1. Introduction

How do firms react to adverse macroeconomic shocks, including monetary tightening? How does the response vary across different types of firms? These are the two questions we address in this paper. In a world of asymmetric information and costly contract enforcement, adverse macroeconomic shocks worsen agency problems between borrowers and lenders, basically because they reduce the value of collateralizable net worth. This either limits or makes more costly the access to external finance, relative to internal finance, with negative consequences for firms' production and investment decisions. The worsening of credit conditions may therefore amplify the negative effect of downturns relative to a situation of perfect capital markets[1].

The increase in the premium for external finance is unlikely to be uniformally distributed across firms. The firms characterized by more severe information problems and low initial levels of collateral will be those who will more adversely affected. These firms will find it more difficult or more expensive to obtain external finance to smooth out negative shocks and are likely to display a greater sensitivity of their real choices to variables that capture their financial health.

Recent empirical evidence for the US suggests that the amount of short-term debt received by small firms decreases more sharply relative to large firms in response to monetary tightening[2]. Moreover their inventories drop more quickly at the onset of a recession , while large firms are able initially to accumulate inventories. Small firms' inventory investment is also more sensitive to balance sheet variables[3]. Finally the reduction in sales that accompanies periods of monetary stringency and/or recessionary episodes is more severe for small firms.

Whereas a fair amount is known about firms' responses to cyclical fluctuations in the US, little evidence is available on these issues for other countries. Moreover, even for the US most of the results concern, on the financial side, the behavior of bank lending and of the commercial paper markets and, on the real side, sales and inventories[4]. What is necessary is a fuller analysis of

1 See, for instance, the theoretical contributions by Bernanke and Gertler (1989), Gertler (1992), and Kiyotaki and Moore (1993).

2 See the contributions by Gertler and Gilchrist (1991, 1993a, 1993b, 1993c) based on data drawn from the Quarterly Financial Reports.

3 See also Kashyap, Lamont and Stein (1992) for evidence from panel data for the US.

4 See Kashyap, Stein, and Wilcox (1993) and Oliner and Rudebusch (1992) for an analysis of the changes in the composition of short-term debt between bank lending and commercial paper following monetary tightening.