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## Research Summaries

### Reforming Dual Labor Markets In Advanced Economies

Giovanni Ganelli



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Labor market duality—a two tier job market—has increased dramatically in many advanced economies in recent years. This has resulted in a growing share of “non-regular” workers, with a much lower level of employment protection, as well as lower wages and career prospects compared to “regular” workers. The definition of non-regular employment changes from country to country, but one indicator available for international comparisons, the share of temporary workers,

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John Kiff, Michael Kissler, and Liliana Schumacher



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## Reforming Dual Labor Markets In Advanced Economies

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averaged 12 percent in OECD countries in 2011 and reached 25 percent in Spain. This indicator is likely to underestimate the real size of duality in many countries, because while virtually all temporary workers are non-regular workers, non-regular workers are not necessarily only temporary ones. In Japan, for example, the share of non-regular workers—including part-time, temporary, and other types of contracts outside the so-called “lifetime employment model”—was below 20 percent before the burst of the bubble in the early 1990s, but has now reached 35 percent.

Labor market duality has some positive aspects. For example, it can help satisfy demand for flexible work arrangements, thus bringing new “voluntary non-regular” workers into the workforce. In some countries the possibility for firms to hire a growing part of the labor force with more flexible contracts can also help lower overall unemployment. In Japan, even during the 2009–10 global economic crisis, unemployment remained just slightly above 5 percent, compared to the 8 percent average in OECD countries, partly because of firms’ reliance on non-regular contracts.

Despite these positive aspects, international evidence and macroeconomic studies suggest that the overall impact of excessive labor market duality on total factor productivity (TFP) and growth is likely to be negative. Dolado and others (2011) find that 20 percent of the productivity slowdown in Spanish manufacturing between 1992 and 2005 was due to reliance on temporary work. Similarly, Damiani and others (2011) conclude that deregulation of temporary contracts negatively influences the growth rates of TFP in a panel of 14 European Union countries, especially in industries that rely more on short-term positions.

This negative effect is probably magnified by working involuntarily as a non-regular employee, which can adversely affect morale and job effort, thus lowering labor productivity. In this regard, Fukao and others (2007) estimate that Japanese part-time workers are 75 percent less productive than full-time ones. Limited training opportunities for non-regular workers are also likely to reduce productivity. IMF (2013) stresses that firms tend to invest little in their temporary workers in countries with dual labor markets. This is confirmed by a survey of 1,066 Japanese companies, which shows that while 92 percent of the companies provided training for regular workers, only

42 percent did so for non-regular workers (Kawaguchi and others 2006).

A recent IMF study (Aoyagi and Ganelli 2013) looks in detail at the determinants of labor market duality in OECD countries. On the basis of its empirical results, the study also suggests some options for reform in Japan. The study uses econometric panel data techniques to assess how various economic, demographic, and policy factors affect the degree of labor market duality, proxied by the share of temporary workers. A key finding is that an increase in the level of employment protection of regular workers, as measured by the aggregate OECD index of employment protection, tends to increase labor market duality, while an increase in the level of employment protection of temporary workers has the opposite effect. Furthermore, the impact of these variables on labor market duality is statistically significant. The results are also confirmed by robustness checks, in which disaggregated OECD employment protection indexes—summarizing the degree of procedural inconvenience for dismissal, notice, and severance pay in case of fair dismissal, and difficulty of dismissal—are used instead of aggregate ones.

In addition to employment protection legislation, several other institutional, demographic, and macroeconomic factors have an impact on the degree of labor market duality. In particular, the unemployment rate has a positive impact on duality, suggesting that higher levels of unemployment make it easier for firms to impose temporary contracts on workers. Inflation has a negative and significant impact. One possible explanation for this result is that workers are less motivated to seek employment in better-paid regular jobs when inflation is low.

The empirical results of Aoyagi and Ganelli (2013) are consistent with those of two other papers, which study the determinants of temporary employment, Jaumotte (2011) and Nunziata and Staffolani (2007). While these papers use different samples and model specifications, they also find that increased employment protection of regular workers increases labor market duality.

One policy implication of the findings by Aoyagi and Ganelli (2013) is that reducing the difference in the degree of employment protection between the two categories of workers can go a long way in reducing duality in advanced economies, with positive effects on TFP and growth. In the case of Japan, Aoyagi and Ganelli (2013) estimate that such a reform could bring the share of non-regular workers close to or below 30 percent, from its current level of about 35 per-

cent. The study also stresses that these estimates are based only on *ceteris paribus* first-round effects. If, as expected, the reduction in labor market duality results in higher growth, this would reduce unemployment and help exiting deflation. According to the econometric results presented in the study, a fall in unemployment and an increase in inflation would result in second-round effects of the initial reform, which would further reduce duality.

Since about 70 percent of non-regular workers are women in Japan, reducing duality would also increase the number of women in regular positions, creating synergies with reforms aimed at increasing female labor participation, which are important to raise potential growth (see Steinberg and Nakane 2012).

In practice, an effective way to reduce the difference in the degree of labor protection amongst different workers in Japan could be replacing all regular and non-regular contracts currently offered to new hires with a single open ended contract (SOEC). Under the SOEC, employment protection would increase gradually and severance pay would rise with tenure. The SOEC would imply lower job security compared to current regular employment, but higher job security compared to current non-regular employment. This kind of reform would be likely to help not only Japan but also other advanced countries. Simulations carried out by García-Perez and Osuna (2011), for example, suggest that introducing an SOEC would significantly reduce labor market duality in Spain.

The introduction of the SOEC could be complemented by a shift toward the so-called “flexicurity” model, in which the focus is on protecting workers rather than jobs. In this regard, increasing unemployment insurance benefits and strengthening programs which help the unemployed to upgrade their skills would be relevant for Japan—where occupational skill mismatches are important determinants of the unemployment rate (Shibata 2013)—as well as for some other OECD countries such as Southern European ones.

In most cases, the labor market reforms discussed in this article should be part of a broader strategy aimed at raising potential growth through structural reforms in advanced countries. In particular, by contributing to a more inclusive growth, reducing labor market duality could help generate support for structural reforms—for example, trade liberalization—which can increase potential growth in the medium term but which can involve short-term costs for some segments of the population.

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## Rating Through-The-Cycle: What Does the Concept Imply for Rating Stability and Accuracy?

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Credit ratings are often employed in fixed income portfolio composition and collateral acceptability guidelines, in bond covenants and other financial contracts, and various financial rules and regulations. Given the different needs of its various end-users, credit rating agencies (CRAs) have to strike a challenging balance between delivering stable and yet accurate credit ratings.

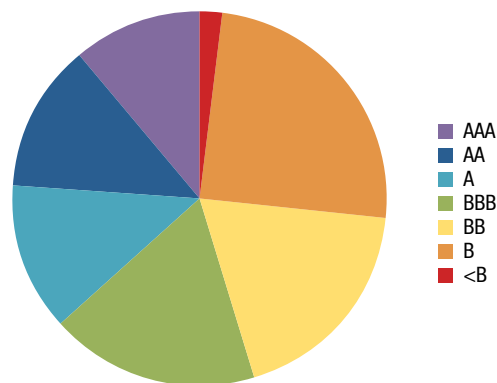
On a conceptual level, CRAs can assign ratings on either a point-in-time (PIT) or a through-the-cycle (TTC) basis. Loosely speaking, the PIT approach can be thought of as using current information when computing the default risk metrics that are mapped into ratings. Credit ratings assigned under the PIT approach should provide the most accurate estimate of future default probabilities and expected losses. On the other hand, the TTC approach is supposed to balance the need for accurate default estimates and the desire to achieve rating stability.

Altman and Rijken (2006) investigate the conflicts of interests arising from the CRAs' often competing objectives of the two approaches. Using credit-scoring models, they show that CRAs focus on a permanent credit risk component when assigning ratings. Besides, they argue that CRAs are slow in adjusting their ratings and that the slow reaction is the most important source of rating stability. Topp and Perl (2010) investigate actual corporate ratings assigned by Standard & Poor's (S&P) and show that even though the CRAs claim to only focus on a permanent risk component, actual ratings reveal cyclical patterns.

Evidence from the CRAs themselves is consistent with the above findings. In a special comment to Moody's rating users, Cantor and Mann (2006) analyze the trade-off between ratings accuracy and stability and argue that CRAs desire to deliver both accurate and stable ratings. Also, S&P's claim that "when assigning and monitoring ratings, we consider whether we believe an issuer or security has a high likelihood of experiencing unusually large adverse changes in credit quality under conditions of moderate stress. To promote rating comparability, we use hypothetical stress scenarios as benchmarks for calibrating our criteria across different sectors and over time."<sup>1</sup>

<sup>1</sup> Adelson, Hessel, Parisi and Woodell (2010) in Standard & Poor's, Global Credit Portal. Ratings Direct. Page 2

Figure 1: Empirical Rating Grade Distribution for Sovereigns as Rated by Standard & Poor's



This figure displays the distribution of sovereign ratings as of March 2012. Specifically, ratings correspond to foreign currency ratings by Standard & Poor's. Note: All figures in this article are from Kiff, Kisser, and Schumacher (2013).

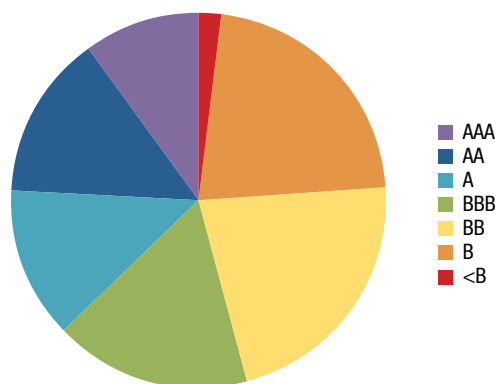
This article investigates the stability and accuracy of credit ratings within a stochastic framework (Kiff, Kisser, and Schumacher, 2013). Specifically, it first employs contingent claims analysis to simulate asset values, which are subject to both transitory and cyclical shocks. In the contingent claims analysis framework, a sovereign defaults when the value of its assets falls through a distress threshold that is related to its liabilities (Gray, Merton, and Bodie, 2007).

The simple model used here is based on Loeffler (2004) and assumes that asset values are driven by (1) the sovereign's fundamentals and (2) cyclical factor fluctuations. Conceptually, the PIT rating process involves estimating the difference between future values of the assets and liabilities ("distance to default"), and mapping this difference into a default-probability-related credit rating. A TTC rating process estimates the distance to default based on fundamental values but imposes a stress scenario on the cyclical component.

In a second stage, the CRAs typically apply a smoothing rule to rating changes to avoid overshooting or subsequent reversals. In other words, it is a two-step process in which ex-ante ratings are based on fundamentals and a stress scenario and ex-post rating changes are smoothed, and not adjusted immediately. More specifically, the factor that represents the sovereign's "fundamentals" is assumed to follow a random walk, whereas the cyclical component is assumed to follow an autoregressive process.

Figure 1 shows the distribution of actual S&P sovereign ratings. It can be seen that while most sovereigns receive an investment-grade rating, i.e., a minimum rating of BBB, the largest single fraction of sovereigns are rated B, that is below investment grade.

Figure 2: Model Implied Rating Distribution for TTC Approach



This figure displays the distribution of sovereign ratings as of March 2012. Specifically, ratings correspond to foreign currency ratings by Standard & Poor's.

Figure 3: Example of Rating Downgrades

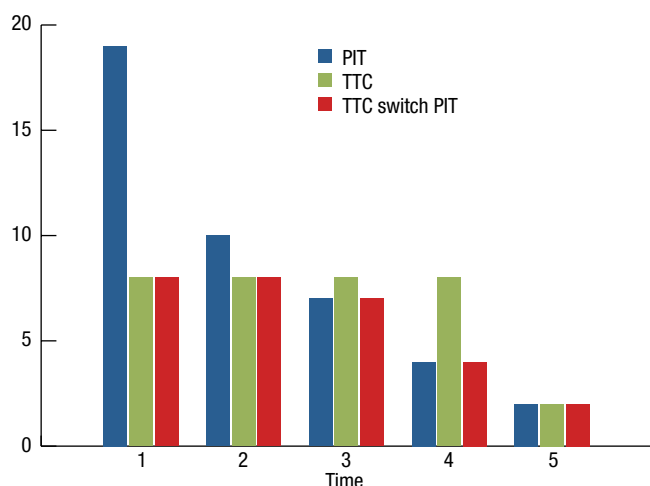


Figure 2 shows the rating distribution as implied by the TTC approach. That is, we first stress test each asset, compute the corresponding distance-to-default and map this continuous measure into discrete ratings using Moody's 5-year idealized default probabilities. Figure 2 shows that the distribution implied by the TTC approach is similar to the empirical rating distribution displayed in Figure 1 and thus provides assurance regarding the choice of the parameter values.

The main interest of this analysis lies in how ratings evolve over time and how well the two approaches predict future defaults. It therefore assumes that future asset values do not evolve according to their expected values but instead come in well below. While the PIT approach would imply immediate downgrades for this case, a CRA following the TTC

approach would typically wait to see if the deviation is only of a cyclical nature.

For example, in the case below, downgrades are assumed to occur only if (1) the rating change is expected to be persistent and (2) the implied change is larger than one notch. This is one of several smoothing rules discussed in Cantor and Mann (2006), which also accounts for the empirically documented fact that CRAs are slow in adjusting their ratings (Loeffler, 2005).

Figure 3 visualizes rating downgrades under the PIT and smoothed TTC methodologies and compares them to the case in which a CRA switches from a TTC to a PIT rating method once the initial stress scenario is breached ("unsmoothed TTC"). One can see that ratings decline faster under the PIT approach whereas a downgrade is less likely if the CRA followed a TTC approach. The intuitive reason is that TTC ratings build in a pessimistic forecast so the rating is already lower and does not have to fall as much as the more "optimistic" PIT ratings would imply.

However, as time passes the PIT rating would eventually drop below the smoothed TTC rating (Period 3), which is precisely the point when the smoothed TTC approach becomes prone to potential cliff effects. By not reacting to new information in Periods 3 and 4, the TTC ratings would drop from BB to CCC in Period 5, thereby generating a rating downgrade of four notches. From a stability perspective it would therefore be optimal if a CRA followed the TTC approach ex ante but would immediately adjust the rating once the initial forecast has been breached.

Finally, the analysis looks at how well both approaches predict future defaults by computing the cumulative accuracy profile (CAP) for defaults taking place at the end of Periods 1 and 2. "Ideal" CAP curves look almost like vertical lines because all the defaulters should be among the lowest rated issuers. The closer the CAP curve to the ideal curve, the better the discriminatory power of that CRA's ratings. Figure 4 shows that initially the TTC approach is only slightly less accurate at forecasting future defaults.

However, as time passes the PIT approach becomes clearly more accurate (see Figure 5) as it immediately incorporates new information into its ratings whereas the TTC approach only reacts with a lag owing to its smoothing policy.

In summary, the experiment has shown that, from an ex-ante viewpoint, the TTC approach produces more stable

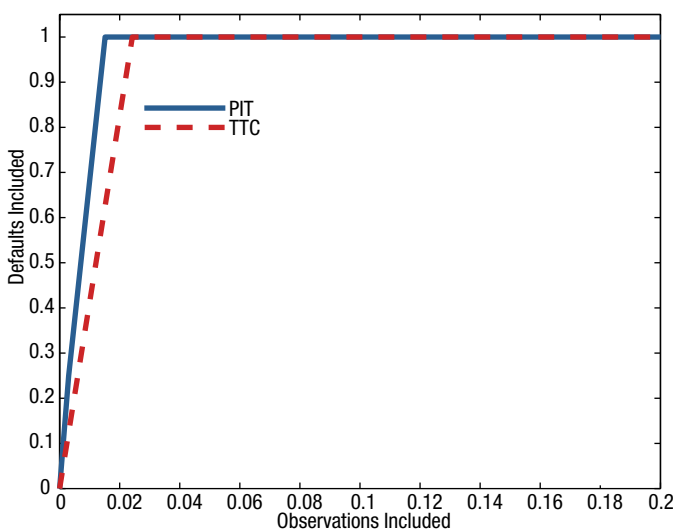
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## Rating Through-The-Cycle: What Does the Concept Imply for Rating Stability and Accuracy?

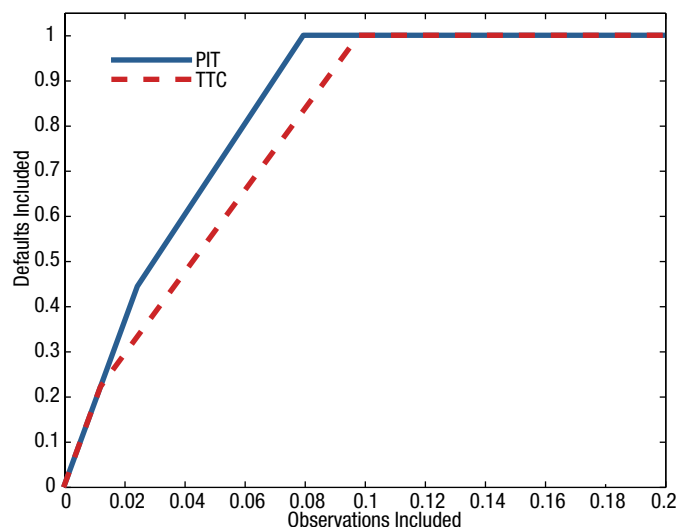
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and only slightly less accurate ratings when current net asset values are higher than in the stress scenario. However, once ratings drop below those implied by the stress scenario, the smoothed TTC approach is less accurate at predicting defaults and it runs the risk of generating rating cliff effects that may lead to dangerous second-round liquidity effects.

**Figure 4: Cumulative Accuracy Profile for Defaults at the End of Period 1**



**Figure 5: Cumulative Accuracy Profile for Defaults at the End of Period 2**



Current discussions on the usefulness of the TTC approach should therefore focus on the reaction to new information when net asset values drop below those implied by the initial stress scenario. The implementation of a “through-the-crisis” methodology, which has been mentioned by the CRAs themselves, seems to require a more severe stress test ex ante. However, it currently does not address the slow adjustment typically taking place once the cushion built in by a TTC methodology is eroded, and nor does it address the potential for cliff effects created by smoothing policies.

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## Seven Questions on Financial Crises: Perspectives from the Frontier of Research

Stijn Claessens, M. Ayhan Kose, Luc Laeven, and Fabián Valencia



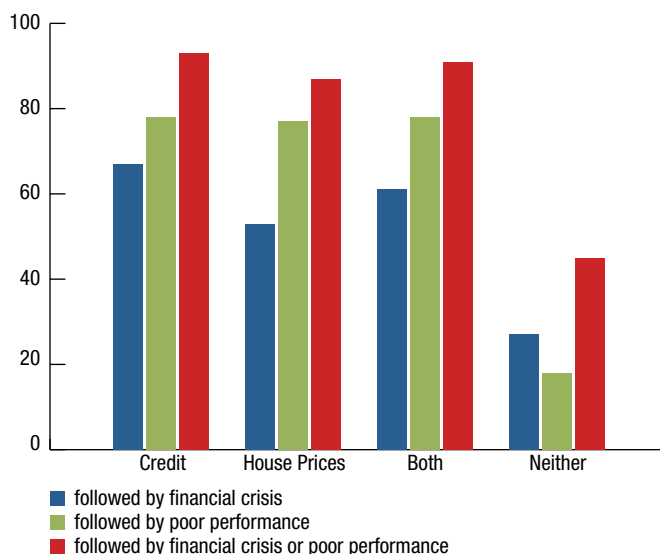
The 2007–09 global financial crisis witnessed colossal disruptions in asset and credit markets, massive erosions of wealth, and unprecedented numbers of bankruptcies. Six years after the crisis began, its lingering effects are still visible in advanced economies and emerging markets alike—this shows a clear need to improve our understanding of financial crises. In their forthcoming book, “Financial Crises: Causes, Consequences, and Policy Responses,” Stijn Claessens, M. Ayhan Kose, Luc Laeven, and Fabián Valencia provide a broad overview of the current research and bring together a number of studies on the causes and consequences of crises. This article provides brief answers to seven commonly asked questions about financial crises in light of the findings in their book.

### Question 1. What are the main factors explaining financial crises?

Financial crises can stem from problems of the private or public sectors’ balance sheets and have domestic or external origins. Irrespective of its origins, a financial crisis is often an amalgam of events, including substantial changes in credit volume and asset prices, severe disruptions in financial intermediation, notably a reduction in the supply of external financing, large scale balance sheet problems, and often a need for substantial government and international support.

Although crises can be driven by a variety of factors, they are often preceded by asset and credit booms. Busts, financial crises, and poor growth often follow such booms (Figure 1). Given these types of associations, many theoretical and empirical studies have recognized the need to explain sharp movements in asset and credit markets. These studies have been able to identify some proximate causes, such as financial liberalization, productivity gains, and a variety of distortions, such as weak supervision and regulation, underpriced deposit insurance, and poorly designed safety nets. However, many puzzles remain in terms of what factors drive asset price bubbles and credit booms in the first place.

Figure 1: Coincidence of Financial Booms and Crises (fraction of total, in percent)



Note: This graph, except in the last column, shows the percent of cases in which a crisis or poor macroeconomic performance happened after a boom was observed (out of the total number of cases where the boom occurred).  
Source: Dell’Ariccia and others (2013).

### Question 2. What are the major types of financial crises?

It is useful to classify crises into four groups: currency crises; sudden stops (in capital flows); debt crises; and banking crises. While there are many common causes, the available literature has also identified specific theoretical factors and empirical determinants of each type of crisis. It has sometimes been difficult to transform the predictions of theories into empirical applications, including practical ways to identify crises. While it is easy, for example, to design quantitative methods to identify currency crises and sudden stops, the identification of debt and banking crises remains typically based on qualitative and judgmental methods. The literature therefore employs a wide range of methods to identify and classify crises.

While there are issues with establishing a timeline, it is clear that financial crises are quite common and tend to

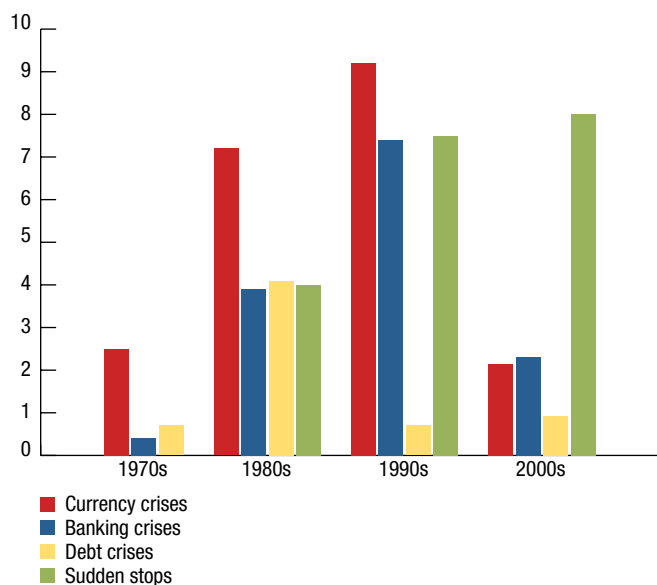
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## Seven Questions on Financial Crises Perspectives from the Frontier of Research

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Figure 2: Average Number of Financial Crises over Decades



Note: This graph shows the average number of financial crises in respective decades. Sources: The dates of banking, currency, and debt crises are from Laeven and Valencia (2013) and the dates of sudden stops are from Forbes and Warnock (2012).

cluster over time (Figure 2). They also tend to hit small and large countries as well as poor and rich ones. History also shows that crises come in different shapes and sizes, evolve over time—with certain types being more important in some periods than others—and can rapidly spread across borders (as they did in the 2007–09 global financial crisis).

Irrespective of the classification used, different types of crises can often overlap. Many banking crises, for example, are associated with sudden stop episodes and currency crises. The overlap of multiple types of crises leads to further challenges for the identification of crises and examination of their underlying causes. For example, since banking and sovereign crises often coincide, it is difficult to answer definitively whether a banking crisis leads to a sovereign crisis or vice-versa.

### Question 3. What are the real and financial sector implications of crises?

Macroeconomic and financial implications of crises are typically severe, with many commonalities across vari-

ous types. Recessions with large output losses are common to many crises. Other macroeconomic variables typically register significant declines as well. Financial variables, such as asset prices and credit, usually follow qualitatively similar patterns across crises, albeit with variations in terms of duration and severity. Besides their negative effects over the short run, financial crises often have adverse medium- to long-run effects on activity.

### Question 4. How severe are the medium- and long-term effects of crises?

The effects of financial crises on the real economy are quite persistent. Output tends to be depressed substantially and persistently following banking crises, with no rebound, on average, to the pre-crisis trend in the medium term. However, growth eventually returns to its pre-crisis rate for most economies. The depressed output path tends to result from long-lasting reductions of roughly equal proportions in the employment rate, the capital-to-labor ratio, and total factor productivity. In the short term, the output loss is mainly accounted for by total factor productivity losses, but, unlike the employment rate and capital-to-labor ratio, the level of total factor productivity recovers somewhat to its pre-crisis trend in the medium term.

### Question 5. What are the main policies to resolve banking crises?

The policies used to remedy the consequences of a banking crisis can be grouped into two sets. The first involves what are often called containment policies, which are deployed during the early stages of a banking crisis. This phase is often characterized by deteriorating sentiment on the viability of the financial system and the economic prospects of the country in the short term. It may involve runs on banks, on entire markets, and even runs on the domestic currency. Typically, at this stage it is difficult to tell whether the crisis reflects just liquidity shortages or solvency problems. In order to buy time to determine the true nature of the crisis, governments resort to policies such as emergency liquidity provision to banks, other financial intermediaries, and even entire markets. They often announce guarantees on bank liabilities and in extreme cases governments use deposit freezes and capital controls.

The second set of policies encompasses the resolution phase. By this stage governments have had time to design a plan to address solvency problems and enact any necessary changes in legislation or secured funding for the restructur-

ing of the financial sector. This phase includes policies such as recapitalization of banks with public funds, closure of insolvent institutions, restructuring of viable ones, setting new institutional arrangements such as asset management companies, as well as restructuring of private debt.

Not all policies mentioned above are used in every crisis, but they are all the most common policies that are used in remedying the effects of a banking crisis. The effect of interventions on economic costs and the fiscal accounts depends, to a large extent, on the policy mix. The use of guarantees on bank liabilities can contain liquidity pressures on banks, for example, without involving a disbursement of public funds upfront, but with potentially substantial fiscal contingencies, although they may not necessarily materialize. In contrast, direct capital injections have a certain impact on the public purse upfront, but some of these resources can be recovered in the future when public shareholdings are returned to private hands. The timing of the policy mix can also affect the fiscal costs of a crisis. If macroeconomic policies are used to avoid a sharp contraction in activity, this may discourage more active bank restructuring that would allow banks to recover more quickly and renew lending, with the risk of prolonging the crisis and depressing growth for a prolonged period of time. This, in turn, can increase indirect fiscal and economic costs.

### Question 6. What is the importance of household debt restructuring as a tool to resolve crises?

The historically high levels of household debt in many recent crisis-hit countries heightened demands for government intervention. If unaddressed, household debt distress can be a drain on the economy and even lead to social unrest. Well-designed and well-executed government interventions may be more efficient than leaving debt restructuring to the marketplace and standard court-based resolution tools. Empirically, there is evidence that housing busts and recessions preceded by larger run-ups in household debt tend to be more severe and protracted. Government policies can help prevent prolonged contractions in economic activity by addressing the problem of excessive household debt. In particular, bold household debt-restructuring programs such as those implemented in the United States in the 1930's and in Iceland in the aftermath of the global crisis can significantly reduce debt-repayment burdens and the number of household defaults and foreclosures.

### Question 7. Can future crises be avoided?

Banking crises have affected countries for centuries and history has been a great laboratory for academics and policy-makers to study early detection of crises, their consequences on the real economy, and the effectiveness of policies used to resolve them. Progress has been made in all these directions, but not sufficiently to claim that they can be avoided at all costs. Nevertheless, important lessons have been learned about vulnerabilities, the role of excessive credit growth—perhaps the single most important predictor of a banking crisis—the role of excessive maturity mismatches, and excessive exposure to exchange rate risk. While not perfect, these lessons will be important in designing regulatory policies and reducing the incidence of crises in the future; one concrete example includes advances in the design of macroprudential regulation.

However, just as the policy toolkit evolves, the nature of crises evolves as well. Complexity in financial markets and institutions makes the identification of vulnerabilities more challenging. Therefore, efforts on crisis prevention are important, but it is unlikely that they will ever reach a level of effectiveness as to eradicate crises completely.

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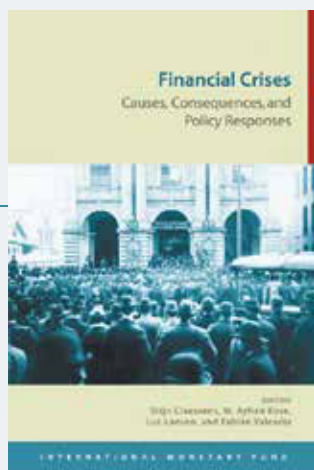
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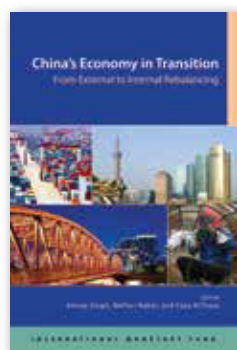
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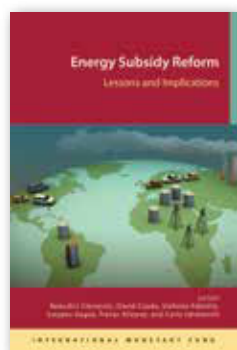


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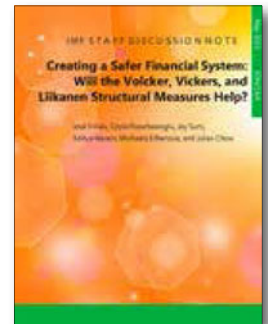
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