

## BOX IV.3

### THE REAL EFFECTS OF THE AVAILABILITY OF BANK CREDIT

Section 5 of this chapter documents the possible effects of a drop in sales in firms with local financing on their repayment capacity; it thus illustrates the potential effects on the banking system of adverse shocks that originate in the real economy. This box examines the real effects, in terms of employment and growth, of the lack of access to bank credit in firms that depend on it. That is, it examines the consequences of shocks that go in the opposite direction, from the banking system to the real sector. As emphasized in box IV.4 below, the interaction of the real and financial sectors is characterized by both types of shocks, which can feed back into each other, generating aggregate effects that can affect financial stability. Unlike the analysis presented in that box, the discussion here centers on the quantification of effects at the individual level.

To this end, the box reviews some particularities of bank financing that can contribute to the transmission of financial shocks, as well as recent empirical evidence on the effects of access to financing on firms that depend on bank credit in Chile, in both normal times and times of aggregate financial stress. It also discusses the importance of the countercyclical capital requirement as a tool for mitigating the effects of these shocks.

#### Constraints on access to credit and its importance in normal and stressful times

Firms with local financing, which represent 64.2% of total bank commercial debt and 63.8% of employment in the country, are financed almost exclusively through banks (tables IV.1 and IV.2 and figure IV.2). Although the banks depend, to a greater or lesser degree, on the use of quantitative information to evaluate a firm's future repayment capacity, they are also characterized by their ability to generate qualitative information on the firm (Berger and Udell, 2006; Bharath et al., 2011). This type of information is difficult to transmit to third parties, so it generally constitutes private information that is kept within the bank (Boot, 2000). As a result, changing lenders can be very costly for firms that depend on banks for financing, which can have important consequences on their ability to access financing, in both normal and crisis periods.

**TABLE IV.4**  
Elasticity of real variables to bank debt (\*)

	Employment	Full-time jobs	Part-time jobs	Accumulated input purchases
Coefficient	0.48** (0,24)	0.45* (0,24)	0,06 (0,80)	0.50* (0,28)
N	14,059	13,961	9,110	23,596

(\*) The table reports the effect of bank debt on different real variables 12 months after having received a guarantee, using instrumental variable methods, with the probability of being benefited by a credit guarantee such as an instrument of the growth of debt at the firm level. \*, \*\*, and \*\*\* denote statistical significance at 10, 5, and 1% respectively. Standard errors in parentheses.

Source: Mullins and Toro (2018).

A recent study provides empirical evidence on the real effects of increased credit access on some firms that are dependent on banks in Chile (Mullins and Toro, 2018). The study shows that a greater access to credit generates strong growth in these firms in terms of jobs, sales, and input purchases (table IV.4), which suggests that many of them face constraints on their access to credit. This means that these firms are more sensitive to adverse shocks, because when a firm faces financial constraints, negative events like a drop in sales not only have a direct effect, but also exacerbate their credit constraints. This mechanism is particularly important in periods of aggregate financial stress, when the adverse real and financial events tend to reinforce each other (box IV.4).

**TABLE IV.5**  
Average impact of lower credit constraints (\*)

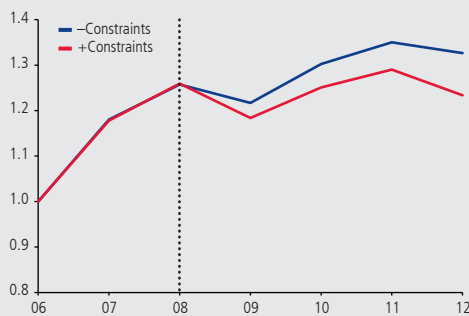
	2009	2010	2011	2012
Total credit	14.7%** (0.024)	14.0%*** (0.026)	20.6%*** (0.026)	24.2%*** (0.027)
Added value	2.95%** (0.012)	3.89%*** (0.013)	3.71%*** (0.014)	4.57%*** (0.016)
Fixed asset	4.17%** (0.017)	7.64%*** (0.019)	6.96%*** (0.020)	8.7%*** (0.022)

(\*) The estimators correspond to the difference in growth rates of the two groups of firms for each variable: commercial bank debt, annual sales, average number of workers, and the book value of fixed assets at the end of each year. \*, \*\*, and \*\*\* denote statistical significance at 10, 5, and 1% respectively. Standard errors in parentheses.

Source: Toro (2019).

Another recent study focuses precisely on this type of scenario. The author estimates the potential impact of a contraction in the bank credit supply on employment, investment, and the growth of firms during a recession (Toro, 2019). The study shows that the inability to substitute sources of financing, on the part of firms that are dependent on bank financing, hindered credit access for some of the companies during the 2008–09 crisis in Chile. The firms in the study that faced tighter constraints received approximately 15% less credit, on average, which implied that their sales, employment, and fixed assets fell an additional 3.0, 2.6, and 4.2%, respectively in 2009. In the medium term, these real effects became persistent, such that four years after the start of the crisis, the sales, employment, and capital of the firms that received less financing had grown 6.7, 5.8, and 8.7% less, respectively (table IV.5 and figure IV.21).

**FIGURE IV.21**  
Growth rate of sales (\*)  
(percent)



(\*) The figure graphs the average growth rate of two groups: firms that faced lower constraints on access to credit during the 2008–09 crisis versus other firms. Dotted line marks the occurrence of the credit shock.

Source: Toro (2019).

### The countercyclical capital requirement as a tool for mitigating the effects of shocks to the bank credit supply

The results of the two studies analyzed above show that constraints on access to credit can have real effects and aggravate the impact of adverse shocks, undermining financial stability. In particular, a sudden contraction in the bank credit supply can have negative consequences on the companies' employment and investment.

Contractions in the bank credit supply can have various causes, but they often originate in vulnerabilities associated with the banks themselves. Thus, a bank that is facing liquidity problems and does not have an adequate capital level could be forced to reduce its volume of loans. In this sense, preventing this type of situation is fundamental for avoiding a contraction in the bank credit supply and the negative effects thereof.

The countercyclical capital requirement, contained in the banking law reform (Law 21.130), serves this purpose. The objective of this macroprudential tool is to prevent the externalities associated with the excessive growth of bank credit. Thus, the CBC, with a prior report from the FMC, can require banks to constitute an additional percent of Tier 1 capital, up to 2.5%. If activated during the expansionary phase of the credit cycle, this tool has two effects that help to prevent contractions in the bank credit supply in periods of aggregate financial stress.

First, by increasing the cost of credit, it provides an incentive for banks to balance their credit portfolio toward less risky firms, which reduces their vulnerability to adverse shocks that increase default at the aggregate level. Second, the increase in Tier 1 capital makes the banks more resilient to this type of shock, allowing them to continue to loan to firms during periods of aggregate financial stress.

The lifting of the countercyclical capital requirement during the slowdown phase of the economic cycle reduces the cost of bank credit after the risks that motivated activation have materialized. This allows the banks to increase the credit supply and relax constraints on access to credit for firms that depend on this type of financing, thereby reducing the risks for financial stability associated with the availability of credit.

### Conclusions

Constraints on access to credit for some firms can facilitate the transmission of adverse shocks between the real and banking sectors in times of aggregate stress. At the same time, sharp contractions in the bank credit supply can have negative consequences for firms in terms of jobs, growth, and investment, especially for those that depend on this type of financing. In this sense, it is crucial to have tools such as the countercyclical capital requirement that help prevent the occurrence of this type of situation, in that they reduce the banks' vulnerabilities in the expansionary phase of the credit cycle and increase their resilience when the cycle reverses, at the same time that they reduce the risks associated with the availability of credit during normal times.