FUNDING FOR GROWTH SCHEME

2013

EXPERIENCE WITH THE MAGYAR NEMZETI BANK'S INSTRUMENT TO INCENTIVISE BANK LENDING

2015

2016

ESSAYS AND STUDIES ON THE RESULTS OF THE FUNDING FOR GROWTH SCHEME ACHIEVED TO DATE

The Funding for Growth Scheme – experience with the Magyar Nemzeti Bank's instrument to incentivise bank lending

This publication presents the results of the Funding for Growth Scheme launched in 2013 up to the end of 2015.

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Foreword

Following the outbreak of the crisis, the magnitude of the downturn in lending to the private sector in Hungary was extremely severe by international standards. *This decline in lending affected both the household and the corporate sector, but the strains on the financial markets were primarily reflected in corporate lending. In 2009–2013, lending to corporates contracted by 4 to 5 per cent on an annual basis, and lending to the Hungarian private sector was still declining in 2013, whereas in many other countries facing a severe crisis it was seen that the contraction in lending activity typically ended by the fifth year following the crisis.*

Domestic-owned small and medium-sized enterprises (SMEs), which rely heavily on bank financing, were hit particularly hard by banks' deleveraging. *Two-thirds of domestic employment is attributable to this segment, whereas the average productivity of these companies is lower than that of large corporations. Consequently, investments implemented due to improving credit conditions in the SME sector result in stronger growth in productivity and higher employment.*

Although the central bank commenced its easing cycle in mid-2012, no improvement in lending conditions for the corporate sector was perceived. *Increased financing costs and deteriorating profitability resulted in deleveraging at SMEs, and they restrained their production and postponed investments, which in turn affected banks' credit supply due to the deteriorating creditworthiness of corporate clients, exacerbating the risk of a negative feedback loop and raising the possibility of a credit crunch.*

In June 2013, the MNB launched the Funding for Growth Scheme (FGS) as a new, targeted element of its monetary policy toolkit *with the aim of alleviating the persistent disruptions in lending to SMEs and thus boosting economic growth, as well as to strengthen financial stability and reduce Hungary's external vulnerability. Under the FGS, the central bank provides HUF-denominated refinancing loans to credit institutions at a 0 per cent interest rate, which they lend on to SMEs with a maximum term of 10 years and an interest rate margin capped at 2.5 per cent. SMEs benefit from*

the predictability of the long-term, fixed interest rate level, which ensures smoother operations and allows the enterprises to expand their business and implement postponed and new investment, thus improving their competitiveness. The central bank's targeted lending scheme significantly boosted the credit demand of enterprises, while also directing the attention of credit institutions to the SME sector, and competition for obtaining and retaining customers intensified.

***By the end of 2015, almost 31,000 enterprises had used the FGS to obtain financing in the amount of HUF 2,126 billion**, meaning that 95 per cent of the total amount allocated under the Scheme was utilised. After the launch of the programme, the persistent, 5–7 per cent annual decline in the SME portfolio came to a halt and SME lending began to gradually increase. In the last quarter of 2015, the rate of growth reached almost 4 per cent. According to the MNB's estimates, by improving financing conditions and facilitating the implementation of numerous projects, in the period of 2013–2015 the second phase of the FGS raised GDP by 1.2 percentage points, while **the overall contribution of the FGS to growth was 1.7 per cent, and the programme increased employment by a total of 17,000 persons.** Introduced as a temporary instrument, the FGS successfully achieved the objectives set upon announcement of the programme. Over the long run, however, lending must grow at the desired rate without the central bank's participation. To that end, in November 2015 the MNB commenced the Growth Supporting Programme (GSP), which is intended to encourage commercial banks to satisfy the credit demand of real economy participants on a market basis, with the gradual phase-out of the FGS.*

By publishing this compilation of five studies, the MNB wishes to help the Hungarian and international public gain a deeper insight into the effects of the programme so far.

*The **first study** presents the potential adverse real economic developments that may result from a severe downturn in lending after the crisis. After describing the impact mechanism of the negative feedback loop and looking at a number of international examples, the authors present two scenarios to examine **the extent to which GDP and employment would have contracted as a result of different credit supply shocks in recent years.** The Funding for Growth Scheme prevented the decline in outstanding loans and successfully eliminated the risk of a credit crunch, which could have resulted in significant real economic sacrifices both in terms of economic growth and employment.*

The second study provides an in-depth analysis of the loans granted in the second phase of the FGS, *which started in October 2013 based on the results of the – only three-month-long – first phase of the FGS and ended at the close of 2015. During the second phase of the programme, the emphasis shifted to new loans, in particular those most conducive to growth: investment loans. The weight of smaller enterprises – those facing the most serious financing difficulties – increased considerably, with a parallel decline in average loan size. The study provides numerous other, interesting and detailed statistics regarding the features of the loans granted in the second phase with respect to loan purposes, maturities, loan amounts, and the regional and sectoral distribution.*

The third study *analyses a rarely discussed, but important aspect of the FGS: the* ***stabilisation*** *of recipient enterprises' financial conditions* ***through the redemption of foreign currency loans*** *primarily in the first phase of the programme. In the first phase, firms (which presumably lacked natural hedge) converted foreign currency loans worth HUF 229 billion in total, thus redeeming more than 10 per cent of performing FX loans outstanding at the time. The firms concerned – primarily micro and small enterprises – were released from future exchange rate risk, thereby avoiding the further increases in their principal and instalment amounts that they would have faced as a result of the subsequent, significant depreciation of the forint. In the case of CHF-based loans, these losses could have been as high as an additional 40 per cent.*

The fourth study *describes in detail the macroeconomic channels and* ***impact mechanism through which the FGS affects*** *the demand and supply side of SME lending and hence,* ***real economic growth.*** *It presents a model-based estimate, quantifying the extent to which the programme has contributed to Hungary's economic growth in the two and a half years since its announcement. In addition, based on micro data derived from the financial statements of the borrowers, it estimates the amount of new investment generated by the programme, which would not have been implemented without the FGS. Based on the estimate, the programme had the strongest impact on the investment activity of smaller enterprises.*

The fifth study *attempts to determine the* ***type of lending that would be desirable in order to support economic growth, both in terms of quantity and quality.*** *Accordingly, the study presents the most important qualitative traits of market-based lending. Investment loans to SMEs may continue to*

be the backbone of growth, while the access of start-ups to funds is another priority. It is particularly important to ensure enterprises' access to bank financing at moderate profit margins and to obtain loans with a maturity of over 5 years at a fixed interest rate.

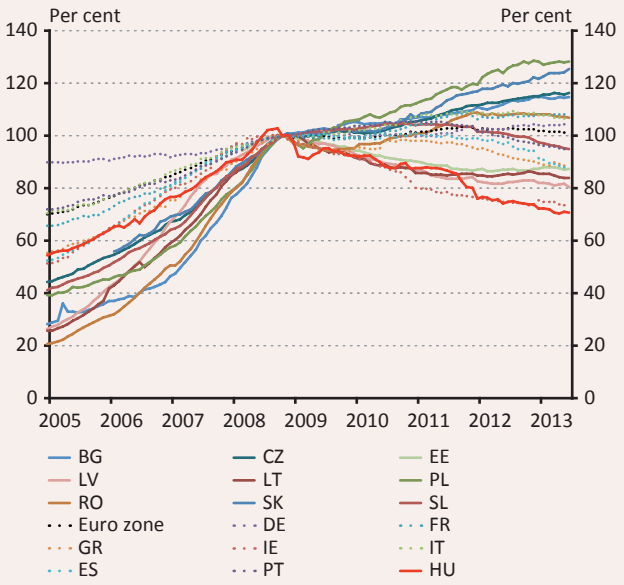
Péter Bauer – Zsolt Oláh: Potential threats of frozen credit markets and financial intermediation

CREDIT CRUNCH AS A SOURCE OF FINANCIAL AND ECONOMIC RISKS

The contraction in lending to the private sector in Hungary after the 2008 crisis is considered to be significant even in an international comparison. The decline primarily impacted corporate lending, and its magnitude was similar to that observed in the Baltic States, which suffered from one of the largest downturns. This should be viewed as a particularly severe problem, as the credit contraction in Hungary was among the most extreme declines observed in Europe (Chart 1), despite the fact that Hungary had not seen outstanding growth before the crisis and the private sector's debt-to-GDP ratio had not significantly exceeded its presumed long-term trend (Fábián–Vonnák, 2014).

Therefore, the main cause of the downturn in lending was not an excessive credit expansion, but rather the unhealthy structure of lending. While increased credit risk may have negatively affected both household and corporate lending, the turbulences in the financial markets were primarily reflected in the downturn in corporate lending. This can be partly attributed to the rapid emergence of negative cyclical effects in the corporate sector (deteriorating profitability, rising production costs) and to the typically higher significance of information asymmetries, which reduce banks' risk appetite. It was mainly through the corporate credit portfolio that the banking sector in Hungary was able to effect deleveraging, as the phasing out or repricing of these shorter-maturity loans in the portfolios is typically faster; in addition, banks can easily withdraw or reduce the amount of credit lines.

Chart 1
Changes in private sector debt in international comparison
(Oct. 2008 = 100%)



Source: ECB, MNB.

Between 2009 and 2013, outstanding loans to corporates shrank by 4 to 5 per cent on an annual basis (adjusted for exchange rate movements), and whereas in many other countries the contraction in lending activity typically ended by the fifth year after a financial crisis, lending to the private sector was still declining in 2013 in Hungary.

Although the credit contraction in the period under review can be explained both by demand and supply factors, according to previous research (e.g. Sóvágó, 2011), credit supply played a more important role. The fragility of banks' credit supply can be attributed to two factors: the lending capacity of financial institutions on the one hand (capital and liquidity adequacy), and on the other, banks' willingness to lend, which largely depends on their risk appetite. After the onset of the crisis, credit supply was mainly driven by the latter factor.[1]

Protracted constraints on credit supply may have unintended impacts in the long run. A long-lasting credit crunch distorts the production, investment and

[1] For empirical results, see Hosszú (2016).

financing decisions of firms, on the whole resulting in allocative inefficiency and thus reducing potential economic growth over the long term. The deterioration in economic prospects lowers debtors' sustainable debt levels and undermines borrowers' creditworthiness. In both cases, this leads to an economic slowdown: it forces debtors to restrain production and carry out deleveraging, and without access to finance, corporations need to postpone developments and investments. This also has a feedback on credit supply: the falling number of creditworthy clients triggers a downward spiral, which intensifies the procyclicality of the banking sector.

In addition to the credit crunch, there is also a risk of a so-called creditless recovery, which may widen the gap between the different parts of the economy (e.g. between corporations producing for export and for the domestic market), thus preserving distortions, e.g. a dual economic structure. This duality was also apparent in the Hungarian corporate sector in 2012–2013. While large, foreign-owned (mainly export-oriented) corporations which actively engaged in foreign trade had easy access to cross-border financing and did not face any financing constraints (on the contrary, there was fierce competition between domestic banks for such customers), domestic-owned small and medium-sized enterprises (SMEs), which rely more heavily on bank financing and primarily produce for domestic markets, were hit hard by the lack of credit (Balog et al., 2014).

Thus, on the whole, domestic SMEs' access to finance deteriorated sharply after the outbreak of the financial and economic crisis, both in terms of price and non-price credit conditions. The protracted recession had a negative impact on SMEs' profitability through several channels, and furthermore there was a significant risk of an adverse feedback loop between the increased financing costs and deteriorating profitability.

INTERNATIONAL CASE STUDIES OF CREDIT CRUNCH EPISODES FOLLOWING THE 2007–2008 CRISIS

After the financial crisis of 2008, many European countries experienced a simultaneous downturn in the economy and lending. While the emergence of imbalances in lending may have resulted from different factors in these countries, adverse feedback loops between lending and economic growth probably occurred in most cases.

A shrinking credit supply ultimately leads to a decline in investments and output, resulting in rising unemployment. In addition to the lack of an exact definition of a credit crunch, quantifying the macroeconomic impacts is difficult because credit crunches occurs rarely as an isolated phenomenon; typically, an economy is simultaneously impacted by numerous shocks. Several studies have evaluated the implications of the financial and economic crisis of 2007–2008, citing examples both from the USA and European countries.

Buera et al. (2014) developed a calibrated model to estimate the impact of the 2007–2008 crisis on the economy of the United States, with special regard to the labour market. In their study, they examined a credit supply shock resulting from a sudden tightening of collateral standards, which – in line with the observations – implied a 6-8 per cent drop in the ratio of external finance to total corporate liabilities. As a result, GDP fell by almost 5 per cent, while unemployment rose by 3 percentage points and, due to wage rigidities, the results became even more severe. Credit supply constraints also exert a negative impact on growth potential as highly productive but undercapitalised entrepreneurs restrain their activity. Over a longer horizon, financial frictions significantly reduce efficiency: far less external finance is provided to younger and productive enterprises and, accordingly, significantly more capital flows to declining – and thus less productive – corporations.

The significance of financial frictions and the credit crunch proved to be considerable in the euro area as well. According to the results of the Bayesian model estimated by Gerali et al. (2010), financial shocks explained the largest part of the decline in output during the crisis, while real economic shocks only played a minor role.

Credit supply constraints, however, do not equally affect the otherwise highly heterogeneous corporate sector. During financial crises, lenders tend to seek borrowers with the best possible credit ratings, minimising their risk-taking. In terms of corporate lending, this means that banks shift lending to more stable, easy-to-monitor companies, while smaller – and thus riskier – firms have no access to loans or face extremely high spreads.[2] Based on micro level data for corporate and country characteristics, Holton et al. (2012) attempted to develop a model for perceived credit constraints and for the rejection of loan applications. They found that larger, older firms face the lowest risk of being rejected, while the credit constraints perceived by firms were explained

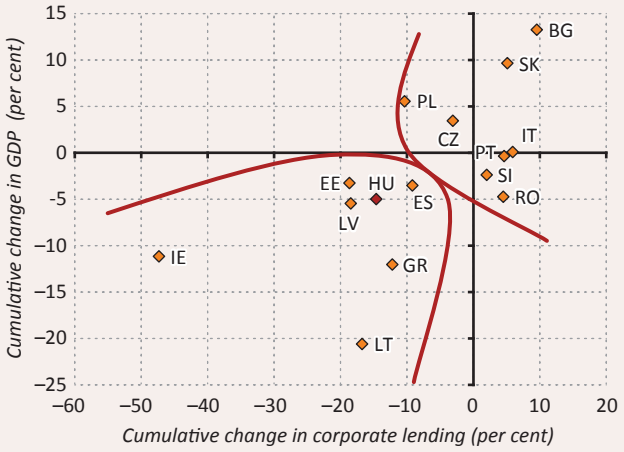
[2] This is the so-called “flight-to-quality” mechanism, as discussed in Bernanke et al. (1996).

to a significant degree by the ownership structure and the firm's current and expected profitability.

The effects of global financial shocks may vary not only from corporation to corporation, but also from country to country as well, due to specific, country-level characteristics. Brzoza-Brzezina and Makarski (2011), for example, attempted to estimate the macroeconomic impact of the global crisis on the Polish economy. According to the simulation performed on a model constructed for a small, open economy, the crisis lowered GDP by 1.5 per cent through the activity of the Polish banking sector. Although the impact was smaller in magnitude compared to the results presented above, this can be explained by the relatively smaller role of the banking sector in the Polish economy on the one hand, and, on the other hand, the deterioration of banks' portfolios was less significant, since the pass-through from the crisis was more related to liquidity constraints.

Indeed, extremely diverse developments were observed in the lending activity and the real economy of individual countries following the onset of the crisis. Between 2008 Q3 and 2011 Q3, in other words, roughly between the outbreak of the global crisis and the escalation of the euro area debt crisis, the periphery countries of the euro area and the European Union could be divided into two distinct groups. The first group comprises the Mediterranean and the Baltic States, i.e. countries that had been indebted to a large degree before the crisis and were hit by a relatively more severe downturn in terms of lending and the real economy; while the countries in the second group had relatively more balanced macroeconomic conditions and experienced a recovery in lending or economic expansion. With the exception of Hungary, the Visegrád countries tended to belong to the latter group, while Hungary was numbered amongst the indebted, vulnerable countries. Countries simultaneously suffering the largest downturn in lending and economic recession included Ireland, Estonia, Latvia, Lithuania, Hungary and Greece; in their case, corporate lending fell by 15–20 per cent and GDP and employment declined by 10–11 per cent on average in the span of the 3 years under review (Chart 2).

Chart 2
Cumulative change in GDP and corporate lending between 2008 Q3 and 2011 Q3



Source: ECB, MNB.

POTENTIAL REAL ECONOMIC EFFECTS OF A HUNGARIAN CREDIT CRUNCH

In Hungary, the credit stock of the private sector shrank by around 30 per cent between October 2008 and 2013.[3] Under such circumstances, any further unfavourable credit supply shock could have induced an adverse feedback loop between real economic growth and lending. On the one hand, this would have led to another sharp decline – or even to an abrupt halt – in lending; on the other hand, it would have set back GDP and employment significantly as well. One of the objectives of the introduction of the FGS was precisely to avoid this risk and to put a stop to the downward trend in lending.

The adverse feedback loop induced by the credit crunch as presented above may reflect the following impact mechanism. Scarce credit supply increases the cost of financing and the debt service of corporations. The increase in the user cost of capital, in turn, undermines credit demand, while higher debt service points to reduced cash-flows. Both effects contribute to a decline in investment, while reduced cash-flows continue to undermine firms' creditworthiness, restraining the scarce credit supply even further. On the

[3] Excluding the effect of exchange rate changes. Disregarding the effect of the early repayment scheme, the fall in loans outstanding was close to 25 per cent.

other hand, above and beyond investment loans, the contraction in working capital loans puts the entire operation of corporations in jeopardy. These effects dampen aggregate demand and accordingly, they also reduce GDP. On the income side, the dip in GDP reduces wages and corporate profitability, and the latter also lowers the level of households' dividend-type incomes. As – similar to other countries – nominal wages tend to exhibit downward rigidity in Hungary, corporations are presumably more inclined to respond to the fall in corporate profitability by downsizing their labour force and, to a lesser degree, by reducing wages. Along with weakening demand, the fall in employment also reflects the contraction in corporate capacities, for lack of new investment projects. On the whole, the downturn in wages and employment reduces households' income, which in turn dampens their consumption, inducing negative second-round demand effects. Subdued demand accelerates the deterioration of corporate profitability – and hence, creditworthiness, thereby further limiting the already restrained credit supply.

On the one hand, the FGS is capable of counteracting this impact mechanism by drawing the attention of credit institutions to the SME sector and by intensifying competition between credit institutions and, on the other hand, by reducing the debt burden of corporations and improving their investment appetite through long-term loans with fixed, low interest rates and by stabilising the operation of corporations through working capital loans. This boosts aggregate demand, thereby putting a stop to the spiral where the downturn in credit supply and the contraction of the economy mutually reinforce each other. Additional investment made possible by the FGS and the resulting spare capacities also contribute to increasing employment.

Quantifying the impact of a credit crunch on the real economy involves a particularly large degree of uncertainty. The shift in certain real variables may be of such magnitude that it falls outside of the traditionally observed range, which lends a prominent role to some non-linear effects which can be generally neglected in the case of routine macroeconomic forecasts. Therefore, in order to estimate the effect of a credit crunch, instead of solely relying on the relationships estimated earlier, the analysis should also take into consideration the experiences of other countries with similar economic structures. With that in mind, in the following we attempt to gauge the potential impact of a Hungarian credit crunch on the real economy.

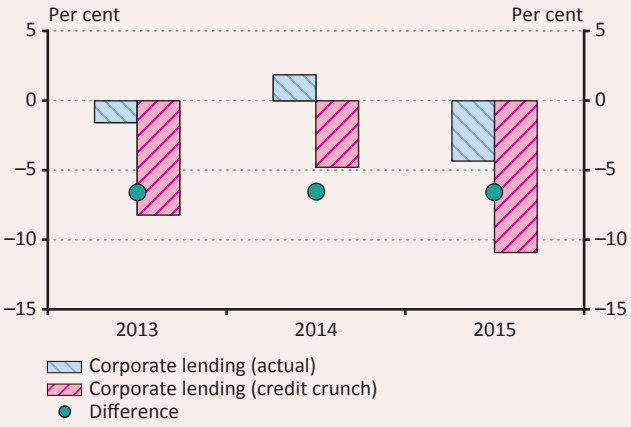
The Hungarian economy has a dual structure, which means that in addition to the large group of small and medium-sized companies which play an

important role in employment, the few large, foreign-owned corporations operating in Hungary are important contributors to value added and exports. In the event of a credit crunch, it is mainly SMEs that are affected, as the sector primarily relies on the Hungarian banking sector to obtain financing. By contrast, the financing of multinational corporations can be also ensured by the parent company, from foreign loans or from the capital market. Owing to the large size of the Hungarian SME sector, a credit crunch in Hungary may have a particularly strong impact on the real economy, as SMEs generate nearly 40 per cent of the value added in the corporate sector and account for two-thirds of its employment. The most relevant international experiences regarding credit crunch episodes can be observed in countries featuring a similar economic structure as Hungary; consequently, the Baltic States are considered to be the most pertinent recent examples in this regard.

In the Baltic States, corporate lending fell by 15–20 per cent, while GDP and employment dropped by nearly 10 per cent between 2008 and 2011. Applying the Baltic example to Hungary in 2013 is challenging in several respects. On the one hand, to a large degree, the severe post-crisis downturn in the real economy of the Baltic States reflected the steep fall in external demand. On the other hand, these countries saw the development of a large bubble before the crisis, and their situation was exacerbated by the currency board, which pegged their currencies to the euro. The crisis, therefore, hit these countries particularly hard. In 2013, Hungary no longer had to face such a drastic decline in external demand; in addition, despite its foreign currency debt, the Hungarian economy had more room for adjustment via the exchange rate than the Baltic States. Since the deleveraging activity of domestic economic participants was intensive in the years preceding 2013, a potential credit crunch would not have followed an overheated period. These factors indicate that the real economic effects of a possible Hungarian credit crunch in 2013 would have been smaller in magnitude than those observed in the post-crisis Baltic States.

In line with the experiences of the Baltic States, in the following risk scenarios we assume that without the FGS a credit crunch would have evolved, and corporate lending would have contracted sharply for a period of three years from 2013, deviating by 20 per cent, overall, from the actually observed credit path (Chart 3).

Chart 3
Lending to the corporate sector, actual data and the credit crunch scenario
(year-on-year changes in outstanding corporate loans)

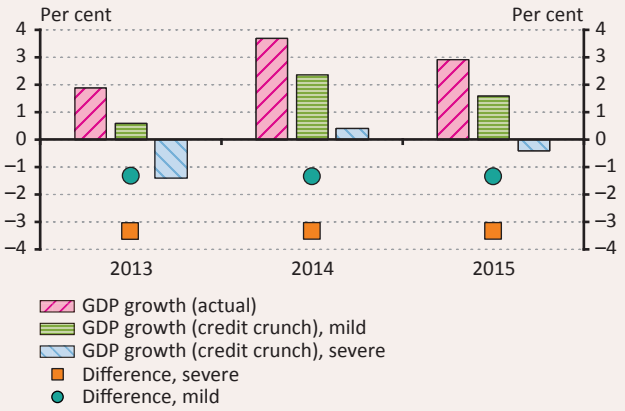


Source: MNB.

In analysing the effect of the credit crunch on GDP, we examined two scenarios: a scenario with severe economic consequences and a milder scenario with more moderate impacts. The severe scenario is based on the experiences of the Baltic States, while the milder scenario is based on the assumption that the usual relationships estimated for the Hungarian economy remain valid even in the event of a credit crunch.

The GDP-reducing effect can be calculated from the difference between the assumed magnitude of the credit crunch and actual data. In the case of the milder scenario, GDP would have declined by a total of around 4 per cent in the span of three years; consequently, even though economic growth would have fallen significantly short of the actual data recorded for the period 2013–2015, the economy would not have slid into recession. By contrast, the severe scenario would have resulted in a 10 per cent difference between the hypothetical and the actually recorded GDP levels, and thus in this case there would have been a recession in 2013 and 2015, while the economy would have stagnated in 2014 (Chart 4).

Chart 4
GDP growth rate for three scenarios actual, severe and mild credit crunch
(year-on-year)

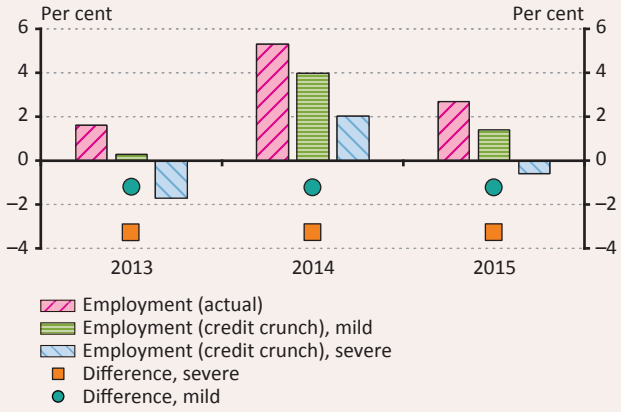


Source: MNB.

As regards the employment scenarios, we assumed that the negative effect in the credit crunch scenario would have been identical with the value calculated for GDP. Consequently, employment would have fallen short of the actual employment figure by 4 per cent in the mild scenario and by 10 per cent in the severe scenario (Chart 5).

Based on the above, we can conclude that the introduction of the Funding for Growth Scheme succeeded in preventing a significant fall in lending and hence avoiding the risk of a credit squeeze, which – if it had materialised – would have entailed severe real economic sacrifices both in terms of economic growth and employment.

Chart 5
Employment growth rate for three scenarios actual, severe and mild credit crunch
(year-on-year)



Source: MNB.

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Sándor Hegedűs – Balázs Hidasi – Ádám Plajner: Analysis of the Loans Granted in the Second Phase of the Funding for Growth Scheme

SUMMARY

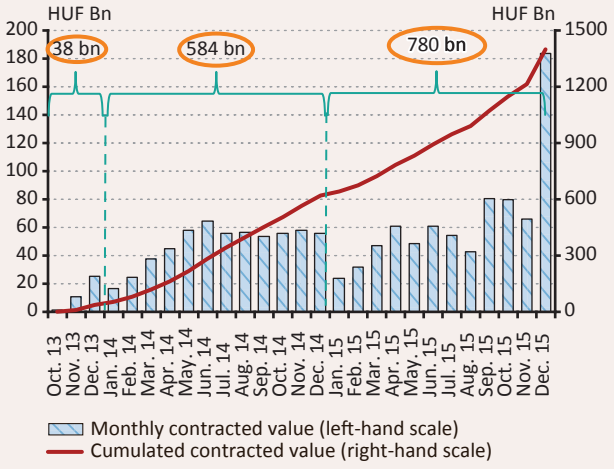
During the more than two years since the start of the second phase of the FGS in October 2013, nearly 27,000 enterprises have obtained financing, amounting to a total of HUF 1,402 billion. With a view to achieving a greater impact on growth, during this phase of the programme the focus shifted to new loans, and in particular to investment loans. The share of investment loans in the total contracted amount was 60 per cent, almost one half of which was taken out by micro enterprises. This is all the more remarkable, as based on the MNB's research, this segment is associated with the highest percentage of investment projects which would not have been implemented without the programme. Accordingly, the average loan size decreased: every second FGS loan was less than HUF 10 million and almost 90 per cent of all loans were less than HUF 50 million. The bulk of the investment-purpose SME loans was provided under the FGS by credit institutions; three quarters of the typically 3–5 year investment loans , were related to the FGS.

More than two thirds of the loans were provided by large banks, with the remaining one third extended by small and medium-sized banks and cooperative credit institutions. At the same time, the share of investment loans was higher in the case of smaller credit institutions. Nearly two thirds of the FGS loans were taken out by enterprises operating in trade and repair, agriculture and manufacturing. During the contracting period, the overwhelming majority of forint loans granted to SMEs in the sectors agriculture and manufacturing were provided under the FGS. The regional concentration of SME loans was lower under the FGS, and consequently the Scheme contributed to facilitating a healthier lending structure.

DISTRIBUTION OF LOANS BY COMPANY SIZE AND PURPOSE

During the more than two years since the start of the second phase in October 2013, the participating credit institutions provided loans to nearly 27,000 micro, small and medium-sized Hungarian enterprises, amounting to a total of HUF 1,402[1] billion (Chart 1). New loans accounted for around 95 per cent of the loans granted, and nearly 60 per cent – HUF 815 billion – was intended to finance new investment directly. Almost one half of these investment loans were related to micro enterprises. As a result, the programme had a particularly favourable effect on investment and economic growth, as according to the MNB's research, these enterprises are associated with the highest percentage of investment projects which would not have been implemented without the programme. Since this phase of the Scheme ended in 2015 and the gradual phase-out of the FGS has started, this analysis discusses the utilisation and the features of the SME loans granted under the second phase of the Scheme.

Chart 1
Utilisation of the second phase of the FGS

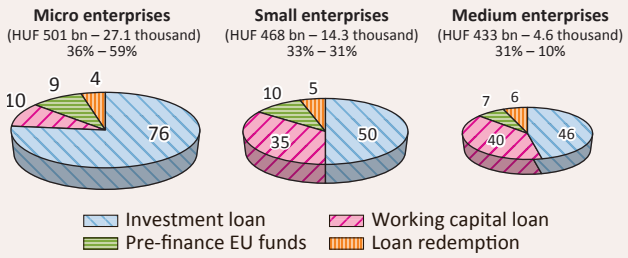


Note: Based on contracting date.
Source: MNB.

[1] In consideration of the depletion of the HUF 1,000 billion allocation of the FGS and the continuing high demand of credit institutions and enterprises, the MNB enabled credit institutions to use the remaining funds allocated to them under the FGS+ for providing loans until the end of 2015 with the same conditions as the FGS.

In the second phase of the FGS most loans were taken out by micro enterprises both in terms of number and volume, with the vast majority of the loans intended for investment purposes. Within the framework of the programme, credit institutions concluded contracts in this segment for a total amount of HUF 501 billion in 27,100 transactions altogether. These enterprises accounted for 36 per cent of the loans with respect to volume and almost 60 per cent in terms of number, as a large number of relatively low-amount loans were taken out. More than three fourths of the loans taken out by these companies serve investment purposes both in terms of number and volume (Chart 2).

Chart 2
Distribution of loan purposes for certain enterprise sizes



Note: Based on the contracted loan amount; the size-classification of the enterprises is based on 2014 annual reports data.
Source: MNB.

Larger SMEs took out loans in a relatively smaller number, but with higher loan amounts. The share of working capital loans is higher in this segment. The loans taken out by small enterprises and by medium-sized enterprises amounted to HUF 468 billion and HUF 433 billion, respectively, representing 33 per cent and 31 per cent of all loans granted under the FGS. This resulted from a smaller number of contracts, but larger amount transactions on average. The number of loans taken out by small enterprises and medium-sized enterprises was around half (14,300) and one sixth (4,600) of the number of loans taken out by micro enterprises, respectively, while in terms of volume, the share of loans disbursed to small and medium-sized enterprises was 93 per cent and 86 per cent of those provided to micro enterprises, respectively. The share of working capital loans increases in line with company size. With respect to volume, around 40 per cent of loans to medium-sized enterprises were disbursed for working capital financing purposes, although in terms of number, the share of investment loans is high – at 71 per cent and 64 per cent, respectively – both among small and

medium-sized enterprises. The share of loans granted to pre-finance EU funds is around 7–10 per cent both in terms of number and volume for all enterprise sizes (Table 1).

Table 1
Distribution of loans provided under the FGS by company size and loan purpose
(HUF billion)

HUF bn	Micro enterprises		Small enterprises		Medium enterprises		Total	
	Contracts	Sum	Contracts	Sum	Contracts	Sum	Contracts	Sum
Investment loan	21,456	383	10,084	233	2,949	199	34,489	815
Working capital loan	2,453	52	2,793	162	1,038	174	6,284	388
Pre-finance EU funds	2,741	46	928	47	413	32	4,082	126
Loan redemption	465	20	473	26	244	27	1,182	73
Total Sum	27,115	501	14,278	468	4,644	433	46,037	1,402

Note: the size-classification of the enterprises is based on 2014 annual reports data.
Source: MNB.

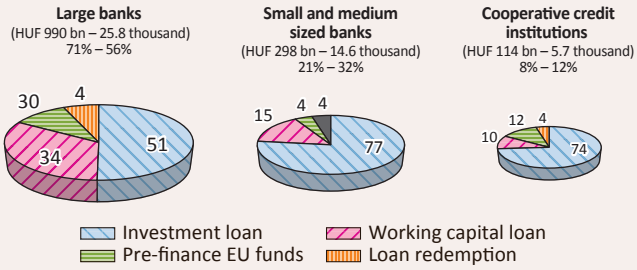
Loans disbursed under the FGS may have significantly contributed to increasing the size of smaller enterprises, which benefits the national economy primarily through the expansion of employment. Almost 1,000[2] smaller enterprises which took out loans in the second phase were able to enter a higher size category between 2013 and end-2014: 660 micro enterprises grew to become small enterprises, while 300 small enterprises became medium-sized enterprises. The loans taken out by these firms amounting to HUF 37 billion – of which investment loans represented HUF 21 billion – under the programme is likely to have played a significant role in their growth and the expansion of their activities.

Large banks provided more than two thirds of the loans, half of which comprised investment loans, and the share of working capital loans is also significant. Large banks concluded 25,800 contracts under the programme for a total amount of HUF 990 billion. The proportion of working capital financing in this segment of credit institutions (34 per cent) exceeds that observed in the case of smaller credit institutions, since around 86 per cent of the loans to small and medium-sized enterprises – a relatively high proportion of which tended to take out larger amount working capital loans – were provided by large banks. The share of investment loans at large banks was 51 per cent.

[2] Number of enterprises entering a larger size-category with FGS loans disbursed – at least in part – until the end of 2014. The effect of loans granted or disbursed later cannot be determined as data are only available from the annual reports for 2014.

At the same time, the share of large banks in the micro enterprise segment – which typically favours investment loans – is also substantial: about 60 per cent of the loans taken out in this segment can be linked to large banks. The share of their loans for pre-financing EU funds is also significant (10 per cent); based on the contracted amount, around 80–90 per cent of such loans were provided by large banks in all enterprise groups (Chart 3).

Chart 3
Distribution of loan purposes within certain banking groups



Note: Based on the contracted amount.
Source: MNB.

Slightly less than one third of the FGS loans are linked to small and medium-sized banks and cooperative credit institutions, which mainly provided investment loans. Small and medium-sized banks concluded more than 14,600 loan contracts for a total amount of HUF 298 billion, while cooperative credit institutions provided HUF 114 billion worth of SME loans in about 6,000 transactions. These credit institutions typically served smaller enterprises, a larger proportion of which took out investment loans. As a result, based on the contracted amount, 77 per cent and 74 per cent respectively and, based on the number of contracts, about 93 per cent of the loans provided by these banks and cooperative credit institutions were used to finance investment projects. In addition to large banks, the proportion of loans intended to pre-finance EU funds is considerable among cooperative credit institutions, whereas only 4 per cent of the loans provided by small and medium-sized banks served such purposes.

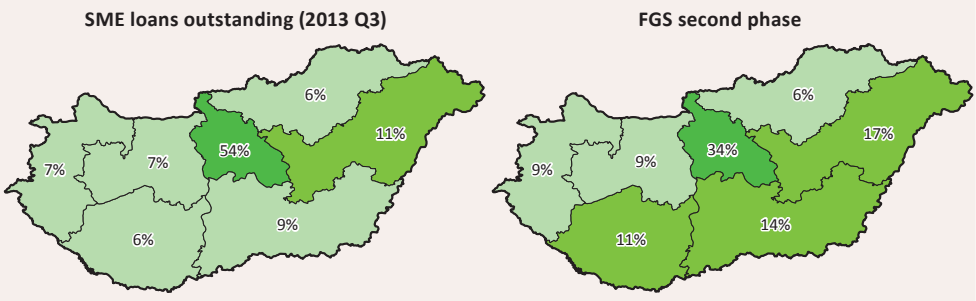
Of the enterprises which obtained financing in the first phase of the programme, almost 3,200 enterprises took out loans in the second phase as well, amounting to HUF 460 billion in total. They account for 12 per cent of the borrowers in the second phase, participating in 20 per cent of all transactions. Enterprises which 'returned' during the continuation of the

scheme typically took out new loans in order to finance investment projects: nearly two thirds of the transactions of micro and small enterprises and about 60 per cent of the transactions of medium-sized enterprises were intended for this purpose. Since larger SMEs – with higher demand for working capital financing – also represent a large proportion of the returning enterprises, based on volume, the share of working capital loans is identical with that of investment loans, at 40 per cent, but the volume of loans pre-financing EU funds is also substantial.

DISTRIBUTION OF LOANS BY REGION, SECTOR AND MATURITY

The regional concentration of SME loans is lower under the FGS. Even in the first phase, the disbursement of FGS loans was more balanced relative to the total SME loan portfolio, and this trend continued in the second phase of the Scheme. Although most loans were disbursed in the region of Central Hungary (Budapest and Pest county) under the FGS as well, the concentration of loans is significantly less pronounced than that of the outstanding SME loans before the launch of the Scheme. While around 54 per cent of outstanding SME loans were linked to enterprises incorporated in Central Hungary at the start of the second phase, only 34 per cent of the amount of all loan contracts concluded under the second phase of the FGS were disbursed in this region (Chart 4). In line with the high proportion of agricultural enterprises within the FGS, the Great Plain regions have a more substantial weight in the programme, with nearly one third of the loans flowing into these regions.

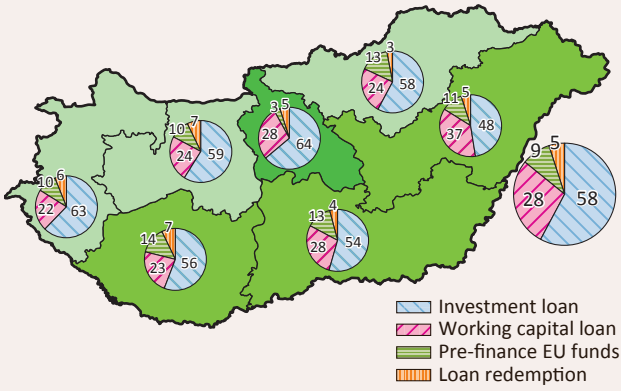
Chart 4
Regional distribution of SME loans



Source: MNB.

There are moderate differences between the regions regarding loan purposes and the size of the borrowers. Of the loans granted during the second phase, new investment loans represent 58 per cent, new working capital loans represent 28 per cent, loans pre-financing EU funds account for 9 per cent, while share of loan redemptions is 5 per cent. The percentage of new investment loans disbursed in the region of Central Hungary (64 per cent) surpasses the national average most spectacularly, while the highest proportion of working capital loans can be observed in the Northern Great Plain region (37 per cent). Since a considerable portion of the loans pre-financing EU funds is linked to single area payment schemes, owing to the scarcity of croplands, the share of these loans is below average – a mere 3 per cent – in the central region (Chart 5).

Chart 5
Distribution of loan purposes by region



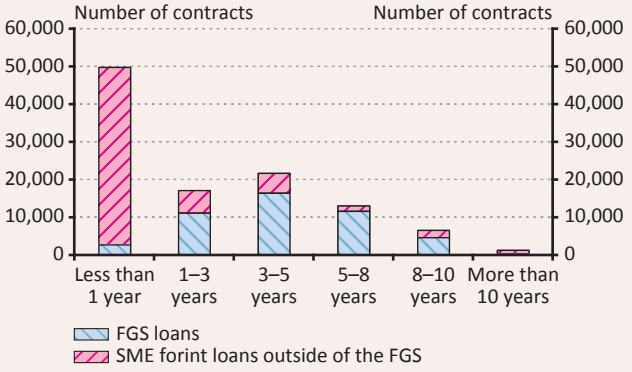
Source: MNB.

As regards the regional distribution of loans by the type of enterprise – based on the loan amount – the highest proportion of micro and small enterprises (41 and 40 per cent, respectively) was observed in Western Transdanubia, while the Northern Great Plain showed the highest proportion of medium-sized enterprises (38 per cent).

The majority of the total medium-term loans granted to SMEs was provided under the FGS. For new SME loans with a maturity of over one year granted between October 2013 and December 2015, loans maturing between 3 to 5 years are the most typical, and three quarters of such loans were provided under the FGS. The share of FGS loans within SME loans provided at an even

longer maturity is also significant, amounting to almost 90 per cent in the 8 to 10 year segment, although the number of these long-term loans is relatively smaller. Most of the new SME loans were presumably overdraft facilities providing short-term liquidity, maturing within one year. The vast majority of these loans was provided outside of the FGS (Chart 6).

Chart 6
Number of SME forint loans provided in and outside of the FGS by maturity[3]



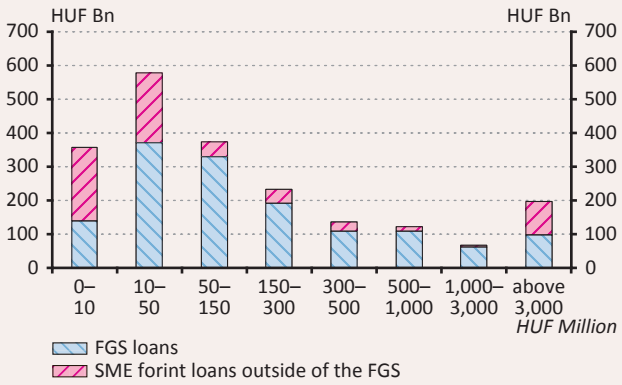
Note: based on the number of loans; loans provided between October 2013 and December 2015.
Source: Central Credit Information System (CCIS), MNB.

Every second loan provided in the second phase of the FGS is below HUF 10 million. Owing to the long commitment period of the second phase, credit institutions were also able to satisfy the credit demand of micro enterprises which typically take out smaller amounts, requiring relatively higher human resources on the bank side. Accordingly, slightly more than one quarter of the loans are below HUF 5 million, half of them are below HUF 10 million, and nearly 90 per cent are below HUF 50 million. The share of large amount loans with a loan amount of over HUF 300 million is below 1 per cent. As regards the distribution by volume, the loan amount was below HUF 150 million in the case of around 60 per cent of the loans provided in the second phase (Chart 7).

The FGS represents a significant weight in SME lending in all loan size categories. Between October 2013 and December 2015, 30–40 per cent of all SME loans – both in terms of number and volume – was provided under

[3] In some cases, data derived from various data supplies may not necessarily be fully consistent. Deviations arising from technical reasons do not influence the main findings of the analysis.

Chart 7
Volume of SME forint loans provided in and outside of the FGS by loan amount

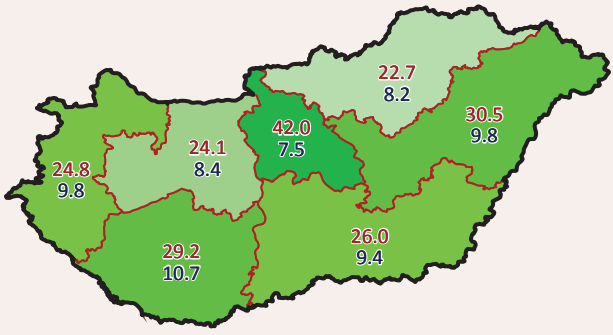


Note: based on the contracted loan amount; loans provided between October 2013 and December 2015.
Source: CCIS, MNB.

the FGS in the segment below HUF 10 million, while almost two thirds of the transactions were linked to the central bank's Scheme in the segment of HUF 10–50 million.

The average loan amount in the programme is HUF 30.5 million, while the median amount is HUF 9 million. At HUF 42 million, the average loan amount is the highest in the region of Central Hungary, while the median value of HUF 7.5 million is the lowest in this region. Chart 8 presents the values by region: the numbers on top show the average loan amount granted to enterprises

Chart 8
Average and median of loan amounts by region
(HUF million)



Source: MNB.

incorporated in the given region, while the numbers below them indicate the median values.

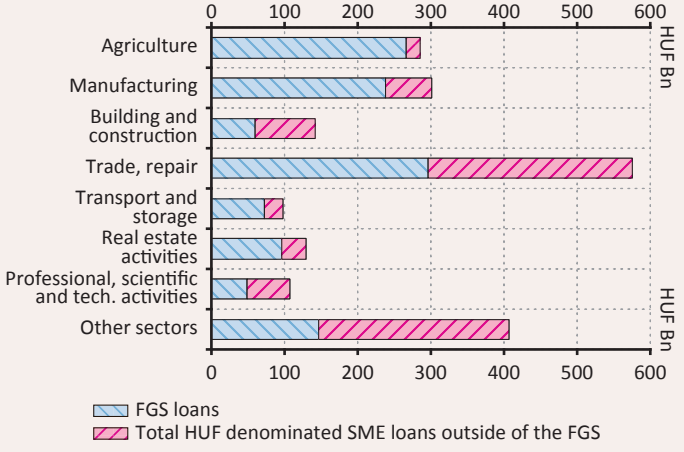
Table 2
Summary table of FGS loans

FGS, second phase	Pillar I			Pillar II	
	New investment loan	New working capital loan	EU loan	Investment loan	Working capital loan
Contracted amount (HUF billion)	815,3	387,6	126,1	48,9	24,5
Average contract size (HUF million)	23,6	61,7	30,9	55,3	83,4
Average maturity weighted by contracted loan amount (year)	7,1	2,3	1,7	6,7	2,6

Source: MNB.

The overwhelming majority of forint loans provided to SMEs in the agricultural sector were FGS loans. During the contracting period of the second phase of the FGS (between October 2013 and December 2015), SMEs operating in the sector of trade and repair took out most of the SME forint loans and more than one half of these loans were granted under the FGS. The other two sectors in which the SMEs took out the largest volume of loans in this period were agriculture and manufacturing; the share of the FGS was

Chart 9
Volume of SME forint loans provided in and outside of the FGS by sector

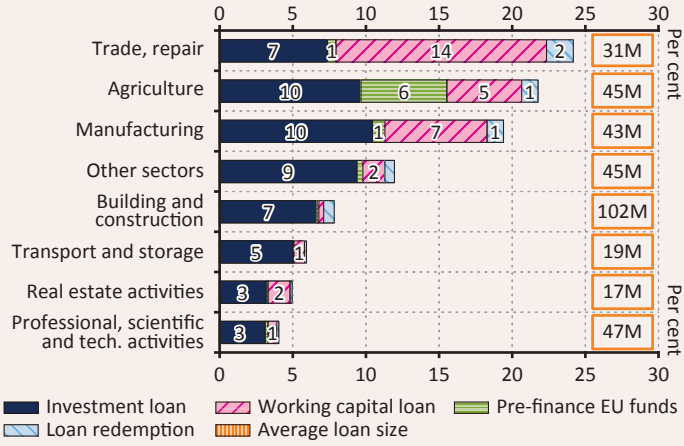


Note: based on the contracted loan amount; loans provided between October 2013 and December 2015. The sectoral distribution does not include sole proprietors and primary producers.
Source: CCIS, MNB.

.more than 90 per cent in the case of the former and almost 80 per cent in the case of the latter (Chart 9).

Nearly two thirds[4] of the FGS loans were taken out by enterprises operating in the sectors of trade and repair, agriculture and manufacturing. Most of the loans were granted to SMEs in the sectors of trade and repair and agriculture, the share of both sectors in total FGS loans is above 20 per cent each. Credit institutions contracted for HUF 560 billion with SMEs in these two main sectors. The third sector with the largest weight in the FGS is manufacturing, with nearly 20 per cent of the loans. The share of investment loans within the total FGS loans in each of the three largest 'FGS sectors' is about 10 per cent. Enterprises operating in the sector of trade and repair took out relatively more working capital loans, while in the case of SMEs in the manufacturing sector the proportion of loans pre-financing EU funds is higher than average (Chart 10).

Chart 10
Sectoral distribution of FGS loans by loan purposes and average loan sizes



Note: based on the contracted loan amount. The sectoral distribution does not include sole proprietors and primary producers.
Source: CCIS, MNB.

[4] Since there are no data available on sole proprietors and primary producers, sectoral ratios are determined relative to the total FGS loans of enterprises for which sectoral data are available rather than being determined on the basis of all FGS loans.

The share of the other sectors with relatively high representation in the FGS is around 5 per cent each. The most important sectors classified in the 'Other sectors' category are accommodation and food service activities, administrative and support service activities and information and communication, with each sector receiving FGS loans amounting to HUF 10–20 billion (Chart 11).

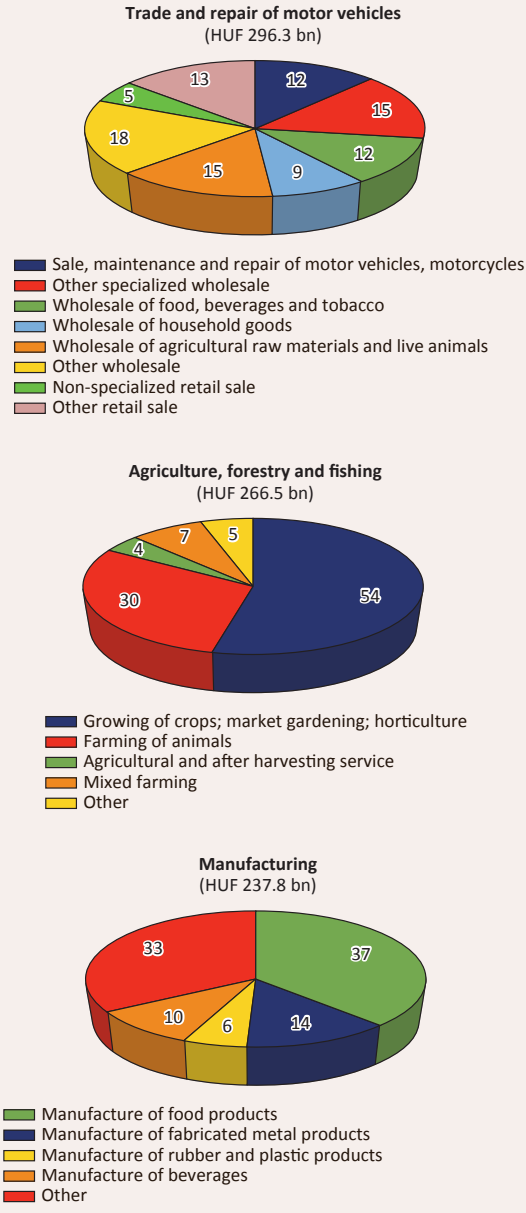
Nearly 70 per cent of the FGS loans disbursed in the sector of trade and repair amounting to HUF 296 billion was granted to SMEs operating in wholesale trade, while 18 per cent was extended to retailers and 12 per cent to enterprises operating in trade and repair of motor vehicles and motorcycles. Within wholesale trade, most loans were granted to SMEs operating in the wholesale of agricultural raw materials and live animals; within retail trade, SMEs operating in retail sale in non-specialised stores took out the majority of the loans.

Within agriculture, almost all of the sector's HUF 267 billion in loans was borrowed by enterprises operating in the sub-sector of crop and animal production, hunting and related service activities. Within the sub-sector, credit institutions granted nearly one half of the loans to SMEs operating in the group of growing of non-perennial crops, the vast majority of which was disbursed to SMEs operating in growing of cereals; these borrowers took out the largest volume of loans considering all of the activities. Within agriculture, the group of animal production also has a substantial weight, based on loan volume.

As regards manufacturing, the third largest 'FGS sector', nearly 40 per cent of the total loans totalling HUF 238 billion were provided to enterprises operating in the manufacture of food products. In addition, the manufacture of fabricated metal products, the manufacture of beverages and the manufacture of rubber and plastic products were also over-represented; SMEs operating in these sub-sectors took out almost one third of all loans granted in this sector.

At the level of activities, within the three largest 'FGS sectors', SMEs operating in the growing of cereals took out the highest volume of loans. The weight of agriculture is also reflected in the fact that another five of the ten most important activities belong to this sector, while three activities belong to the sector of trade and only two activities belong to manufacturing (Table 3).

Chart 11
Distribution of the loans of the three largest 'FGS sectors' by sub-sectors and groups



Note: based on the contracted loan amount. The sectoral distribution does not include sole proprietors and primary producers.
Source: CCIS, MNB.

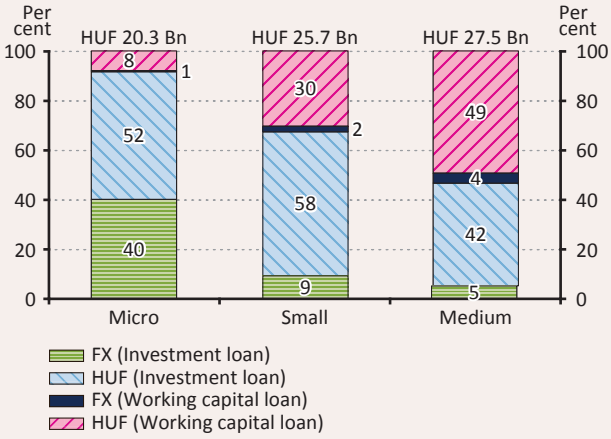
Table 3
The ten largest 'FGS activities'

The ten largest 'FGS activities'	SUM (HUF bn)	Investment loan	Pre-finance EU funds	Working capital loans	Redemption
Growing of cereals (except rice), leguminous crops and oil seeds	132	44%	30%	21%	5%
Wholesale of grain, unmanufactured tobacco, seeds and animal feeds	40	13%	1%	85%	1%
Raising of dairy cattle	34	39%	37%	17%	7%
Raising of swine	25	27%	21%	47%	5%
Manufacture of grain mill products	22	10%	2%	81%	6%
Sale of cars and light motor vehicles	20	30%	1%	34%	35%
Mixed farming	17	36%	25%	31%	8%
Processing and preserving of meat	17	76%	5%	16%	3%
Raising of poultry	15	39%	24%	31%	6%
Non-specialised wholesale trade	15	38%	1%	56%	5%

Note: the table includes the activities of those enterprises operating in the three 'FGS sectors' which received the largest volume of FGS loans based on the contracted loan amount. The sectoral distribution does not include sole proprietors and primary producers.
Source: CCIS, MNB.

In the second phase of the FGS, loan redemption amounted to HUF 74 billion, of which forint loans represented 81 per cent. In order to facilitate new loans, the volume of loans available for loan redemptions was limited to 10 per cent of the overall amount. In the first phase of the FGS, SMEs – typically with no natural hedge – had already converted foreign currency loans to HUF-denominated loans in the amount of HUF 229 billion; consequently, demand for further foreign currency loan redemption was moderate in the second phase of the programme. Micro enterprises mainly redeemed their investment loans in the second phase, more than two thirds of the redeemed foreign currency loans were denominated in Swiss franc. Larger enterprises tended to redeem their HUF-denominated loans. The bigger the company size, the higher the volume of redeemed working capital loans (Chart 12).

Chart 12
Distribution of redeemed loans by loan purpose, size of enterprise and currency denomination



Note: based on the contracted loan amount.
Source: MNB.

Sándor Hegedűs – Balázs Hidasi: The role of the Funding for Growth Scheme in the conversion of corporate foreign currency loans

SUMMARY

In the period preceding the global economic crisis, a substantial amount of foreign currency loans had been accumulated in the case of both corporate and household sector and this became one of the most important sources of vulnerability in the Hungarian economy. This was especially true for CHF-based loans because debtors typically do not have income in this particular currency. These loans, however, were popular as a result of their significant interest rate advantage. The Funding for Growth Scheme (FGS) significantly contributed to reducing the stability risks stemming from corporate foreign currency loans via the redemption of a part of the foreign currency loans of domestic small and medium-sized enterprises (SMEs).

In the first phase of the FGS, foreign currency loans worth a total of HUF 230 billion were converted to HUF-denominated loans for more than 1,700 transactions, implying the redemption of more than 10 per cent of outstanding performing FX loans at the time in the amount of HUF 1,800 billion. As a result, in the third quarter of 2013 the total amount of outstanding foreign currency loans fell by nearly 11 per cent. The FGS had a favourable impact especially on the operation of micro and small enterprises indebted in Swiss franc which essentially had not had any natural foreign currency hedge. Although the redemption of HUF 40 billion worth of foreign currency loans by these enterprises may seem moderate at first glance, it implied the redemption of one third of the outstanding performing foreign currency loans at the time.

To a large degree, the fixed interest rate and typically longer maturity of the FGS loans offset the exchange rate losses realised by the enterprises during conversion. The enterprises concerned avoided future exchange rate risk and

the further increases in the principal amount stemming from the steep decline in the forint exchange rate. The additional increase in the amount of principal may have amounted to nearly 40 per cent in the case of CHF-based loans. In addition, the programme also benefited the real economy as it exerted a favourable impact on the situation of nearly 30,000 employees at the 1,400 enterprises that refinanced their loans.

FOREIGN CURRENCY LENDING TO SMES

In the period preceding the global economic crisis, a substantial amount of foreign currency loans had been accumulated, which became one of the most important sources of the Hungarian economy's vulnerability. From the aspect of financial stability, household foreign currency loans posed the most severe problem. The two-step conversion of this portfolio into HUF-denominated loans reduced the risk significantly, but the ratio of foreign currency loans had also risen among enterprises with almost no natural foreign currency hedge, which also posed a risk to stability.

Foreign currency loans to the SME sector began expanding in 2003 and peaked during the "golden age" of foreign currency lending in the period 2006–2008. The reason behind the accumulation of foreign currency loans was the remarkable interest rate advantage associated with these loans, which, combined with lax lending conditions resulted in an increase in foreign currency lending even among enterprises which lacked natural hedge. For these companies, indebtedness in a currency other than the one in which they earn their income (typically forints) also meant undertaking an exchange rate risk. By the time the financial and economic crisis started, the share of foreign currency loans in the outstanding loans of the Hungarian SME sector was close to 60 per cent, the overwhelming majority of which was comprised of EUR or CHF loans. However, with the weakening forint exchange rate triggered by the crisis, the high foreign currency ratio caused problems primarily in the case of micro and small enterprises, as most enterprises in this segment have no income in foreign currency. The second pillar of the first phase of the FGS launched in June 2013 was particularly beneficial for these companies. Under the programme, enterprises were enabled to redeem their foreign currency based loans and financial leases using HUF-denominated loans at a low, fixed interest rate with longer maturities. Since this pillar focused on the reduction of SMEs' exchange rate exposure, as opposed to Pillar I, the MNB did not impose restrictions on loan purposes; however, the redemption of loans restructured after 31 March 2013 or with non performing status for a period of over 90 days was not allowed.

RESULTS OF THE FIRST PHASE OF THE FGS IN THE REDEMPTION OF FOREIGN CURRENCY LOANS

At the beginning of the FGS, outstanding foreign currency loans to SMEs amounted to around HUF 2,100 billion, including more than HUF 260 billion of non-performing loans, which limited the potential volume of convertible foreign currency loans under the programme. The portfolio potentially redeemable under the FGS was further reduced by the existence of a natural foreign currency hedge, because the willingness to convert loans was likely to be lower in the case of larger SMEs, as their foreign currency income ratio is higher. For lack of foreign currency income, the vast majority of performing micro and small enterprises exhibited willingness to redeem their loans, but they faced banks' limited willingness to refinance, partly because of the margin capped at 2.5 per cent under the programme and partly because of the limited timeframe.

In the first phase of the FGS, from the HUF 1,800 billion of outstanding performing FX loans foreign currency loans in the amount of HUF 230 billion were converted in relation to more than 1,700 transactions. While this volume may seem low at first glance, based on company size, the programme offered a great deal of assistance to the most "disadvantaged" segment of micro and small enterprises in refinancing their CHF-based foreign currency loans: under the FGS, they converted one third of their outstanding performing CHF-based loans into HUF-denominated loans in the amount of HUF 110 billion (Table 1). The programme provided substantial help in the redemption of performing EUR-based loans related to micro enterprises as well, with one fourth of this portfolio converted under the FGS.

Table 1
EUR and CHF loans outstanding in 2013 Q2 by company size
(HUF billion)

HUF bn	Micro enterprises				Small enterprises				Medium enterprises				Total SME			
	Sum	performing	FGS	FGS/ Performing	Sum	performing	FGS	FGS/ Performing	Sum	performing	FGS	FGS/ Performing	Sum	performing	FGS	FGS/ Performing
EUR	488	356	85	24%	425	399	43	11%	968	924	59	6%	1 882	1 680	187	11%
CHF	131	90	26	29%	36	22	10	43%	48	40	5	14%	214	152	41	27%
SUM	619	446	111	25%	461	421	53	13%	1 015	964	64	7%	2 096	1 832	228	12%

Note: the volumes of performing loans are estimated values based on CCIS data.
Source: CCIS, MNB.

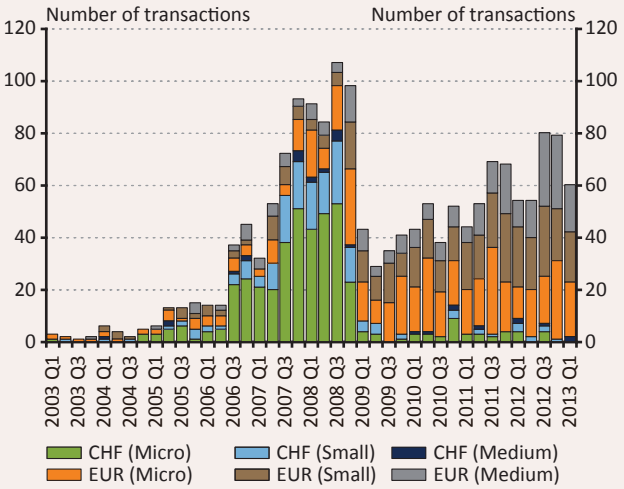
To a large degree, as a result of the conversions within the FGS, the total stock of SME foreign currency loans was reduced by almost 11 per cent in the third quarter of 2013, which not only improved the creditworthiness and competitiveness of the companies concerned, but also contributed to the mitigation of financial stability risks at the level of the national economy.

The 1,700 transactions consist of more than 600 transactions in relation to the redemption of CHF-based loans amounting to HUF 41 billion, and 1,100 transactions in relation to the redemption of EUR-based foreign currency loans with a value of HUF 187 billion. The latter, however, is likely to involve loans totalling HUF 40 billion which were originally CHF-based[1] loans. As substantial differences arose during the crisis with respect to the cost of foreign currency funds, numerous loans taken out in Swiss francs were converted to euro. Both in terms of number and volume, the most "disadvantaged" segment, i.e. micro and small enterprises without a natural foreign currency hedge, benefited the most from the redemption available under the Scheme. Regarding the distribution of refinanced loans over time, most of the loans refinanced in the period between 2006 and 2008 were CHF-based contracts. On the one hand, the lower redemption ratio of foreign currency loans disbursed prior to that period is explained by the fact that a large part of these loans had matured or had largely depreciated by the time of the conversion; on the other hand, compared to the previous period, far more foreign currency loans had been granted during the two years preceding the crisis. Foreign currency loans provided from 2009 were mainly EUR-based loans.

Around two thirds of the enterprises refinancing CHF-based loans are micro enterprises both in terms of number and volume. Typically, they redeemed foreign currency investment loans. Slightly more than 40 per cent of the EUR-based loans is related to micro enterprises; this company category had a substantial share in refinanced loans, although smaller than in the case of CHF-based loans. Although, the ratio of investment loans within the total refinanced EUR-based loans is slightly lower compared to the redemption of CHF-based loans, half of the loans concerned served investment purposes (Chart 1).

[1] Estimated amount based on the enterprise balance sheet data of the National Tax and Customs Administration and the foundation date of the enterprises concerned.

Chart 1
Distribution of foreign currency loans redeemed in the FGS
(by disbursement date and debtor size)



Note: based on the number of transactions.
Source: MNB.

Of the 1,400 SMEs which refinanced loans in the first phase of the FGS, 85 per cent essentially had no natural foreign currency hedge;[2] these enterprises took out the vast majority of the loans. With respect to company size, the level of foreign currency income is marginal both for micro enterprises redeeming EUR-based and CHF-based loans. In addition, the proportion of enterprises lacking a natural hedge among small and medium-sized enterprises indebted in Swiss franc with at around 90 per cent is also high. This ratio is relatively lower, 60–70 per cent among small and medium-sized enterprises with EUR-based loans.

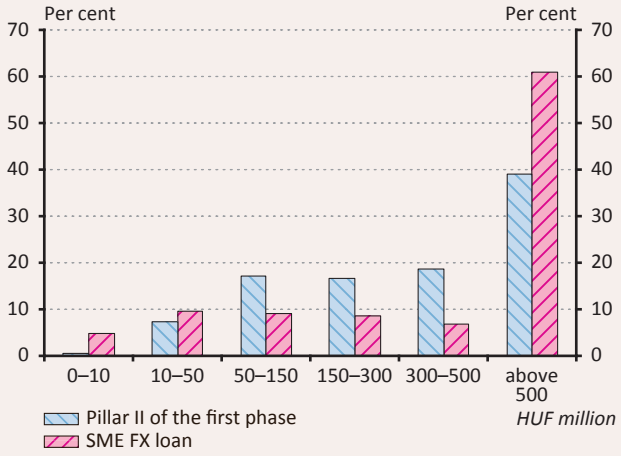
DISTRIBUTION OF REFINANCING LOANS BY LOAN SIZE AND REGION

Nearly 60 per cent of the loans provided under the FGS to refinance outstanding loans ranged between HUF 50 million and HUF 500 million. By

[2] Based on the enterprises' non-consolidated annual reports of 2013, the ratio of revenues from exports to total sales revenues is below 10 per cent.

contrast, in the case of more than 60 per cent of the foreign currency SME loan portfolio outside of the FGS in the second quarter of 2013, the volume of loans exceeded HUF 500 million, although by number, loans below HUF 10 million were the most frequent (Chart 2). This is also reflected in the average loan size of HUF 32 million. The average size of FGS loans refinancing CHF-based loans is HUF 67 million, while the average size in the case of redeemed EUR-based loans is far higher, at HUF 171 million. Since there were some loans redeemed under the FGS with extremely high loan amount compared to the average, the typical loan size is better captured by the median value, which is HUF 21 million in the case of CHF-based loans and HUF 68 million in the case of EUR-based loans.

Chart 2
Distribution of loans refinanced in the FGS and the total foreign currency SME loan stock by size



Note: by loan amount. The SME stock data as of 2013 Q2.
Source: CCIS, MNB.

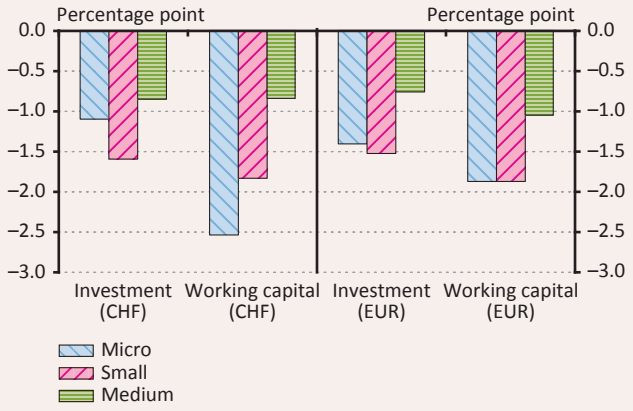
Compared to the SME foreign currency loan portfolio, the regional distribution of refinanced loans is less concentrated. Based on volume, in the second quarter of 2013 nearly two thirds of the SME foreign currency loan portfolio was related to enterprises operating in the region of Central Hungary (Budapest and Pest county), while more than 40 per cent of the loans were concentrated in this area based on number. By contrast, only a third of the loans converted under the FGS is linked to the region of Central Hungary both in terms of volume and number. Moreover, based on loan amount,

the share of enterprises operating in the region of Western- and Central Transdanubia is higher in the FGS, while based on number, the Northern Great Plain region has a higher weight. The rest of the redemptions are distributed evenly between the other regions. Since the enterprises converting loans under the FGS employ 20 persons on average, indirectly the programme exerted a positive impact on the situation of nearly 30,000 employees of the 1,400 enterprises which refinanced their loans and, overall, on the real economy as well.

THE EXCHANGE RATE LOSS REALISED DURING REDEMPTION WAS OFFSET BY THE LOW LENDING RATE FIXED FOR THE ENTIRE TERM OF THE LOAN

As a result of the low lending rate fixed for the entire term of the loan, the interest burden of the enterprises declined, offsetting the exchange rate loss realised during conversion to a large degree. Under the FGS, the interest rate on redeemed CHF-based foreign currency loans decreased by 1.5 percentage points on average, and the new interest rate remains fixed for the entire term of the loan, facilitating predictable financial management for the SMEs. The magnitude of the interest rate decline was the most pronounced in the case of micro and small enterprises, at 1.8 percentage points both in

Chart 3
Average change in the interest rates of foreign currency loans refinanced in the FGS
(by currency denomination, company size and loan purpose)



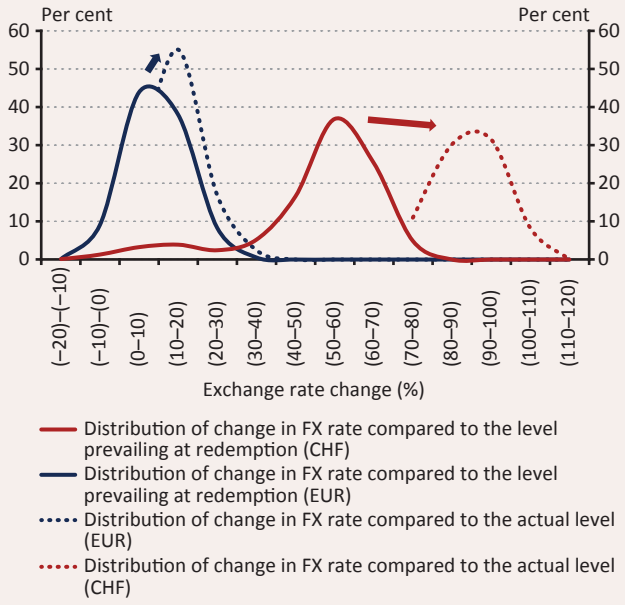
Note: average interest rate change is weighted by contracted amount.
Source: MNB.

the case of CHF-based and EUR-based loans. In respect of EUR-based foreign currency loans redeemed under the FGS, the average decline in interest rates amounted to around 1.4 percentage points (Chart 3).

The positive impact of the lower interest rate is also reflected in the extremely low share of non-performing loans in the converted loan portfolio under the FGS; without the refinancing opportunity offered by the programme, even some of the performing debtors may have become non-performing over time.

SMEs indebted in Swiss franc typically realised a 50–60 per cent exchange rate loss during redemption, but thanks to the conversion they avoided the further increase in the principal amount resulting from the additional depreciation of the forint against the Swiss franc observed since then. In the case of four fifths of the Swiss franc-based foreign currency loans refinanced in the first phase of the programme, by the time of the redemption the forint had depreciated by 40–70 per cent compared to the level observed at the disbursement of the original loan, and without the conversion many debtors

Chart 4
Distribution of foreign currency loans redeemed in the FGS
(by exchange rate change)

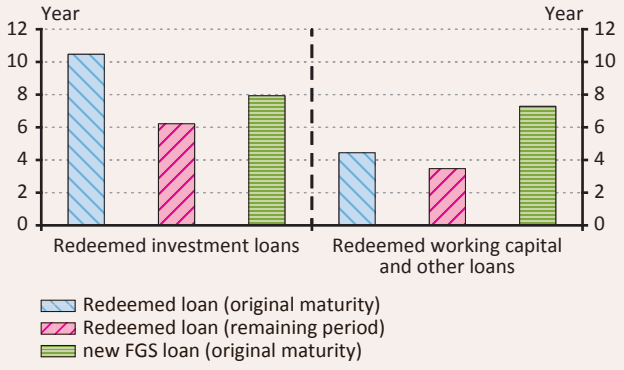


Note: the distribution is based on number. The "actual" FX rates used in the calculation: EUR/HUF 312, CHF/HUF 292.
Source: MNB.

would have faced further depreciation of almost 40 per cent. As regards EUR-based foreign currency loans, given that the refinanced euro loans were typically taken out after the crisis at already higher EUR/HUF exchange rates, the conversion typically took place at the same exchange rate as the rate prevailing upon the disbursement of the refinanced loan (Chart 4).

Besides the low, fixed interest rate and the elimination of the exchange rate risk, the programme also benefited the financial situation of SMEs participating in the conversion by ensuring that the refinancing FGS loan could have a **longer maturity than the remaining maturity of the original loan**. For more than two thirds of the loans refinanced under the programme, the maturity of the FGS loan was over 5 years, and credit institutions contracted for the maximum available maturity of 10 years in the case of 40 per cent of the transactions. Regarding investment loans, which dominated the conversion, the average remaining maturity of the refinanced loans was 6 years, while the average maturity of the refinancing FGS loans was 8 years. As regards working capital and other loans, the average maturity of the FGS loan was roughly twice as long as the remaining maturity of the redeemed loans (Chart 5).

Chart 5
Average maturity of redeemed and FGS loans



Note: Weighted with contracted amount.
Source: MNB.

Later, more than 500 of the 1,400 enterprises affected by the conversion also took out loans in the second phase of the programme, in an amount of HUF 110 billion that related to mainly new loans. Nearly one half of these loans served investment purposes, but the share of working capital loans was also substantial, at more than 40 per cent. Although larger SMEs that redeemed foreign currency loan took out a subsequent loan later, small enterprises are linked to one third of the loans taken out in the continuation of the programme based on volume, and to almost one half of the loans based on transaction number. The subsequent borrowing of smaller enterprises may have also been encouraged by the fact that the conversion significantly improved and stabilised their financial position, facilitating the implementation of their investment plans.

THE FOREIGN CURRENCY PILLAR OF THE FGS FROM 2016

In the first phase of the FGS, many enterprises without a natural hedge were able to convert their foreign currency loans to forint; however, the borrowing facility in foreign currency is important for enterprises that draw their income predominantly in foreign currency, as in their case, only borrowing in the same currency does not entail an exposure to exchange rate risk. Since the escalation of the crisis, a continuous and massive balance sheet adjustment was observed among the large banks which had been most involved in foreign currency lending. In addition, domestic banks themselves had limited access to long-term foreign currency financing. These factors caused a shortage of foreign currency loan in the Hungarian corporate credit market. As a result, Hungarian-owned net exporters have limited and costly access to foreign currency loans, which implies a competitive disadvantage compared to enterprises with direct access to foreign funds. The MNB intends to ease the constraints perceived by these SMEs in trying to access foreign currency loans by launching the second pillar of the third, phase-out stage of the FGS beginning in January, 2016. In the central bank's Scheme, SMEs with a natural hedge can take out long-term foreign currency loans at a fixed interest rate which is competitive even in an international comparison.

Péter Bauer: Macroeconomic effects of the Funding for Growth Scheme in 2013–2015

SUMMARY

After the outbreak of the crisis, raising external funds became extremely difficult for small and medium-sized enterprises. The tightening of lending conditions may have contributed to the fact that investment activities hit an all-time low in 2012. Launched in the summer of 2012, the easing cycle reduced lending costs considerably, which in turn improved the cash flow position of the corporate sector as a whole and increased the rates of return on investment projects. Nevertheless, the general decline in credit costs was less successful in reducing other problems in the SME sector, such as the open exchange rate position, the debt service burdens associated with previous loans and the difficulties in accessing longer-term loans. Therefore, in addition to the easing cycle, the Funding for Growth Scheme (FGS) aimed at SMEs also contributed significantly to restoring lending activity, stimulating investment activities and fostering a turnaround in economic growth. In our analysis, we present our estimate regarding the macroeconomic effects of the first and second phase of the Funding for Growth Scheme.

Essentially, the Funding for Growth Scheme influences SME lending and hence, growth in the real economy, through two channels. On the one hand, the provision of bank funding cheaper than the funding available in the forint loan market stimulates credit demand, which can be used to finance new investment projects or the working capital needs of enterprises. On the other hand, lower debt service improves the creditworthiness of existing and potential customers, which – along with the heightened bank competition generated by the programme – may also lead to the easing of lending conditions and increased credit supply.

According to our baseline estimate which is based on the credit supply approach, the second phase of the FGS boosted GDP by 1.2 percentage points

in the period 2013–2015, while the total effect of the programme amounted to 1.7 percentage points.

INTRODUCTION

The outbreak of the financial crisis in the autumn of 2008 forced excessively indebted economic agents to reduce their previously accumulated debts. The balance sheet adjustment taking place both globally and in Hungary resulted in persistently restrained credit demand. At the same time, the deteriorating portfolio quality reduced banks' lending capacity and willingness to lend. Subdued demand coupled with credit supply factors led to a downturn in investment activity. In addition, the significant deceleration of corporate capital accumulation had an adverse effect on the growth potential of economies. As was the case in European countries in general, weak demand and low credit supply hit the sector of micro, small and medium-sized enterprises particularly hard. Since this group produces particularly for the domestic market, it was unable to benefit from the recovery of export markets and the rapid growth in developing countries. Moreover, only the largest enterprises finance themselves by raising funds directly in the capital market; the most important source of external funding for smaller companies are bank loans. Persistently subdued domestic demand and credit constraints both worsened the earnings potential of the SME sector and contributed to the rise in bankruptcies, and to the deterioration of production capacities.

The FGS launched by the Magyar Nemzeti Bank facilitated a revival in lending to the SME sector, supporting the growth of the sector – in addition to the interest rate cuts implemented – by offering low-interest funding. Moreover, the programme may also have contributed to the pick-up observed in investment activity and the decline in corporate bankruptcies, thereby improving potential growth.

MAIN CHANNELS OF THE MACROECONOMIC EFFECTS OF THE FGS

Essentially, the FGS influences lending to the SME sector and hence, growth in the real economy, through two channels. Economic theory suggests that the level of user costs exerts an impact on corporate investment projects. User cost is the unit cost of the use of the enterprise's capital assets, which also depends on the costs of external resources used for the financing of investment projects. The FGS lowers the average cost of funds of enterprises

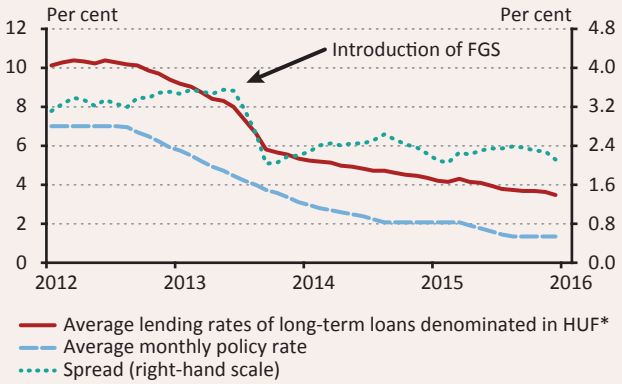
and hence, reduces the user cost both in the case of new and refinanced loans. *Ceteris paribus*, this may lead to a rise in (investment) credit demand. At the same time, the decline in the debt service burden improves the cash flow of enterprises. The propensity to invest may also be boosted by more favourable profitability figures. It is, however, unclear whether this implies an upswing in lending; some results indicate that, due to intensifying internal resource accumulation, enterprises require fewer loans for financing their projects. Nevertheless, there is general consensus in the theoretical and empirical literature in that the cash flow situation is indicative of an enterprise's creditworthiness; therefore, an improvement in cash flow may increase banks' willingness to lend and prompt an increase in credit supply. Moreover, the improving cash flow position provides enterprises with an opportunity to increase the labour force, salaries and, through the payment of dividends, equity income.

On the one hand, therefore, credit demand may be stimulated as a direct impact of the FGS. Bank funding cheaper than the funding available in the market may motivate SMEs to carry out previously planned or newly developed projects. On the other hand, credit supply may also increase as lower debt service may improve existing and potential clients' creditworthiness, which, combined with intensifying competition, may lead to the easing of credit constraints. Consequently, stimulating lending from the supply side is most successful when the restrained lending activity can be attributed to the liquidity constraints faced by SMEs. Therefore, due to the FGS the number of loans credited may increase, while having more favourable conditions than the loans available in the market, FGS loans also reduce the average lending rates. The launch of the FGS significantly reduced the interest rate spread on long-term loans compared to the key policy rate (Chart 1).

As the share of FGS loans increased in lending, the more favourable interest rate affected a larger number of loans. In parallel with the decline in the base rate, however, the magnitude of the interest advantage offered by the FGS has gradually declined. Although the reduction of the central bank base rate stimulated the economy in itself (see Soós – Felcser – Váradi, 2015), it was not sufficiently passed on to corporate lending rates before the launch of the programme. This impact mechanism of the FGS is illustrated by the flowchart depicted in Chart 2.

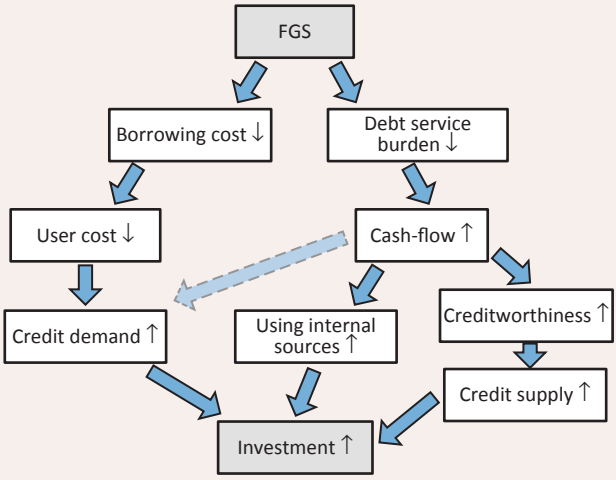
After the presentation of the main channels pertaining to lending and investment, we should examine the pass-through of the FGS's effects – in addition to investment – to the macroeconomy. In addition to boosting GDP

Chart 1
Policy rate and long-term corporate lending rates
(percentages)



**Weighted with end-of-month outstanding contracts.*
Source: MNB.

Chart 2
Main channels of the investment effect of the FGS



Source: MNB.

directly, the increase in investment generates additional real economy effects, while the improving cash flow position of enterprises also contributes to GDP growth.

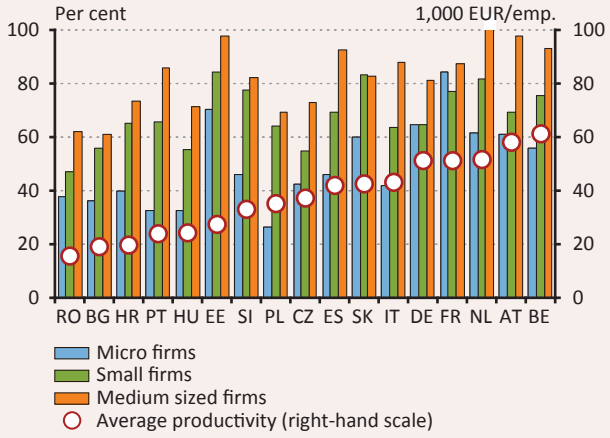
Macroeconomic effects exert their influence through the following major channels. Increasing investment activity – over and above its import need – improves domestic aggregate demand, resulting in GDP growth. On the income side, the growth in GDP generates surplus wage and corporate profit, with the latter increasing the dividend-type incomes paid to households. The effects of enterprises' rising cash flows are exerted through the same channels. The increase in households' income improves household consumption, triggering second-round demand effects. Employment expands due to the additional capacities resulting from investment projects and the rise in demand. The rise in economic activities increases the tax base linked to wages, consumption and profits, generating surplus budget revenues.

WHY IS THE FGS AIMED AT THE SME SECTOR?

The declared objective of the FGS is to effect a turnaround in lending to the SME sector. Restrained lending to the sector during and after the crisis reflects credit supply problems (liquidity constraints, excessive risk aversion) and credit demand problems (high costs of financing, slump in domestic demand). Large companies, however, did not face liquidity constraints: they continued to have access to loans at favourable interest rate spreads, and additional financing forms were also available to them (parent company loans, foreign loans, fund-raising directly from the capital market). Therefore, a programme offering favourable lending rates is expected to be beneficial mainly for SMEs. On the other hand, the SME sector accounts for around two thirds of domestic employment, while its average productivity falls significantly short of that of large corporations even by international standards (Chart 3).

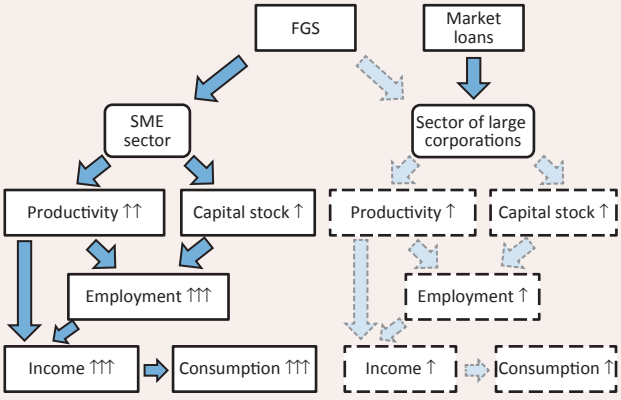
Consequently, based on the pick-up in lending to the SME sector and the ensuing upswing in its projects, a rise in productivity an increase in capital stock and an expansion of employment can be expected,. The increase in employment driven by the programme may be more pronounced than would have been seen among large corporations, partly because of the greater increase in productivity, and partly because of the SME sector's significant role in employment. The increase in productivity and employment elevates the income level of households, which entails increased consumption. The effect exerted on SMEs and large corporations (the latter is hypothetical) is illustrated by Chart 4.

Chart 3
Productivity as a percentage of the productivity of large corporations



Source: MNB.

Chart 4
Effect of the FGS on SMEs and its hypothetical effect on large corporations



Source: MNB.

THE IMPACT MECHANISM OF THE DIFFERENT PHASES AND PILLARS OF THE FGS

The effects exerted through the channels presented above may have materialised to a different degree in the two phases and the individual pillars of the Funding for Growth Scheme.[1] First and foremost, we review the extent to which the macroeconomic effects of individual pillars may differ from one another. Loans received in the framework of Pillar I of the first phase of the Funding for Growth Scheme may only be used for investment, working capital financing, the pre-financing of EU grants or the redemption of forint loans originally disbursed for these purposes. Examining each of these loan purposes, on the one hand, we find that investment loans generate demand in the market of capital goods and, on the other hand, they contribute to the permanent expansion of the supply potential of the economy. In the case of working capital loans, the size of production capacities does not change; the increase in credit demand is reflected in the rise in product market demand and the improvement in capacity utilisation. The additional objectives primarily improve the profitability of SMEs and hence, their creditworthiness.

Similar effects can be observed in the case of Pillar II of the first phase of the Funding for Growth Scheme, which – through the conversion of the foreign currency loans of SMEs to forint loans with favourable lending rates – was designed to render the financing of SMEs without a natural hedge more predictable. The refinancing of foreign currency loans improves the profitability of enterprises and mitigates the risks resulting from their open exchange rate position. This may also improve their creditworthiness, which in turn could indirectly contribute to the subsequent expansion of the credit stock. However, in the case of the loans disbursed under Pillar I the improvement in profitability surpassed the improvement seen in Pillar II, as the interest advantage offered by the FGS was larger in the case of forint loans than in the case of foreign currency loans.

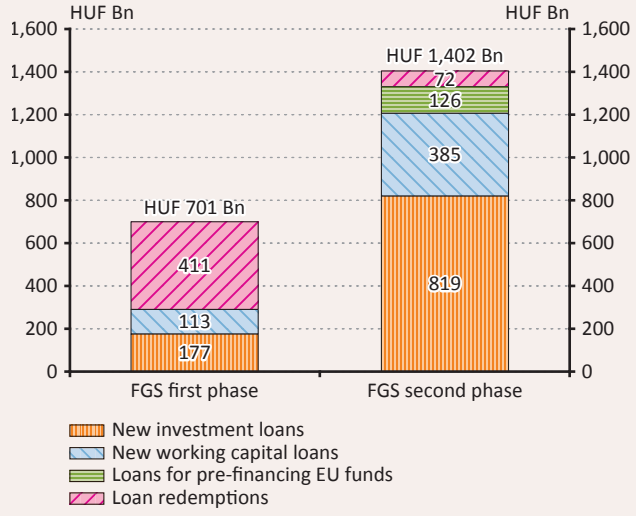
Due to similar loan purposes, the impact mechanism of the pillars of the second phase of the Funding for Growth Scheme is very similar to that of the first phase. At the same time, Pillar I of the second phase of the FGS ensured broader applicability, as in addition to the financing possibilities of the first phase, from the beginning of 2014 it also allowed financial leases to finance investment projects, mainly in the case of smaller participants. Although only

[1] For the purposes of our analysis, we disregard the FGS+ scheme, as its utilisation and thus, its macroeconomic effect is far less pronounced compared to the loans disbursed under the FGS.

to a limited degree (up to 10 per cent), Pillar II of the second phase of the FGS ensured the refinancing of outstanding foreign currency or forint loans, which improves the creditworthiness of SMEs through a reduction in their financing costs.

The macroeconomic effects of the two phases of the Funding for Growth Scheme may differ in intensity. The first phase of the programme took off rapidly after the initial announcement. Even despite the shorter time available, the aggregate volume of this phase was substantial: in the span of the three months available during the first phase, the amount borrowed was half of the amount disbursed during the two years of the second phase. The composition of the loans disbursed in the two phases is also different. Transactions for loan refinancing dominated in the first phase, while new investment loans dominated in the second phase. The high credit costs observed prior to the announcement of the Scheme might have prevented SMEs from implementing their investment projects, and thus the cheaper funding available under the FGS may have contributed to the implementation of postponed projects. On the other hand, since the availability of the Scheme was limited in time, SMEs may also have been motivated to bring forward the implementation of projects planned for the near future. At the same time, the effects of the second phase on the real economy may have been moderated

Chart 5
Distribution of loans provided under first and second phase, by purpose



Source: MNB.

by the “absence” of additional investments brought forward to the first phase on the one hand, and to the diminishing of the interest advantage offered by the FGS in a falling yield environment on the other hand. Nevertheless, the macroeconomic effects of the second phase may have been strengthened by the fact that more time was available to develop new investments plans, and the composition of the loans taken out under the programme was also favourable: the number of investment loans disbursed in the second phase of the FGS was far higher than in the first phase, and the proportion of smaller participants also increased significantly (Chart 5).

ESTIMATE OF THE EFFECTS OF THE FUNDING FOR GROWTH SCHEME ON THE REAL ECONOMY

The effects of the Funding for Growth Scheme on the real economy can be estimated using a number of different approaches. Estimates can be made both from the demand side and from the supply side. With respect to the demand side, several methodologies are available. Regarding the supply side, we used the so-called structural vector-autoregression (SVAR) model (Tamási – Világi, 2011) designed to investigate the effect of credit supply shocks on the real economy. This model is suitable for estimating the GDP effect directly, rather than only through the investment effect. We selected the latter method as the baseline estimate. With respect to the investment effect of the FGS, the estimation method relying on micro level data (Endrész et al., 2015) is also worth mentioning. An advantage of this method is that it gauges the role of the FGS based on projects already implemented, while the rest of the methods can be practically considered to be simulations. The method assumes that – in response to the stimulation of the demand side by lower interest rates – the effect essentially materialises in the extra investment of companies that are creditworthy in any case. The applicability of the model is limited, given that the data used are only available until 2014; consequently, the investment effect for 2015 cannot be estimated for the time being. As a result of the above, we did not attempt to derive the GDP effect from the results; nevertheless, the estimated effect of the FGS on investment in the period of 2013–2014 is presented below. In the following, we present the results of these two methods.

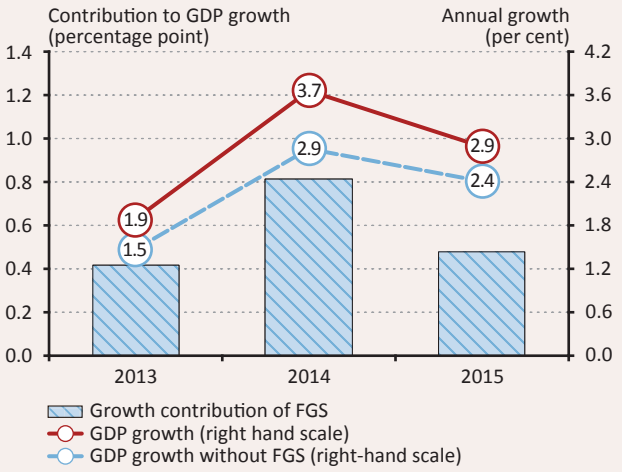
The model applies a sign and zero restriction identification scheme to identify credit supply shocks. We estimated the effect of the FGS on GDP by using such credit supply shocks. Three such shocks (risk-taking, interest rate spread, monetary policy) were identified in the model that may be potentially suitable for capturing the effects of the FGS. When selecting the shock best suited for analysis, it was considered that the FGS is not a traditional monetary policy measure, as it does not generate a change in the interest rate environment that would determine the entire economy. Instead, it mitigates the credit conditions of some enterprises only and over the duration of the Scheme. Another important aspect to consider was that the FGS does not influence the risk appetite of the banking sector broadly and directly; therefore, we assumed that the credit supply of banks would not shift towards riskier enterprises as it would – in the logic of the model – in a scenario driven by a technological change or market competition. For these reasons, the so-called interest rate spread shock was selected for evaluating the effects of the FGS.

The magnitude of the shock was calibrated as follows: we decomposed the effects induced by the new disbursements of the FGS from the aggregate corporate lending rates, and from the resulting hypothetical lending rates we subtracted the actual aggregate lending rates. The difference thus received is the shock on the credit spreads that resulted from (phase-by-phase or jointly) the new loans of the FGS in total lending.

According to the results of the model, the second phase of the FGS raised the level of GDP by 1.2 per cent in the period of 2013–2015, while the total effect of the FGS was 1.7 per cent in the same period.

The effects of the FGS on employment were deduced from GDP growth by way of a macroeconometric model (DELPHI). We found that the FGS increased the level of employment by 17,000 persons in the period 2013–2015. Chart 6 presents the GDP and employment effects for each year of the review period.

Chart 6
Impact of the FGS on GDP growth and employment



	Employment growth (number of average employee)
2013	4,000
2014	8,000
2015	5,000

Source: HCSO, MNB.

IMPACT OF THE FGS ON THE INVESTMENT OF ENTERPRISES IN 2013 AND 2014 BASED ON MICRO DATA

We investigated the effect of the second phase of the FGS on the investment activity of enterprises on the basis of the model developed in the study of Endrész et al. (2015) for the first phase. The authors estimated the magnitude of the additional investment generated by the programme based on the financial statements of enterprises in the SME sector. The advantage of the application of firm-level data is its ability to help identify the effects of the programme by allowing for the consideration of corporate features that would have resulted in a change in investment activity even without the programme. The study also addresses the problem of self-selection: in their estimate the authors consider that SMEs planning to step up their investment activity irrespective of the programme were likely to take recourse to the opportunities provided by the FGS. The drawback of micro data, however, is

the fact that investment can only be examined in accounting terms (a change in tangible assets), which may be different from the investment reflected in macrostatistics (for instance, when the loan obtained is used to purchase used assets, machinery or building). According to the estimates, the first phase of the FGS generated new investment that would not have materialised in the absence of the programme. The relative programme effect decreased with the size of the enterprise, and the effect was larger in the case of enterprises that obtained loans for investment purposes.

We applied the above methodology to estimate the effect of the second phase of the FGS on corporate investment in 2014. We re-estimated the previous model and applied the same correction for self-selection as the original study (the enterprises that intended to invest in any event were likely to participate in the programme). Since the range of enterprises under review changed – albeit slightly – (for example, the original estimate did not include enterprises reporting for a different tax year rather than the calendar year) and the information itself may have changed due to data revisions, we re-estimated the same model for 2013 as well.

Table 1
Additional investment effects among FGS borrowers

	FGS first phase (HUF billion)			FGS second phase (HUF billion, only 2014)		
	Additional investment	Disbursed loan	Additional investment / Disbursed loan	Additional investment	Disbursed loan	Additional investment / Disbursed loan
Micro	58	192	30.2%	68	136	50.2%
Small	51	206	24.8%	107	208	51.5%
Medium	28	218	13.0%	35	146	24.1%
SME	137	616	22.3%	211	490	43.0%

Note: Outstanding borrowing pertains to the range of enterprises for which we were able to provide an estimate. Therefore, the figure shown is somewhat smaller than total disbursements.
Source: MNB.

Table 2
Additional investment effects among enterprises obtaining investment loans under the FGS

	FGS first phase (HUF billion)			FGS second phase (HUF billion, only 2014)		
	Additional investment	Disbursed loan	Additional investment / Disbursed loan	Additional investment	Disbursed loan	Additional investment / Disbursed loan
Micro	36	64	56.7%	45	81	55.1%
Small	38	67	56.7%	77	120	64.2%
Medium	24	66	36.7%	32	103	30.5%
SME	98	197	50.0%	153	305	50.3%

Notes: (1) Outstanding borrowing pertains to the range of enterprises for which we were able to provide an estimate. Therefore, the figure shown is somewhat smaller than total disbursements. (2) For FGS investment loans, all loans of the borrower enterprises are presented in the table.
Source: MNB.

According to our calculations, loans disbursed under the FGS generated new investment amounting to HUF 137 billion in the first phase and HUF 210 billion in the second phase in 2014 (Table 1, Table 2). Although the total amount of loans disbursed in 2014 falls short of the amount recorded in the first phase, the investment effect was stronger in the second phase. This is hardly surprising, given the fact that participating companies took out far more investment loans and other new loans in 2014. In the case of companies obtaining loans for investment purposes, the two phases of the programme were similar. One unit of loan obtained generated 0.5 unit of additional new investment. Likewise, the ratio of additional investment to total investment implemented by the enterprises is also similar in the two phases (40 per cent). The effect of the total programme reflects more pronounced differences, which, presumably, can be attributed to the different composition of the two phases: Due to the significant weight of loan refinancing, the total programme effect is far smaller in the first phase of the FGS. For both phases, we found that the relative programme effect decreased with the size of the firm, and the effect was larger in the case of enterprises that obtained loans for investment purposes.

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Gábor Horváth – Zsolt Oláh: Back to viable market lending: qualitative criteria

SUMMARY

One of the most important challenges of the upcoming period is to restore market-based corporate lending, with a distinctive focus on SMEs, which is important not only from a quantitative but also from a qualitative point of view. In other words, it is not enough for SME lending to reach an expected annual growth rate of 5-10 per cent, but its quality in composition is also a key factor. The most dynamic 10 per cent of SMEs, which are able to grow even during the crisis, accounts for two thirds of the current loan portfolio, i.e. the criteria of access to finance and the quality criteria of the same may not be a bottleneck to their development. Accordingly, the lending characteristics of dynamic enterprises could provide an appropriate standard for identifying quality criteria for the restoration of market lending:

1. *Lending should support access to finance of micro, small and medium enterprises.*

2. *Investment loans should be broadly available, since these constitute the backbone of a sustainable expansion and provide further improvements in firm dynamics.*

3. *Within investment loans, loans with a maturity of over 5 years should be also accessible for a wide range of enterprises.*

4. *Within long-term investment loans, loans with fixed interest rate should also be made available for enterprises.*

5. *For enterprises with natural foreign currency hedge, FX financing should be available in addition to HUF financing.*

6. *Enterprises not older than 7 years are more likely to become dynamic, which can be further supported through lending, therefore their access to finance is critical.*

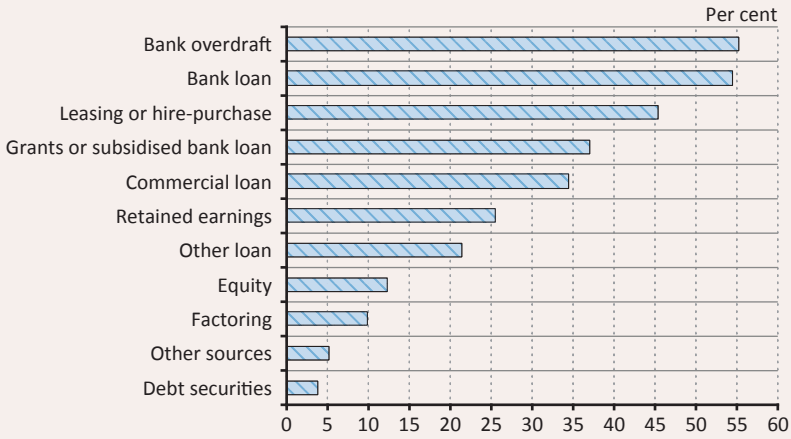
7. *The most dynamic enterprises typically emerge from the manufacturing industry, agriculture, trade and transportation sectors; therefore, these enterprises should also be emphasised in lending.*

8. *It is also crucial to ensure SMEs' access to finance at reasonable spreads.*

INTRODUCTION

Enterprises' access to financial resources is a necessary pre-condition for them to expand their capacities and productivity. As Beck et al. (2001) found, **in a supportive legal environment all types of financing structures have a positive impact on growth**. Although large enterprises mostly have access to all types of external financing, e.g. foreign bank loans, financing from capital markets, intercompany loans, **access to credit by SMEs is rather constrained**, and this holds increasingly true since the outbreak of the financial crisis. Thus, in terms of their size, **equity and within that FDI** has a significant importance within liabilities of large non-financial enterprises, the **concentration of these is very high** and they provide effective access to finance **only for a minor share of enterprises. Trade credit** should be also mentioned here, by means of which enterprises in the supply chain provide temporary financing to one another through accounts payable and which in terms of liquidity management are inevitable many times, mainly due to the increasingly strict credit standards; however, their effect on **capacity extension or productivity improvement effect is poor** over the longer term**.** Therefore, in this study we focus primarily on bank lending, **the stimulation of which may contribute to sustainable, balanced growth.**

Chart 1
Typical financing instruments of SMEs operating in the EU-28 Member States
(September 2015)

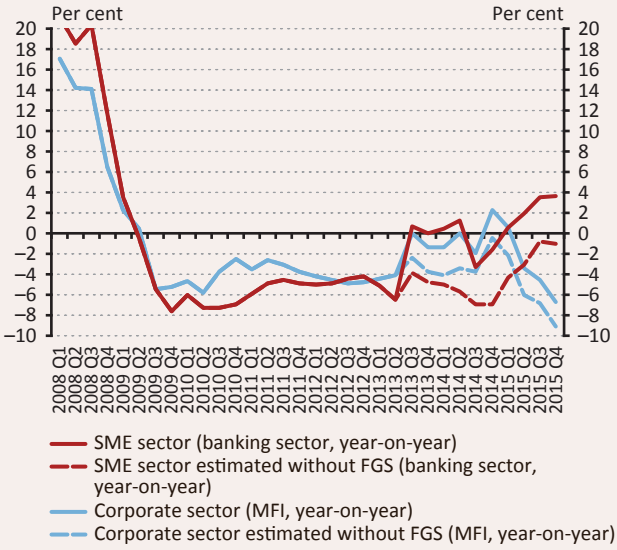


Source: ECB/EC SAFE survey, April - September 2015.

According to the comprehensive survey of the European Central Bank and the European Commission on the financing of SMEs,[1] **bank loans and credit lines represent the primary financing channel of SMEs** (Chart 1). Bank lending is conventionally the most widespread alternative in an economy to access to finance, but following a crisis, access to bank lending may be constrained for small and medium-sized enterprises, in particular . Thus, a number of sectors may become underfinanced and can lose productivity. Although by means of the Funding for Growth Scheme, the sharp decline in SME loan portfolio came to a halt, corporate lending is still decreasing by 3-6 per cent in annual terms (Chart 2), while looking forward, an expansion in corporate lending is jeopardised by significant risks. Therefore, **it may be necessary to further improve SMEs' access to finance.** The central bank's positive credit incentives (Growth Supporting Programme) introduced at the beginning of 2016 are intended to support corporate lending in terms of quantity. Typically, a 1 percentage point increase in lending generates a 0.2 percentage points increase in GDP (Tamási-Világi, 2011). **Nevertheless, it is worth examining criteria in terms of quality-over-quantity point of view, i.e. how lending can be realised in the most effective way in order to maximise the economic effect.**

[1] Survey on the Access to Finance of Enterprises. https://www.ecb.europa.eu/stats/money/surveys/sme/html/index.en.html.

Chart 2
Growth rate of the outstanding loans of the corporate sector as a whole and the SME sector



Note: the corporate sector time series is based on transactions, while the SME time series is calculated on the basis of estimated transactions starting from 2013 Q4.
Source: MNB.

This study focuses on the quality criteria of effective domestic bank lending. Both from a quantitative and qualitative point of view, historical experiences may help to answer in which areas and which ways it would be worth while strengthening and supporting Hungarian enterprises' access to finance. Therefore, our approach is the following: **we first identify dynamic enterprises which have achieved outstanding growth in the past and then examine the features of the borrowers exhibiting remarkable performance, focusing primarily on the maturity, type and denomination of credit, as well as the size, sector and age of the enterprises. By doing so, it is possible to observe the quality aspects of market-based lending to enterprises, which were creditworthy enough to access credit.**

ANALYSIS OF THE FEATURES OF LENDING TO DYNAMIC ENTERPRISES

Identifying dynamically expanding enterprises

By combining the balance sheet and P&L data of double-entry bookkeeping enterprises, obtained from their financial reports, the growth potential of Hungarian enterprises can be studied over a longer horizon. Starting from this micro-level database, dynamically expanding enterprises can be identified (Békés-Muraközy, 2011). For the purposes of this study, we use two definitions for identifying dynamic enterprises. Both of them capture enterprises with a turnover index; the first based on the total population of enterprises, while the second does the same within each sector identified on the basis of the two-digit NACE codes. Following Schreyer (2000) the turnover index is calculated as follows.

$$G_{it}=(X_{(i,t+3)} - X_{(it)})/ X_{(it)} * X_{(i,t+3)}$$

where X_{it} is the turnover of enterprise *i* for year *t.*

One important attribute of the G_{it} index is that, in addition to the growth rate in percentage, it also takes into consideration the fact that a smaller-sized enterprise can produce a larger expansion relatively easier, and thus, the level of a higher turnover also increases the value of the index.[2] We consider enterprises which fall within the upper decile of the distribution of the G_{it} index to be dynamic.

[2] To calculate the index used for identifying high-growth enterprises, it is necessary for the enterprise to have sales revenue in the t+3 period. This on the one hand identifies the last surveyed year, which is 2011 based on the most recent available balance sheet data. (Since the CCIS data have been available only from 2005 on, this determines the beginning of the surveyed period, but it is possible to examine the enterprises behaving dynamically both in the pre- and post-crisis period.) On the other hand, it excludes from the analysis the enterprises for which there are no sales revenue data available for the t+3 period, i.e., companies which have become inactive in terms of business or fully ceased to exist between t and t+3. This applies on average to some 30 per cent of the total population.

Table 1
Average number of dynamic enterprises between 2005-2011

	Dynamic	Dynamic within its respective sector	Difference between the two methodology:
Agriculture	1,072	804	268
Mining, quarrying	45	29	17
Manufacturing	3,107	2,522	584
Electric power, gas, steam	102	34	67
Water supply, sewage water	229	116	113
Construction industry	2,130	2,263	-133
Trade, motor vehicle repair	6,391	6,006	385
Transportation, storage	1,204	823	381
Accommodation, catering	604	1,048	-444
Information, communication	1,022	1,173	-151
Financial, insurance activity	1,532	1,662	-130
Real estate activities	2,144	3,066	-922
Professional, scientific, technical	1,135	1,139	-4
Total	20,715	20,685	30

Source: MNB.

Accordingly, 10 per cent of the enterprises existing between year t and t+3 are considered to be dynamic enterprises: this totalled to an average of 21,000 enterprises annually between 2005 and 2011. Table 1 summarises the distribution of enterprises by national economic sectors. There are only minor differences between the two definitions. As the definition of dynamic within each sector is built on the distribution of the individual sectors, the higher number of enterprises identified in a given sector according to the definition applied to the total population means that the emergence of dynamic enterprises is more likely in that sector within the total population. The lack of strong differences in terms of magnitude suggests that, based on the sectoral classification, stronger expansion cannot be clearly concluded, but looking at **the sectors we can highlight the ones in which proportionally more dynamic enterprises emerge within the total population: these sectors are manufacturing, trade, transportation and agriculture.** In the following we mainly apply the definition of dynamic enterprises drawn from the total population, while for the comparisons made between sectors, definition of dynamic enterprises within sectors will be used.

Dynamic enterprises account for one half of total value added and export volumes

Table 2 summarises the weights of dynamic enterprises by indicators compared to the performance of the total population of dynamic and non-dynamic enterprises. **It can be clearly seen that according to all indicators these enterprises represent a much higher share than 10 per cent as per the number of enterprises.** This concentration is mainly seen **in turnover and export revenues**. While the upper block of Table 2 includes only enterprises for which the Schreyer-index can be defined, the lower block also includes enterprises exiting prior to the t+3 period.

Table 2
Average proportion of dynamic enterprises, 2005-2011

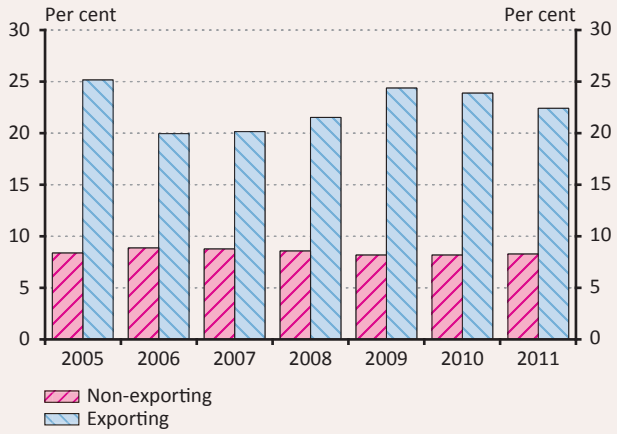
	Head-count	Value-added	Sales revenue	Export
If the total population includes enterprises surviving for at least 3 years:				
Dynamic / total enterprises	36%	48%	45%	55%
Dynamic within the sector / total enterprises	33%	42%	41%	51%
If the total population includes enterprises exiting until t+3 years:				
Dynamic / total enterprises	30%	45%	41%	51%
Dynamic within the sector / total enterprises	28%	39%	37%	48%

Source: MNB.

The share of dynamic enterprises among exporter enterprises is much higher than among other enterprises in the population. Based on Chart 3, among non-exporter enterprises the share of dynamic enterprises is below 10 per cent, which comes near to the population's average, while in the case of exporter companies their share is around 20 per cent. This result is closely related to the broad idea that exporter enterprises generally show higher productivity.

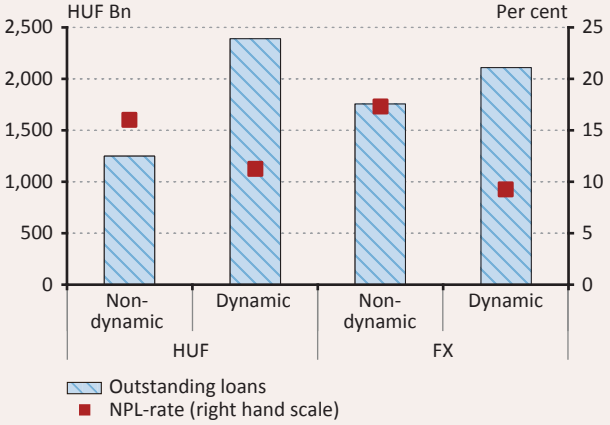
At the end of December 2015, **nearly 60 per cent of domestic financial institutions' outstanding corporate loans** were attributable to dynamically expanding companies (Chart 4). **As regards FX loans, dynamic enterprises held around 20 per cent more loans than their non-dynamic counterparts, while in terms of HUF loans the outstanding amount of the former group was almost double that of the latter.** Even in terms of participation in the FGS, dynamic enterprises represent a far higher share than would have been

Chart 3
Share of dynamic enterprises by exporter status



Source: MNB.

Chart 4
Outstanding loans and NPL rates of dynamic enterprises by currencies
(December 2015)



Source: MNB, CCIS.

warranted by their share based on their number. More than half of the total outstanding loans disbursed under the FGS is related to dynamic enterprises, and more than one third of the SMEs participating in the programme are dynamic enterprises. As for corporate default rates, the situation is the opposite: while the loan portfolio of the enterprises in the non-dynamic group is characterised on average by a higher NPL ratio of 16–17 per cent, **the ratio is significantly lower in the portfolio of loans to dynamic enterprises, coming in at 9–11 per cent**.

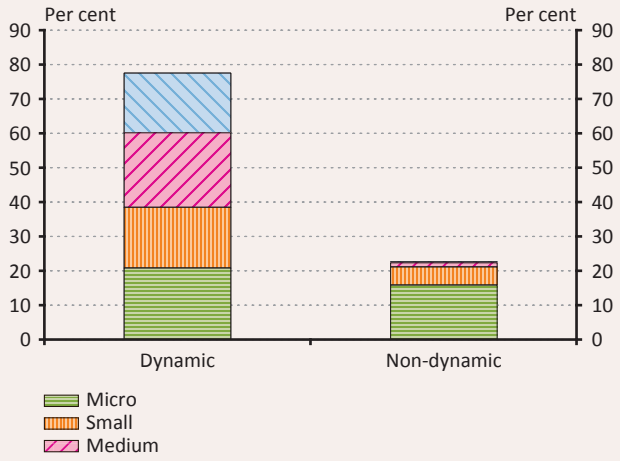
Nearly 60 per cent of outstanding corporate loans are related to the most dynamic 10 per cent of enterprises, which were able to expand during the crisis as well, i.e. access to credit was not a constraint for these companies. Hence, the lending characteristics of dynamic enterprises could provide an appropriate standard for identifying quality criteria for restoring sustainable market-based lending.

QUALITATIVE FEATURES OF LENDING TO DYNAMIC ENTERPRISES

"Lending should support the access to credit of micro, small and medium enterprises."

There are considerable differences in outstanding corporate loans in terms of firm size and the dynamic classification. Although the largest slice of total corporate loans is attributable to micro enterprises, the reason for this is primarily the asymmetric distribution of outstanding loans to non-dynamic enterprises (Chart 5). **The overwhelming majority of outstanding corporate loans can be attributed to dynamic enterprises**, while the loans of other enterprises account for a much smaller volume. In addition, it can be also seen that the portion of corporate loans borrowed by non-dynamic enterprises is more likely related to younger and smaller enterprises, and that the share of these loans is considerably lower within the total outstanding corporate loans.

Chart 5
Distribution of corporate loans by enterprise size and enterprise type
(December 2015)



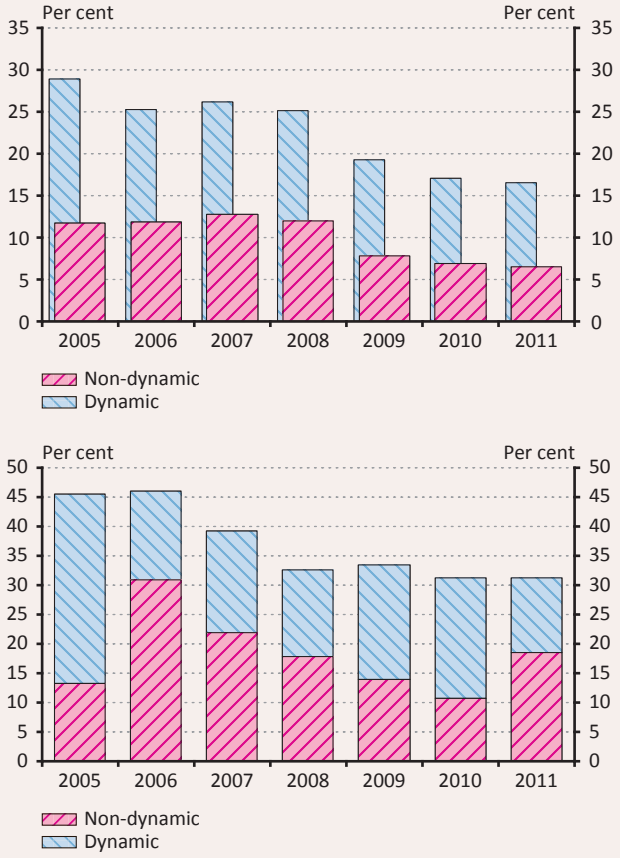
Note: The enterprise size category is not available in each case; thus, the aggregate proportion may differ from the size of total population.
Source: MNB, CCIS.

"Investment loans should be broadly available, since these constitute the backbone of sustainable expansion and provide further improvements in firm dynamics."

Investment loans expand the capacities of enterprises, while also increasing the likelihood of future dynamic operation. Dynamic enterprises obtain 45 per cent of the total borrowed investment loans in a given year on average, although their share in the total corporate sector is only 10 per cent. However, their share is higher not only in terms of credit size, but also in terms of proportion of borrower enterprises. Although the share of enterprises borrowing investment loans decreased both in the dynamic and non-dynamic groups between 2005-2011, **the proportion of borrowers among dynamic enterprises is still nearly three times as high** (Chart 6, upper panel). The lower panel in the chart shows the share in value added of enterprises (dynamic or non-dynamic) borrowing investment loans within the total population. Borrowers of investment loans, whose share in the total corporate population decreased from 13 per cent to around 8 per cent, still currently account for 30–35 per cent of total corporate value added. Within this group of borrower

companies, dynamic and non-dynamic enterprises have almost the same share in the last surveyed year, so it might seem that the importance of investment loans regarding value added impact is unambiguous.

Chart 6
Proportion of companies taking out investment loans by dynamic status (upper panel) and their share in value added (lower panel)

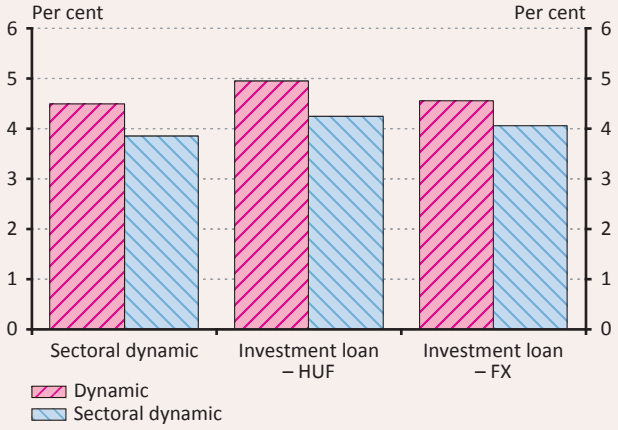


Source: MNB.

Enterprises borrowing investment loans are more likely to be ones which will show dynamic expansion in the next three years. It is important to note that we do not assume a causal relation in this regard, only a correlation, since the enterprises using investment loans are more likely to have been operating better even in the previous periods. **While according to our definition the**

likeliness of dynamic status is 10 per cent, this likeliness increases among those enterprises which take out investment loans. This extra probability is illustrated by Chart 7, where the height of the columns is the coefficient of the binary variable indicating the use of investment loans from a regression, which explains the dynamic status. It is important to note that – in addition to a wide range of control variables (size, region, and age) – we also control for whether or not the company was dynamic in the previous period as well.

Chart 7
Probability of excess dynamic growth in the case of taking out investment loans

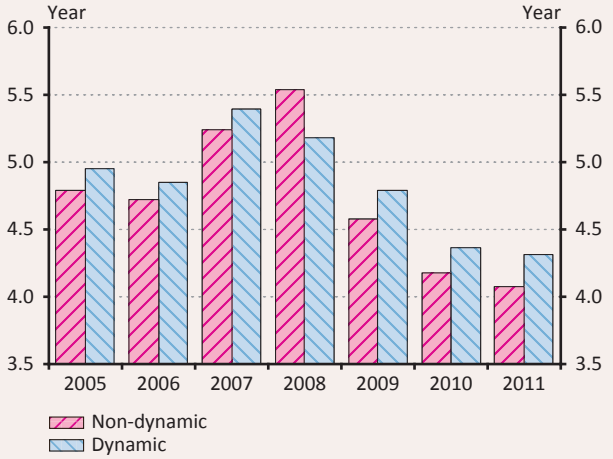


Note: Pooled OLS regression controls: historical dynamic status, age, sector, size, region, and year. The investment dummy only takes a value, if the enterprise had not taken out previously an investment loan in the past two years. Examined for both definitions of dynamic status, i.e. dynamic within the total population and within each sector.
Source: MNB.

"Investment loans with a maturity of over 5 years should be also accessible for a wide range of companies."

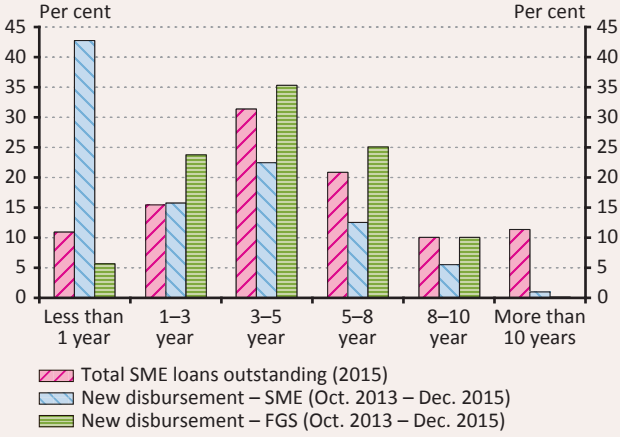
The maturity structure of the investment loans of dynamic enterprises does not differ significantly from the loans of other companies, except for the considerably shorter average maturity in the post-crisis years, which is less typical in the case of dynamic enterprises. Chart 8 shows the average maturity of investment loans of dynamic and non-dynamic enterprises in each year weighted by the credit size. It seems obvious that, as the result of the crisis, the average maturity of investment loans shortened by approximately one and a half years, but the average maturity for dynamic enterprises is still significantly longer based on recent data.

Chart 8
Average length (years) of investment loans weighted by the portfolio



Source: MNB.

Chart 9
Distribution of SME loans by maturities (as per contracts) within the SME loan portfolio and within the FGS*



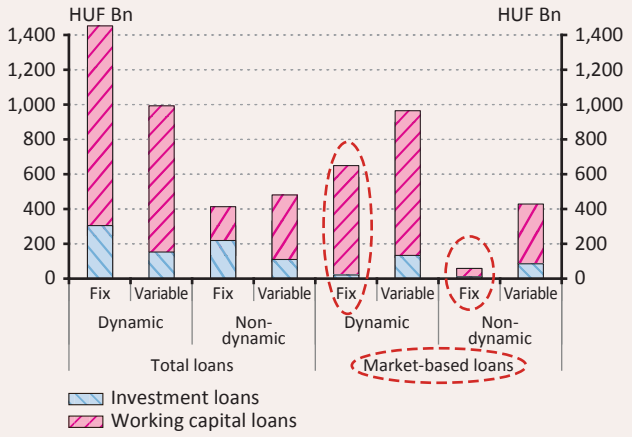
** The existing portfolio and the new disbursements also include overdrafts, which function as a sort of revolving credit. By excluding this, the share of the current loans would be lower, and with this, that of the long-term loans would be higher. However, even by considering this it is also true that apart from the FGS banks extend long-term loans on a market basis to a lesser extent.*
Note: The existing portfolio and the new disbursements also include overdrafts, which function as a sort of revolving credit. By excluding this, the share of the current loans would be lower, and with this, that of the long-term loans would be higher. However, even by considering this it is also true that apart from the FGS banks extend long-term loans on a market basis to a lesser extent.
Source: MNB, CCIS.

One of the greatest benefits of the Funding for Growth Scheme is the access to longer maturities (Chart 9). Compared to the maturity structure of loans disbursed during the period of the second phase of the FGS, disbursements of the FGS were typically made between 3 and 10 years, which also rendered the average maturity of the SME loan portfolio far more balanced.

"Long term investment loans with fixed interest rates should be also widely available for enterprises."

The interest rate risk of longer-term investment loans is eliminated, if the enterprise intending to invest has access to fixed interest rate loans. Considering the entire lending volume, and within HUF-denominated loans, the other major benefit of the Funding for Growth Scheme can be seen: the volume of fixed interest schemes compared to market-based loans (Chart 10). **However, even within market-based lending it is apparent that dynamic enterprises used fixed interest rate constructions to a higher degree.**

Chart 10
Distribution of corporate HUF loan extensions by the method of interest payment, dynamic status and loan purpose (2014–2015)

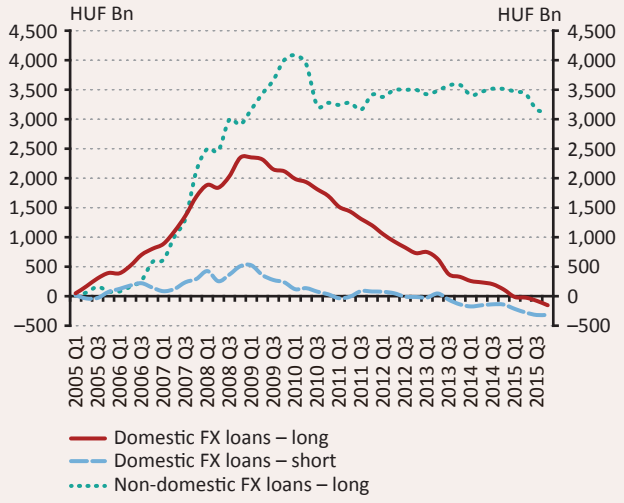


Source: MNB.

"For enterprises with natural foreign currency hedge, FX financing should be available in addition to HUF lending."

For exporter enterprises with natural foreign currency coverage, FX financing – consistent with their revenues' currency – should also be available, as domestic corporate FX loans have significantly dropped following the crisis (Chart 11). After the crisis, due to the strict lending conditions, access to FX loans was significantly constrained: companies were either excluded from among the enterprises held creditable by banks or had access only to HUF loans, which however meant an interest shock for them and the higher interest level held back their demand for loans. Contrary to the domestic bank FX loans, no decline can be observed regarding foreign (cross-border) loans, which – as can be explained by macro-economic and portfolio quality differences only to a limited extent– may suggest supply issues and presumably it may have primarily hit enterprises which have no foreign lending relations. The fact that banks increasingly rely on other refinancing resources may also imply the existence of supply problems.

Chart 11
Changes in the FX loans of non-financial enterprises

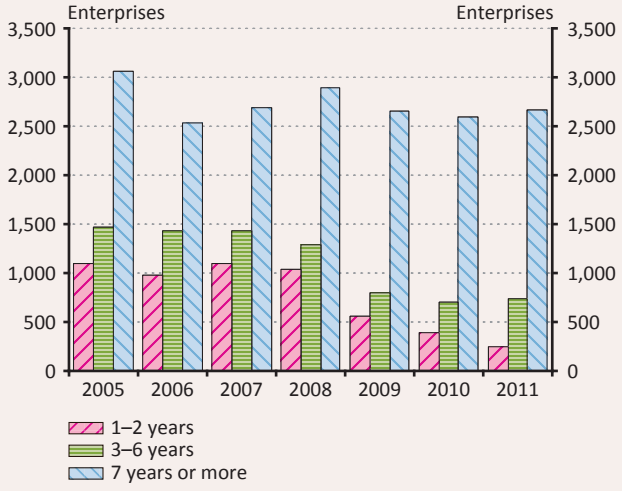


Note: By cumulated transactions.
Source: MNB.

"Enterprises not older than 7 years are more likely to become dynamic, which can be further supported through lending, therefore their access to finance is critical."

Younger enterprises are more likely to become dynamic: among one to two year old enterprises the ratio of dynamic enterprises is nearly 20 per cent. However, the distribution of age is significantly impacted by the changes in the dynamics of corporate entries and exits (establishments and termination). The ratio of one to two year old enterprises is on average around 22 per cent in a year,[3] while the largest change stems from the changes in distribution of 3–6 year or older enterprises. The ratio of the former group drops from 50 per cent at the beginning of the period to 30 per cent by 2011: thus, the exit ratio of 3-6-year old enterprises has increased since the crisis. The consequence of all this is that from 2010-2011 on the 7-year old and older enterprises accounted for a majority in the sample. **If we focus on dynamic enterprises taking out investment loans, we can see that even among high-growth enterprises the number of young and medium aged enterprises decreases.** This is visible in Chart 12, while according to Chart 13 we can see

Chart 12
Age distribution of dynamic enterprises by number of enterprises

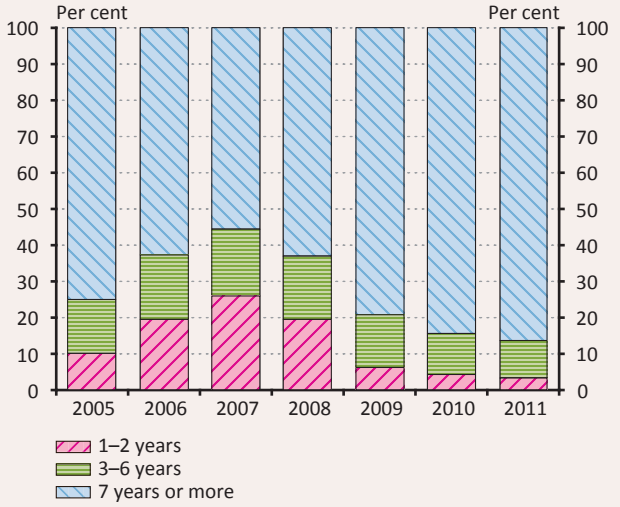


Source: MNB.

[3] The age distribution is no longer examined as of 2011 due to the definition of dynamic enterprises. Then, the ratio of one to two year old enterprises was 24 per cent, but their weight is continuously decreasing and ends up at 15 per cent by 2014.

the age distribution of dynamic enterprises in the proportion of loans taken out. By 2010–2011 the investment loans taken out by 7-year old or older enterprises grow to more than 80 per cent, which may suggest a lower risk appetite of banks and a more conservative lending practice. In addition to this, a large proportion of younger project companies with large loan amount were terminated during the crisis, as a result of which their share in the loan amount dropped significantly from 2008 to 2009.

Chart 13
Age distribution of dynamic enterprises by investment loan amount



Source: MNB.

The average indebtedness of enterprises with a loan shows typically heterogeneity based on their age and size: while the average indebtedness is around 40 per cent, depending on the age, size and dynamic status of enterprises, this moves on a wider scale (Table 3). **The earlier an enterprise started operating the smaller its indebtedness on the average, and the smaller the enterprise generally the higher its indebtedness, respectively**. One possible explanation for this is that smaller and younger enterprises are typically undercapitalised. In certain segments, however, the dynamic status adds to the enterprise's level indebtedness, but the direction of causality has not been examined in this paper.

Table 3
Corporate loans broken down by the size and age of enterprises

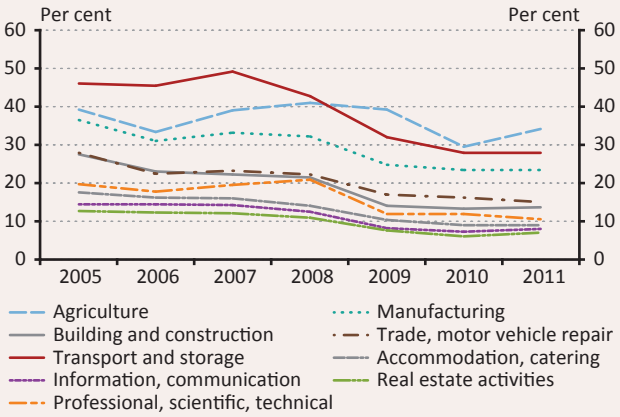
	Non-dynamic			Dynamic		
	Micro	Small	Medium	Micro	Small	Medium
Max. 3 years	46,0%	33,7%	38,9%			
3-5 years	50,3%	67,3%	39,6%	46,4%	38,7%	43,6%
5-7 years	57,5%	39,2%	49,9%	58,9%	36,0%	39,3%
7-10 years	74,4%	38,0%	19,7%	65,2%	41,4%	35,2%
10-15 years	46,1%	21,7%	20,8%	50,5%	38,3%	33,4%
More than 15 years	34,6%	22,7%	37,3%	39,8%	30,3%	27,4%

Note: Volume of loan portfolio as the proportion of the balance sheet total
Source: MNB, CCIS.

"The most dynamic enterprises typically emerge in the manufacturing, agriculture, trade and transportation sectors, and therefore special attention needs to be paid to this enterprises, also in lending terms."

There is considerable convergence potential in the key sectors of the economy, which can be exploited by closing the productivity gaps; therefore, it is vital to provide full access to resources for enterprises in the key sectors. Among the enterprises with a dynamic scope, the frequency of taking out investment loans is higher in all sectors compared to the total population, but the ratio fell back to almost one half its level in the period under review, which may have also reflected tightening credit standards. The frequency of taking out investment loans is still the highest in the transport and storage, agricultural and manufacturing industries, and during the period between 2005 and 2011 the ratio of dynamic enterprises taking out investment loans averaged 35 per cent in the first two sectors, while it was almost 30 per cent in the manufacturing industry (Chart 14). **The distribution of investment loan amounts between the individual sectors reflects the economic performance of each sector.** A major part of the investment loans granted to dynamic enterprises are comprised of the loans of manufacturing and trade sectors. The weight of the sectors hardly changes over time, the only exception from this is mostly seen in the agriculture and construction industry. In the case of the latter, the ratio of the investment loan amounts has significantly decreased since 2005, which is in line with the generally observable poorer

Chart 14
Ratio of enterprises taking out investment loans among dynamic enterprises, by sectors



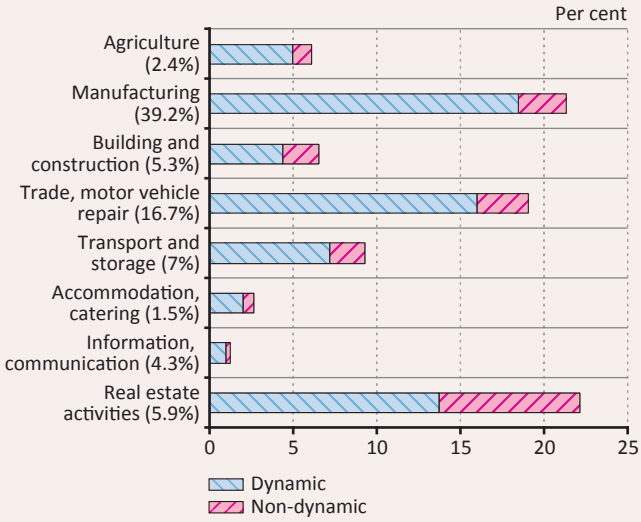
Note: The sectors of finances, mining, water and electric power supply were excluded. Dynamic enterprises are defined within the sectors.

Source: CCIS, MNB.

macro-economic performance of the sector. Some improvement in the ratio of taking out investment loans by dynamic enterprises is observable only in the case of agriculture, which may stem from the scheme of land based and rural development subsidies providing increasingly predictable cash flows.

The largest part (22 per cent) of the outstanding loan portfolio according to the sectoral classification of borrower enterprises is attributable to real estate transactions (Chart 15). The primary reason for this is the large volume and high risk project lending, although it is notable that this also includes the major part of the loan portfolio in the case of both dynamic and other enterprises. **In each sector, dynamic type enterprises may be deemed dominant regarding the outstanding loan portfolio, while the other enterprises are present with similar ratios, but with a considerably lower aggregate share.**

Chart 15
Corporate loan portfolio, by the sectors of borrower enterprises
(December 2015)

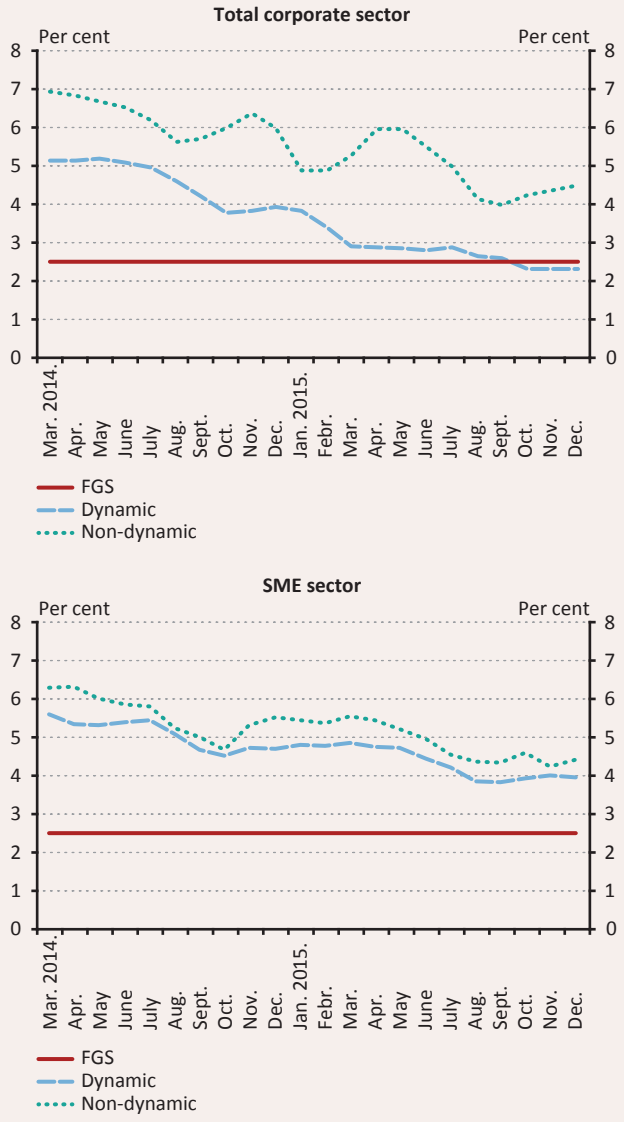


Source: MNB, CCIS.

"It is also crucial for the SME segment to have access to credit at reasonable spreads."

Even if one considers the interest payment of newly extended HUF loans, the differences between dynamic and non-dynamic enterprises are confirmed. According to the available data, in 2014 on average both types of enterprises had access to market-based funding with a significant premium compared to the FGS (Chart 16). By the second half of 2015, however, dynamic enterprises could practically take out loans with interest conditions identical to those of the FGS, while non-dynamic enterprises could only do so at a at 4–4.5 per cent on average. An average difference of 1.8–2 percentage points was observed between the two types of enterprises in 2014 and 2015.

Chart 16
Changes in the interest rates of market-based HUF loans by dynamics and enterprise size (2014–2015)



Source: MNB.

However, for the most part, the difference between dynamic and non-dynamic enterprises can be attributed to the loans of large companies. If we narrow down the examination of interest rates to the enterprises of SME sector, we find that the "additional premium" for non-dynamic enterprises shrinks to only 50 basis points. Thus, actors of the SME sector had access to funding in the banking system at an interest rate of 4–4.5 per cent on average, predominantly (almost 90 per cent) at floating rates.

In the large company segment, due to the intense competition, banks typically have smaller leeway for setting margins compared to the relatively more unfavourable conditions of segments with lower market power, i.e., micro and small-sized enterprises.

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