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# Austerity and recovery: Exchange rate regime choice, economic growth, and financial crises



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#### ABSTRACT

Our study investigates the role of the exchange rate regime to explain the empirical link between financial crises and economic activity. We examine the relationship between real per capita GDP growth, exchange rate regimes, and the incidence of crises. Asymmetries are also explored. While exchange rate regimes of all types can promote positive economic growth, disaggregation by region or country type yields significantly different results. Pegged regimes work best for emerging market economies while crawling regimes deliver the greatest boost to economic growth in the G20. However, unlike the extant literature, the foregoing positive influences are offset when economies are in a downturn. An important finding is that exchange rate regimes and financial crises interact. In almost all cases and types of financial crises, pegged regimes exert a negative impact on economic growth even after controlling for several economic factors.

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#### 1. Introduction

The global financial crisis of 2008/2009 focused the attention of policy makers on the real economic consequences of such events. Typically, following financial crises, countries experience a severe recession. The global financial crisis resulted in a generalized negative real per capita GDP growth around the world. Only the fallout from the bursting of the tech bubble in 2001 comes close.<sup>1</sup> The Asian financial crisis of 1997–1998 is largely a regional episode.

Reinhart and Rogoff (2009a) made clear that recovery from some financial crises can be a long drawn-out process. Moreover, the duration and size of fiscal responses can vary greatly. Likely just as important are the initial economic conditions faced by the affected countries at the outset of a financial crisis. For example, some countries may have relatively more resilient banking systems or they may have experienced fiscal surpluses or a falling debt to GDP ratio on the eve of a financial crisis. Nevertheless, the mere observation of a financial crisis is not enough to predict its real economic consequences because not all financial crises are associated with the same amount of financial instability. For example, a financial crisis that begins in advanced economies may well be more virulent than one which originates in an emerging market. Clearly, how financial crises spread, and their global impact, will be partly a function of spillover effects. One important mechanism that can

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facilitate or prevent the spread of economic shocks or the real or financial varieties is the exchange rate regime.

Our study focuses on the role of the exchange rate regime in explaining the connection between financial crises and economic activity. Interestingly, Reinhart and Rogoff's (2009a) seminal analysis of financial crises pays virtually no attention to the role of the exchange rate regime. Over three decades ago, Choudhri and Kochin (1980) demonstrated that floating exchange rates have textbook-like insulating properties. Their analysis focuses on the real economic effects of financial crises. Flood and Rose (2010) provide empirical support for the view that the adoption of inflation targeting may well have contributed to raising the synchronicity of business cycles. This may seem surprising at first since the sine qua non of inflation targeting regimes is their commitment to floating exchange rates. However, commitment to low and stable inflation contributes to better economic performance and provides the motivation for business cycles to begin looking alike. Yet, for example, in Canada, where adherence to the floating exchange rate regime is the most durable in history, the Bank of Canada now acknowledges that financial stability considerations raise doubts about the ability of a floating regime to fully absorb all types of economic shocks (Murray, 2010, 2011).<sup>2</sup>

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<sup>&</sup>lt;sup>1</sup> The recession of the early 1980s, associated with de-industrialization in advanced economies, was not directly the result of a financial crisis.

<sup>&</sup>lt;sup>2</sup> Murray (2011), at the time Deputy-Governor of the Bank of Canada, notes, '... flexible exchange rates, which have a great deal to recommend them, have failed to live up to their initial optimistic billing. (Canada's positive experience with a flexible exchange rate through the 1950s and early 1960s might have contributed to this overly sanguine assessment.) Their stabilizing properties were shown to be more limited than previous enthusiasts had credited.'

The Bank of Canada's earlier views are consistent with economic analyses since at least Mundell–Fleming who argued that less flexible exchange rate regimes must absorb external shocks. Hence, the argument was made that floating regimes represent the best way to insulate against policy strategies chosen in other economies. Unfortunately, the global financial crisis put paid the notion that floating regimes can fully insulate a domestic economy against foreign shocks in part because the Mundell–Fleming framework did not adequately discriminate between real and financial sources of disturbances. Together with the globalization of finance of recent decades, the possibility of interactions between exchange rate regime choice and other elements of a monetary policy strategy, as well as the incidence of financial crises, has emerged. The present study investigates the empirical significance of these interactions.

Meanwhile, it is known that commitment to a flexible exchange rate regime among inflation targeting central banks in emerging markets is not absolute. In part for this reason, there is a 'fear of floating.' Indeed, the earlier observation about the insulating properties of floating regimes is one that is keenly felt in emerging market economies. Hence, Raghuram Rajan, Governor of the Reserve Bank of India, has commented that 'there is the age-old mantra "let the exchange rate do the talking and then you are insulated" . . . That advice is garbage. A number of emerging markets are not insulated—you are affected' (Mallet, 2014).

We provide empirical evidence that seeks to address a variety of questions. They are: does the adoption of a fixed exchange rate regime influence the real economic impact of financial crises to a greater extent than do floating regimes? Put differently, in what way are fiscal responses and consequences linked to the choice of exchange rate regime in place? Is economic recovery following a crisis also related to exchange rates? Finally, if financial crises are economically more costly, to what extent does the choice of exchange rate regimes contribute to financial stability and recovery? Because financial crises, and macroeconomic conditions more generally, cannot be divorced from the impact of the chosen exchange rate regime, interaction effects must also be considered as noted above.

We examine the relationship between real per capita GDP growth, exchange rate regimes, and the incidence of crises. To test the relevant hypotheses, we construct a panel dataset and apply fixed effects and GMM estimators and examine the determinants of real per capita GDP growth. The results not only have implications for the study of the real economic effects of fiscal policy but also for the policy discussion concerning the balance of risks and financial imbalances that follow from fiscal actions.

The paper is organized as follows. First, we summarize the relevant literature of the influence of fiscal adjustment, exchange rate regimes, and financial crises on economic growth. Section 3 describes the dataset and some stylized facts are presented. Section 4 outlines the methodology of the paper while the empirical results are discussed in Section 5. The final section concludes, provides policy implications, and offers suggestions for future research.

#### 2. Literature review

Our focus is on studies that examine the consequences of financial crises for economic growth and the role played by the choice of exchange rate regimes. We also briefly consider the impact of fiscal adjustments on economic growth.

growth is quickly restored to pre-crisis levels. The cross-country analysis of Park and Lee (2003) for five East Asian economies also supports the decline followed by a strong recovery hypothesis. An increase of real GDP growth, a large real depreciation, expansionary monetary and fiscal policy, and an improvement in the global economic environment were crucial determinants in these findings.

Bordo et al. (2001) examine the determinants of banking and currency crises, also referred to as twin crises.<sup>3</sup> Twin crises are negatively driven by inflation. For banking crises, the impact on GDP per capita is also negative. Lane and Milesi-Ferretti (2010) examine the severity of the global financial crisis 2008/2009 and show that GDP growth and consumption growth are determined by economic development, private credit to GDP, current account deficits to GDP, and the relation between openness and trade. The exchange rate regime plays an indirect role in these findings.

Examining 40 emerging markets during the global financial crisis, Berkmen et al. (2012) find that exchange rate flexibility mitigates output losses in cross-country-regressions. Cuaresma and Feldkircher (2012) conclude that the level of income, exchange rate misalignments, and the combined variable of economic growth and FDI inflows prior to 2007 drove the global financial crisis. Cerra and Saxena (2005) rely on a regime-switching common factor model covering two decades of quarterly data to examine output recovery from the Asian crisis in six economies of the region. The model reveals permanent output losses in all countries after a crisis. This contradicts the findings by Park and Lee (2003) and Hutchison and Noy (2005).

Reinhart and Rogoff (2009b), among other results, also observe an asset market collapse, and a decline in output for 14 different banking crises in history. Analyzing the periods before and after the global financial crisis of 2008/2009 in emerging market countries and relying on quarterly data, Blanchard et al. (2010) find evidence that unexpected GDP growth is negatively affected by short-term external debt and current account deficits while unexpected GDP growth of partner countries has a positive impact on unexpected growth. Fixed exchange rate regimes have a negative but insignificant influence on unexpected growth.

Whether the exchange rate regime could be an important factor in explaining the output implications of financial crises and the associated fiscal adjustments yields mixed evidence. Ghosh et al. (1997) report no significant impact of exchange rate regimes on growth for 140 countries covering a span of 30 years beginning in 1960. However, pegged regimes are associated with slower economic growth and reduce and stabilize inflation rates. Rose (2011) obtains different findings depending on the type of exchange rate regime classification used. He employs a panel regression study consisting of 178 countries for a sample from 1974 to 2007. Based on IMF data, economies that adopt a narrow crawling exchange rate band grow significantly faster than fixed exchange rate regimes. When the Reinhart and Rogoff (2004) classification is employed, countries that adopt managed floating regimes grow significant more slowly than fixed regimes. Nevertheless, a statistically significant difference between floating and fixed regimes is not found. For 37 rich small countries, Breedon et al. (2012) emphasize currency unions or currency board arrangements are more stable than narrow bands or de facto pegs.

Levy-Yeyati and Sturzenegger (2003) use a pooled regression with 183 countries from 1974 to 2000 to consider a connection between economic growth and the choice of exchange rate regimes. Less flexible regimes lead to lower economic growth. For industrial countries, no impact from the type of exchange rate regime is found. Huang and Malhotra (2004) also obtain different results depending on the grouping of countries using panel data from 1976 to 2001. For 18 advanced European countries, the exchange rate regime does not influence

Frankel and Rose (1996), relying on a probit model for 105 developing countries covering the 1971–1992 period, conclude that real output growth per capita declines before a currency crisis and rises thereafter. Frankel and Rose detect no clear direction of causality between currency crises and economic performance. In a cross-country analysis of 67 countries for the 1965 to 2000 period, Barro (2001) observes a strong decline in economic growth for a combination of currency and banking crises. However, when the A financial crisis of 1997/1998 is considered, a sharp decline in output is followed by a strong recovery and economic

<sup>&</sup>lt;sup>3</sup> Twin crises refer to the simultaneous appearance of banking and currency crises. A typical indicator for a banking crisis is the financial distress in aggregate banking system capital. A currency crisis is often represented by an index of exchange market pressure.

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