, compared to the currently priced market expectations. In September 2016, according to one of the alternative scenarios, we may see larger wage increases compared to previous years, which – through the growth in household consumption – results in a higher consumption path than forecast. On the other hand, this has a positive impact on GDP as well, as a result of which the increase in the FGS interest expense would be accompanied by an increase in tax revenues. Other risks include the higher oil and commodity price path and the potential for financial market turbulences, but these are not considered as key risks (*MNB 2016b*).

Setting out from the fan chart of the Inflation Report of September 2016, if we use the extreme assumption that by the end of 2018 the interest level would increase to 5 per cent and remain persistently at that level, the total interest expense of FGS incurred by the MNB would amount to HUF 440 billion. This already considerably exceeds the tax revenues generated in recent years, but if we also consider the tax revenues generated over the full term – in relation to the surplus GDP realised as result of the Scheme – we can draw the conclusion that the fiscal revenues would possibly cover most of the central bank's interest expense even in this extreme situation.

## **7. Conclusions**

The FGS may be deemed efficient from its launch in June 2013 until the end of 2015. It achieved its objective, as more than 28,000 SMEs were able to access preferential forint loans or replace their earlier foreign currency loans or expensive forint loans using the Scheme. A larger part of the SMEs, mostly micro and small enterprises, would have not become borrowers without the FGS. Its estimated effect on the economy may be deemed efficient and is much larger than the costs of the Scheme. As regards its risks, there are no major threats in the FGS, the probability of credit defaults is the same as in the case of market-based SME loans. Despite the sharp decline in corporate lending, which commenced in the beginning of 2015, loans to the SME segments are on the rise, which is an outstanding result of the Scheme.

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