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Bankruptcy resolution capacity and economic fluctuations

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ABSTRACT

In this paper, I build a partial equilibrium model and uncover a relationship between regional macroeconomic fluctuations and bankruptcy resolution capacity that depends on the cyclicality of bankruptcy. If the frequency of bankruptcy is countercyclical, the model predicts that fluctuations are more severe in regions with lower bankruptcy resolution capacity. This is because, in these regions, banks' bad-loan recovery costs are higher (due to the length of the bankruptcy proceedings) and their lending is more sensitive to macroeconomic shocks that impact the likelihood of bankruptcy. Therefore, shocks that increase the frequency of bankruptcy and decrease output at the same time, for example, are amplified due to a lower level of bank lending. I draw opposite conclusions when bankruptcy is procyclical (i.e., economic fluctuations are less severe in regions with low bankruptcy resolution capacity). In the second half of the paper, I find evidence indicating that bankruptcy is countercyclical and that in the U.S. states with lower bankruptcy resolution capacity, economic fluctuations, consistent with the model's predictions, are more severe.

1. Introduction

It is well-established that the quality of institutions is a key determinant of the cross-country differences in short-term economic fluctuations (e.g. Acemoglu et al., 2003; Aghion et al., 2004; Rancière et al., 2008; Schneider and Tornell, 2004). The large cross-country differences in institutional quality make this finding economically important as well. Since the quality of institutions in the regions of a country are generally similar, however, researchers have traditionally considered regional characteristics such as demographic/labor-market structure and industrial composition in explaining the disparities in the duration and the amplitude of regional business cycles (e.g. McLaughlin, 1930; Borts, 1960; Sum and Rush, 1975; Toal, 1977). These characteristics are also the central emphasis in studies that investigate the business cycles of U.S. states such as Crone (2005), Carlino and Defina (1995, 1998) and Croux et al. (2001).

In this paper, I instead focus on one aspect of institutions in the United States, the capacity of regional bankruptcy courts to resolve cases (hereafter, bankruptcy resolution capacity), and investigate whether this institutional characteristic plays an important role in determining the cross-state differences in the magnitude of economic fluctuations.

To more clearly identify this relationship, I begin by exploring the channels through which bankruptcy resolution capacity can have an impact on the magnitude of economic fluctuations in a simple partial equilibrium framework. The central feature of this framework is that it includes one aspect of financial frictions. Specifically, I assume reasonably that a portion of the loans that banks make go bad and banks cannot recover these funds immediately and have to incur bankruptcy

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costs – the source of the financial friction in the model. Banks' rate of loan recovery, in turn, depends on the capacity of courts (this includes the efficiency of the courts and the availability of resources such as judges and clerks) to resolve bankruptcy cases quickly.

Given this general setup and assuming that the amount of bad loans is positively related to financial leverage, I find that in economies with lower bankruptcy resolution capacity the level of production/investment is smaller. Lower bankruptcy resolution capacity and the lower rates of loan recovery make banks less willing to finance long-term, productive projects due to the possibility of higher bankruptcy costs. The more central result for this paper, albeit, is that the fluctuations of production/investment (in addition to its level) are also related to bankruptcy resolution capacity. This relationship is not unidirectional and depends on whether the shocks that affect production also have a procyclical or a countercyclical effect on the number of bankruptcies since, in the model, an increase in the number of bankruptcies increases bankruptcy costs (and decreases the banks' recovery rates) by prolonging the bankruptcy proceedings. Given the positive relationship, if a shock that has a negative impact on production, for example, also increases the number of bankruptcies and thus the duration of proceedings, it is amplified by the judicial process and there is a larger drop in output (and in general, larger economic fluctuations). In contrast, if this adverse shock decreases the number of bankruptcies, it mitigates the negative effect on output.

More importantly, I find that this channel of transmission is stronger when the bankruptcy resolution capacity is lower. The reason is that in economies with lower bankruptcy resolution capacity the duration of bankruptcies and the recovery rate become more sensitive to the number of new bankruptcy filings and economic shocks can have a larger impact on the amount of lending and economic activity through their effect on the judicial system.

Overall, the model predicts that the effect of bankruptcy resolution capacity on economic fluctuations depends on the cyclicality of bankruptcy. If bankruptcy is mostly procyclical, economic fluctuations would be less severe in economies with lower bankruptcy resolution capacity since the initial increase in output, for example, would be mitigated by the increase in the number of bankruptcies and this mitigation mechanism would be stronger compared to an economy with a higher bankruptcy resolution capacity. This unique inference from the model is different from the usual inferences drawn from costly-state-verification models and suggests that financial frictions in the form of bankruptcy costs may not always amplify economic shocks. By contrast, if bankruptcy is mostly countercyclical, the initial increase in output would be amplified by the decrease in the number of bankruptcies and this amplification mechanism would be stronger in economies with lower bankruptcy resolution capacity. In these economies, therefore, economic fluctuations would be more severe.

In the second half of the paper, I empirically test the predictions of the model. In doing so, I begin by investigating aggregate bankruptcy data from the United States Federal Courts database and bank-level loan default data from the Federal Reserve's Call Reports of Condition and Income database to determine the cyclicality of bankruptcy. The results illustrate that both the number of bankruptcies and the amount of bad loans is countercyclical (during recessions, for example, there is an increase in the number of bankruptcies and the amount of bad loans). These results, according to my model, suggest a negative relationship between bankruptcy resolution capacity and the level of economic fluctuations. Using data from U.S. states, I proceed by testing the empirical validity of this negative relationship. The results, robust to various tests, indicate a significant, negative relationship between the state-level case turnover ratio (the bankruptcy resolution capacity measure) and the mean level of deviations from the long-run trend of state income growth (the economic fluctuations measure). I find that this relationship is independent of other judicial characteristics and the industrial composition of states, and that it is economically important. For example, the results suggest that if Louisiana's case turnover ratio were to increase to the levels observed in Florida (10 percentage points difference), her income would be 1.1% less volatile in a given year.

It is important to note that the dynamic interpretation of bankruptcy costs in my model deviates from its usual interpretation in costly-state-verification frameworks (e.g. Bernanke and Gertler, 1989; Bernanke et al., 1999; Carlstrom and Fuerst, 1997; Prescott and Townsend, 1984; Townsend, 1979) as the static auditing and legal costs associated with a bankruptcy. In my model, bankruptcy costs additionally depend positively on the duration of bankruptcy since it is widely-agreed that the increase in uncertainty when bankruptcy proceedings are prolonged cause a sharper drop in the values of borrowers' assets and creditors' recovery rates.[1] The positive relationship between the duration of bankruptcy and the number of bankruptcies in the model then allows me to dynamically capture the amplification of macroeconomic shocks through the judicial system. There is evidence, although scarce, that supports this positive relationship. For example, LoPucki (2005), investigating a single court, finds that an increase in the number of days in bankruptcy is the result of high filing rates and judges/lawyers devoting less time for each case when they are overworked. United States Federal Courts' caseload statistics indicate a similar positive relationship. For example, the total number of bankruptcy filings in years 2007, 2008, 2009 and 2010 were approximately 0.7, 0.9, 1.2, 1.5 million, respectively and the mean time interval between filing and closing for consumer cases (averaged across chapters 7, 11, and 13) for years 2007–2010 were 155, 277, 393 and 512, respectively.

On the empirical side, the unique feature of the analysis is the utilization of state-level differences in bankruptcy resolution capacities. While broad institutional characteristics such as of legal origin, central bank independence and corruption are similar, if not identical, in each state, there is substantial variation in bankruptcy resolution capacity across states. This variation allows me to investigate the implications for economic fluctuations and to test the predictions of the model.[2]

[1] See, for example, Weiss (1990) for evidence supporting the positive relationship between the duration of bankruptcy proceedings and economic losses.

[2] The measure I use for bankruptcy resolution capacity in the second half of the paper, the case turnover ratio (the annual rate at which bankruptcy cases are resolved) for example, illustrates a large variation in bankruptcy resolution capacity. These ratios are reported in the second column of Table B.1. in Appendix B.