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Currency crises and the real economy: The role of banks

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Abstract

This paper attempts to explain the divergent output effects of currency crises through a very simple and intuitive model that relates the effects of a devaluation not only to the financial fragility of banks, but also to the degree of financial market imperfection. The model shows that countries with higher degrees of financial market imperfection and/or a banking sector whose balance sheets are weak, in terms of having low net worth and high foreign currency exposure, are much more likely to suffer a contraction in the wake of a currency crisis.

JEL classification: E44; E50; F32; F34

Keywords: Currency crisis; Banking crisis; Foreign currency debt; Balance sheet

1. Introduction

Recent 'second generation' models of currency crises are predicated on the assumption that there exists a trade-off between defending a peg and devaluing (Obstfeld, 1994). In particular, the presence of nominal rigidities implies that a devaluation will be expansionary, while a defense comes at the cost of high interest rates, so that the policy dilemma is cast in terms of a devaluation versus a recession. However, a notable feature of recent experiences of currency crises has been the fact that for countries that succumbed to a devaluation, the aftermath on the real economy has been strikingly different for developed and developing economies. The former have tended to fare a lot better whereas complete output collapse is often experienced by the latter.[1] This

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[1] In the ERM crisis, the countries which were driven off their pegs generally did better in the following period than those that stuck to their parities. In the Latin American and Asian crises, however, the decision to devalue have led to severe short-run consequences for the real economy.

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raises some important issues which the extensive literature on currency crises has yet to resolve. Specifically, what are the macroeconomic impacts of currency crises, and why have they differed so much between episodes? And in particular, why has the experience been so different for developing and developed countries?

The current study contends that the *health* of the banking system, as well as the degree of credit market imperfection, constitute a large part of the answer and presents a very simple and intuitive model to illustrate the arguments. The focus is on the way in which banks' balance sheets can be compromised by their unhedged foreign currency liabilities, with adverse consequences for the real economy. This was particularly relevant in the Asian countries because deep currency depreciations exacerbated the financial distress of banks and made it very expensive for local exporters to get the credit they needed to take advantage of their increased international competitiveness. Thus the benefits to exporters proved elusive and the devaluation turned out to be painful (Mishkin, 1996; Edwards and Vegh, 1997; Chan-Lau and Chen, 1998; Goldstein, 1998).

This paper aims to formalize this simple idea. The model builds on the conceptual footsteps of Gale and Hellwig (1985), Williamson (1987), Bernanke and Gertler (1989), Agenor and Aizenman (1997), and Holmstrom and Tirole (1997) by introducing credit market imperfections in a setting where firms are critically dependent on bank credit for their operations. Explicit modelling of the banking sector and formal consideration of the role of bank balance sheets, makes it possible to discuss how differences in the health of the banking system determine the real effects of a depreciation. Specifically, when the banking sector is healthy, the standard Keynesian effect applies – output increases as real factors costs decline – but when banks are sufficiently weak, a devaluation will bring about a contraction in the real economy. In addition, the model predicts that economies with higher financial market imperfections are more likely to suffer contractions in output following a devaluation. To the extent that this reflects the situation of emerging market economies relative to developed countries, it represents another explanation which, together with the balance sheet story, goes a long way in rationalizing the divergent output effects of currency crises in a manner that seems to be consistent with the empirical evidence.

A number of recent papers have looked into the role of banks in currency crises. Chang and Velasco (1998) analyzed the interaction between financial intermediaries and currency crises in a model that builds on the 'bank run' framework of Diamond and Dybvig (1983). A crisis occurs when there is a self-fulfilling depositor panic which results in the collapse of the whole banking sector as well as the liquidation of real investments. An alternative attempt to incorporate banks into the currency crisis story has focussed on the idea of moral-hazard-driven lending. The intuition – put forward by Krugman (1998) and formalized by Corsetti et al. (1998), Burnside et al. (1999), and Schneider and Tornell (2000) – is simply that the presumption of implicit government bail-out guarantees led banks to engage in excessive lending which resulted in bad-quality loans and unhedged exchange rate exposures. Self-fulfilling crises takes place as devaluations transform the government's contingent liabilities into actual liabilities, depleting reserves. Finally, recent papers by Caballero and Krishnamurthy (1999, 2000) have analyzed how collateral constraints