

Crises, Reforms and Growth: A Non-Technical Summary of Recent Empirical Work

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Summary:

Three studies produced at the UNWE Department of Economics since 2010 and issued as CERGE-EI Working Papers address three policy-relevant empirical issues in the aftermath of the Great Recession. First, how do banking crises affect financial reforms? Second, do countries that reform their financial, product, and labor markets show a similar growth pattern? Third, if some countries benefit more from reforms, could this be attributed to the fact that various economies have markedly different firm-size distributions? The article offers a brief overview of those three studies and presents their contributions.

Key words: banking crises, reversals in financial reforms, deregulation, economic growth, growth acceleration, firm size, market liberalization and growth

JEL Classification: E58, G01, D22, O12, O43

Study 1: Banking Crises and Reversals in Financial Reforms

Despite the rich history of both systemic and non-systemic banking crises in many countries, and the variety of regulatory responses to them, economic literature contains relatively little information on the specific *ex-post* financial reform patterns. To address those patterns, economists need to

look at many banking crises across a large number of countries over long periods of time. However, to date, the literature is scarce on panel data studies in this line of research.

One exception is the work by Abiad and Mody (2005). They study how banking crises affect financial reforms across countries. Implicitly, however, their model assumes banking crises are random events, which is arguably not the case. Banking crises are most likely determined endogenously and three channels for their incidence seem evident. First, Barth, Caprio and Levine (2008), among others, conclude that banking system performance, hence its fragility, may be affected by banking regulations. Demirguc-Kunt and Detragiache (1998) also find that financial liberalization may positively influence the likelihood of a banking crisis, especially in countries with weaker banking supervision and judicial institutions.

Second, it has been shown that banking crises can occur through numerous endogenous channels on both the assets and the liabilities side of the bank balance sheet and have been studied by Allen and Gale (1998, 2000). In these two papers, shocks on either side of the balance sheet could trigger crises across banks and regions.

Third, the empirical literature adds cross-country trade and financial flows as contagion mechanisms. Balakrishnan et al.

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(2011) also suggest that deeper financial links are a key factor for the increased financial distress running from developed to developing economies. Rose and Spiegel (2009) use trade and financial exposures to the United States alone to analyze crisis incidence elsewhere in a cross-section of 85 countries. Trade linkages are examined as an additional factor that may drive contagion in Eichengreen et al. (1996) and in Gorodnichenko et al. (2012).

One of the implications of the work by Gorodnichenko et al. (2012) is the notion that trade dependence might coexist with financial regulatory independence. The notion allows the paper by Stankov (2012) to construct a novel instrumental variable which deals with the endogeneity problem of financial reforms and banking crises: a country's *crisis exposure*. The crisis exposure varies across countries and over time for each country, and reveals how a banking crisis in a given trading partner j could affect the likelihood of a banking crisis in a given economy i , without affecting i 's financial regulatory path directly. Thus, the paper addresses one of the long-standing issues in the empirical literature of financial reforms: the implicit assumption of randomly occurring crises. This is the first contribution of this work.

Its second contribution is to acknowledge and incorporate the inherent dynamics of the financial regulatory process into an empirical study of how regulatory reforms depend on banking crises.

Based on the intuition above and on the newly created instrumental variable for banking crises, the first working paper analyzes financial reforms in a dynamic empirical framework with

endogenous financial crises, which is its core methodological contribution to the existing literature.

In short, the paper links a rich history of systemic and non-systemic crises to the patterns of financial regulatory reforms in seven areas: credit controls, interest rate controls, entry barriers, banking supervision, state ownership in the banking sector, capital controls and securities markets policies. It also analyzes how banking crises affect the overall reform pattern. By constructing a crisis exposure for each country and year, the paper adopts a more realistic transmission mechanism of crises across countries, which is at the heart of identification of the causal effect of banking crises on financial reforms.

The results demonstrate that systemic banking crises reverse the overall pattern of financial reforms. They also reverse most of the other particular financial reforms, although with a varying reaction lag. In addition, systemic banking crises improve banking supervision, which is perhaps a natural policy reaction to a crisis occurring in the banking sector. Non-systemic banking crises, however, exert a much weaker influence on financial policies and regulations. Whenever some evidence of a policy reaction emerges, it is only marginally significant. Despite the lack of specific policy prescriptions stemming from the above work, the analysis here is able to deliver some intuitive policy implications. The paper concludes with them.

First, governments should not rush to reverse the overall pattern of financial liberalization after crises, as they seem to be doing. This is so because it has

long been established that financial reforms lead to financial development and financial development leads to growth (Levine, 2005). If growth is the rational target after crises, then reversing the overall reform pattern, which this work shows is the norm, would certainly not lead to a quicker recovery.

Second, governments impose more controls on credit activity after crises. Specifically, they allocate favors to particular industries, which can reduce competition in those industries and may also reduce efficiency of the incumbent firms. Governments should reduce favors after crises in order to spur competition both within the private sector, and between the state-owned firms and the private sector.

Third, crises impose more entry barriers to the banking industry. However, more competition in the banking industry could reduce interest rates and spur private investment. Therefore, governments should reduce entry barriers in the industry.

Fourth, systemic crises induce more state ownership in the banking sector. This is perhaps natural given the importance of preventing the systemically important financial institutions from failure. However, in the more recent environment of aversion to fiscal expansion, other mechanisms to save or dismantle those institutions might be more plausible and efficient than making future generations pay for the rescue.

Fifth, systemic crises increase the controls over capital inflow and outflow. This may be an efficient way to stem a looming crisis, but the evidence in this work points to the fact that more often than not governments implement capital account

restrictions as a reaction to a crisis, rather than as means to prevent it. This might limit the usefulness of imposing the temporary capital controls in the first place, and may also raise the country risk premiums for long after the crisis is contained.

Sixth, crises slow down the creation and development of securities markets. However, slowing the securities market development is hardly the most efficient policy response to a crisis.

Seventh, if a recession occurs, the countries closer to the regional reform leaders create a growth-enhancing financial regulatory framework faster. If growth is on the policy agenda of the laggards in financial liberalization, they should also target adoption of a competitive regulatory framework to spur financial development.

Study 2: Deregulation, Economic Growth and Growth Acceleration

The second working paper (Stankov, 2010) is motivated by the empirical observation that after the oil shock of 1973, the developed economies experienced a dramatic decline in their economic growth (Nordhaus, 1980; Sachs, 1982) and labor productivity growth (Baily, 1981). Since the mid-1970s, the productivity decline triggered a wide range of policy responses, including economic deregulation.¹ Deregulation reforms were initiated in the US (Winston, 1998; Morgan, 2004), followed by the UK and other developed economies in the early 1980s (Pera, 1989; Matthews, 1987) and were imitated by the new democracies and many developing countries in the 1990s with an extensive set of labor, capital,

¹ Following Winston (1993), the economic deregulation may be interpreted as the state's withdrawal of its legal powers to direct pricing, entry, and exit within an industry.

and product market reforms. The process continued throughout the early years of the 21st century (Nicoletti et al., 2009) until the recent global economic and financial crisis undermined the efforts to relax economic regulations.

The differences in the deregulation reform timing across countries raise a natural question: Did the early reformers -- those countries reforming extensively in the 1970s and the 1980s -- benefit more than the late reformers in improving their living standards and in accelerating economic growth? If they did, then the economies that innovated with deregulation enjoyed growth, while those who imitated best-practice institutions did not always benefit from deregulation, as some evidence suggests (Rodrik, 2008). The second study reviewed here addresses this question.

Addressing this question is important at least for two additional reasons. On the one hand, a substantial bulk of the literature uses the time variation of various indices of regulation to gauge deregulation reforms. However, using those directly in a regression equation is problematic because equal changes in the indices represent unequal policy changes across countries. This work proposes a way out of this measurement problem by using the time variation of the indices.

On the other hand, few papers account for where the time variation in the indices comes from in the first place, and if they do, their instruments are rarely time-varying. This paper uses two time varying indicators for each country which are arguably both strong and valid in predicting the timing of the deregulation

reform. Those are a country's energy independence and its natural resource rents.

By combining how the reform timing affects living standards and growth with the reasons countries reform at different times, the paper addresses simultaneously two of the long-standing problems in the empirical analysis of deregulation reforms. At the same time, the work supports the previous evidence of a positive impact of economic deregulation on growth. The results also demonstrate important differences in the reform outcomes across countries. The benefits from deregulation were unequally spread, and the timing of the reform played an important role in reaping those benefits.

In further detail, the results demonstrate that the effects from deregulation on living standards and on growth vary across economies and across the timing of the deregulation reform. The countries that lagged behind in their deregulation reform in the 1970s and the 1980s but accelerated the reform in the 1990s and early in the new century had lower per capita GDP levels than the early reformers and those countries that reformed extensively in both periods -- the "marathon" reformers. This means deregulating early and continuously is also associated with higher living standards. However, when it comes to growth acceleration, there is no significant difference between the various types of overall deregulation reformers.

In order to analyze the impact of a more specific reform, I will discuss the impact of deregulation on credit markets.

There appears to be a significant positive effect on both living standards and on growth rates from both the overall and the credit market deregulation. This result surfaced from the viability checks in which the data was sliced into shorter 5-year time periods, and panel data methods were applied.

The paper delivers two main messages. First, deregulation contributed to growth but its impact varied across countries, and the deregulation reform timing can at least partly explain the cross-country differences in the outcomes of similar reforms. Second, a large-scale financial re-regulation could backfire with substantial negative dynamic effects on growth acceleration, which may delay a desired recovery in the aftermath of the Great Recession.

Study 3: Firm Size, Market Liberalization and Growth

The third working paper (Stankov, 2013) looks for an intuitive explanation of the results obtained in the second paper. It starts with a logical construct: Suppose an identical market-oriented reform is adopted simultaneously across a number of countries. Will the reformers be affected identically? The paper argues they will not, and looks for the reasons behind an eventual outcome divergence.

The explanation offered in the third working paper, and its main hypothesis, is that economic liberalization affects firms of different size differently. Then, if two countries go through identical reforms but their firm size distributions are *ex-ante* different, the two economies will react differently to the reform. Naturally, the argument extends to more than two economies and to more than

one liberalization reform. It also produces a variety of reform outcomes across countries and possibly over time.

By using firm-level data and linking it with country-level reforms, I argue that the literature has largely ignored one of the important and at the same time intuitive determinants of reform outcome divergence across countries. It turns out that firm size, among other factors, determines the different impact of identical liberalization reforms on firm growth across countries. I test this hypothesis by using data on sales and sales per worker of more than 110,000 firm-level observations in 135 developing and post-transition economies. Firm sales and sales per worker are conditioned on country data on credit market liberalization reforms, on an overall economic liberalization reform, as well as on other aggregate and firm-level observables.

The advantage of having firm-level data in this study is that reform impact is studied at a level at which it presumably matters most for growth, and where the growth decisions are actually taken: the firm. This work finds sufficient evidence to conclude that the cross-country variation in firm size distributions before the reform takes place is one of the drivers behind growth divergence across countries after the reforms.

By using firm-level data from a large number of developing and post-transition countries, the third working paper shows that firms of different size grow differently after similar reforms. This could bring sizable aggregate implications for cross-country differences in the outcomes of many market-oriented reforms. Those differences could be determined, among

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other factors, by the notable variation in FSDs across countries.

In a policy context, the reform success depends on the share of firms with relative gains after the reform. The empirical results in the paper suggest that if an economy has a larger share of smaller firms, then liberalizing product and labor markets would benefit this economy more than an economy populated by larger firms. Bigger firms seem to grow slower after those reforms. However, improving property rights, liberalizing trade and liberalizing the financial system would make an economy with a higher share of large firms grow faster than the economy populated by small firms.

The results here also partly explain why a given set of reforms might affect a number of countries differently, despite the similarity in those reforms. For example, a rich history of similar market-oriented reforms in Central and Eastern Europe has led to remarkably different reform outcomes. Offering an explanation for this and other growth divergences that occurred after a similar set of reforms could be considered the main contribution of the third paper reviewed here to the development literature.

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