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Reinhart, Carmen

University of Maryland, College Park, Department of Economics

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Financial crash, commodity prices and global imbalances: A comment

by Ricardo Caballero, Emmanuel Farhi, Pierre-Olivier Gourinchas

Brookings Papers on Economic Activity, 2009.

Comment: Carmen M. Reinhart

University of Maryland, NBER, and CEPR

I appreciate the opportunity to discuss this paper by Ricardo Caballero, Emmanuel Farhi, and Pierre-Olivier Gourinchas. This paper was described to me as a mix of theoretical and empirical work that attempts a hat trick: explaining the joint combination of global imbalances, the deflation of the housing price bubble that created the subprime crisis, and volatile oil prices. Given the scope of this undertaking, it is not really surprising that the authors deliver only on the theoretical part—the empirical analysis takes up only about 5 of the paper’s 55 pages. Because this is a paper mainly about theory, I will devote my comments mostly to the framework the authors present, with particular emphasis on the basic assumptions made.

The paper rests on two building blocks familiar from the authors’ earlier work. First, emerging market economies are increasing their demand for sound and liquid financial assets over time. Essentially, the residents of those countries want a safe store for their newfound wealth. This demand is treated by the authors entirely as a private sector phenomenon, but governments play a role because safe, liquid assets are in scarce supply. Indeed, one government alone, that of the United States, creates the Treasury instruments that are especially prized in investors’ portfolios.¹ Second, fluctuations in commodity prices (or oil prices—the authors refer to both interchangeably) are explained to an important extent by speculative hoarding.

The model that the authors build to explain these features can be described succinctly. There are two regions. One, the United States, is endowed with “trees.” The other, the emerging market economies, has a fixed endowment of an unspecified commodity. Only these two goods exist, and people in both regions consume both. Little trees grow at a positive rate. Commodity supplies do not grow at all. The last two assumptions imply a secular increase in the stock of trees relative to that of the commodity, so that the price of the latter rises over time.

The inconvenient fact, however, is that the actual run-up in world commodity prices relative to the prices of other goods is a very recent phenomenon (which in recent months has abruptly unraveled). In fact, since about the turn of the eighteenth century, real commodity prices have been on a secular decline, as shown in my figure 1, taken from a recent paper I co-wrote with Kenneth Rogoff.² Thus, the model is broadly at odds with the big picture that emerges from this roughly two-and-a-quarter-century history. However, since this implication of the model fits well with the *cyclical* pattern of commodity prices between about 2000 and 2007 (the period the authors are most interested in explaining), I will focus my remarks on some of the core model’s other simplifying assumptions that I find more problematic.

Figure 1. Real Commodity Prices, 1790–2007



Source: Carmen M. Reinhart and Kenneth Rogoff, *This Time Is Different: Eight Centuries of Financial Folly* (Princeton University Press, forthcoming), drawing on various sources.

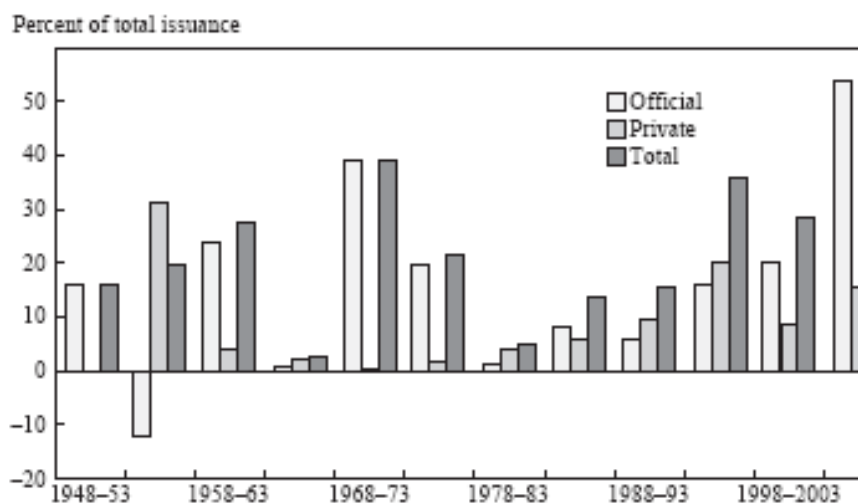
THE MODEL LACKS A FINANCIAL SECTOR

The paper purports to examine a financial crash, and the word “financial” is used liberally throughout. Dictionary.com defines “financial” as “1. pertaining to monetary receipts and expenditures; pertaining or relating to money matters; pecuniary: financial operations; 2. of or pertaining to those commonly engaged in dealing with money and credit.” Thus, the authors’ use of the word is difficult to reconcile with the fact that their model is a real model, with neither money, nor credit, nor financial intermediaries, nor exchange rates—in short, without a financial sector.

THE MODEL LACKS AN OFFICIAL SECTOR

Further, lacking a financial sector, the model has no scope for the stockpiling of international reserves by the central banks of emerging market economies. Yet given that the worst financial crises of the late 1990s originated in emerging markets (followed in the next decade by crises in Argentina and Uruguay), it is worth noting that the key driver of the demand for U.S. Treasury securities *from emerging markets* has been the official sector (central banks trying to build a war chest), not the private sector as stressed in the model. Private demand for U.S. assets in the run-up to the 2007 crisis came primarily from other developed economies. The clear manifestation of the United States' "exorbitant privilege" can be seen in the fact that foreign official acquisitions of U.S. government securities have accounted for an increasing share of total issuance (figure 2).

Figure 2. Foreign Purchases of U.S. Government Securities, 1948–2008*



Source: Carmen M. Reinhart and Vincent Reinhart, "Is the US Too Big to Fail?" (VoxEU, 2008).
www.voxeu.com/index.php?q=node/2568
a. As reported in the Federal Reserve's Flow of Funds Accounts.

This massive accumulation of foreign exchange reserves would seem central to understanding recent developments regarding the global imbalances between the developed economies and emerging markets—notably in Asia, as Vincent Reinhart and I have discussed elsewhere.³ This role for the official sector is something that the authors may want to incorporate in a future variant of their framework, as it provides another important argument for one of their central premises, namely, that “safe assets” are in short supply in emerging markets.

THE DETERMINANTS OF SAVING ARE OVERSIMPLIFIED

To explain aggregate saving, the authors have to assume that it results from the birth of new generations and the return on accumulated savings. There is no role for financial liberalization (and the related issue of liquidity constraints) or wealth effects.⁴ Specifically, the only way the saving rate can decrease in the model is with an increase in the death rate. How can such a model possibly explain the roughly 7-percentage-point reduction in the U.S. saving rate over the past two decades? In light of the model’s emphasis on crossborder saving differentials and asset demands, revisiting this rather restrictive premise is called for.

THERE IS NO UNCERTAINTY IN THE MODEL

Lastly, there is no uncertainty in the authors’ model, and thus no reason for a risk premium to exist, let alone to rise during a crisis, and the value of the nonstorable good as collateral should always be known. Hence the key event analyzed in the model is hard to

reconcile with the model. We are told that a subprime shock “can be interpreted as the realization that financial instruments are less sound than they were previously perceived to be.” In the absence of financial instruments and uncertainty, it is hard to imagine how such a shock would take place.

In fact, the subprime crisis as depicted in the model is an exogenous and adverse terms-of-trade shock. The structure of the model precludes overborrowing, leveraging, or excessive risk taking. Similarly ruled out are herding behavior by investors and the nonlinearities that produce self-fulfilling prophecies. Thus, absent in this framework are any of the mechanisms crucial to this or any other financial crisis. As for the key mechanism, the U.S. terms of trade, its decline began in 1999, and so it matches neither the timing nor the magnitude of the current financial crisis.

I find this an important paper that offers two key insights. The first is the importance of understanding the scarcity of safe “saving vehicles” in the emerging (and the not-so-emerging) world, and of the United States’ as the provider of such assets. (The stampede into U.S. Treasury securities in the fall of 2008 attests to this scarcity.)⁵ The second is that this scarcity is related to the commodity price dynamics of recent years. This is not, however, a framework that lends itself to explaining or understanding *financial crashes* in general. In particular, it does not add to our understanding of traditional banking crises or the problems that produced the current subprime crisis.

My preferred diagnosis of the subprime financial crisis in the United States is spelled out simply in the following quotation: “[Overindebtedness] may be started by many causes, of which the most common appears to be *new opportunities to invest at a big prospective profit . . .* such as through new inventions, new industries, development of new resources, opening of new lands or new markets. Easy money is the great cause of over-borrowing.” That the essence of the problem can be captured so simply is encouraging. What is discouraging is that this insight was made by Irving Fisher in 1933.⁶ Crises recur, but the best explanations are eternal.

Endnotes

1. An influential paper by Gourinchas and H el ene Rey, “From World Banker to World Venture Capitalist: US External Adjustment and the Exorbitant Privilege,” Working Paper 11563 (Cambridge, Mass.: National Bureau of Economic Research, 2005), examines the consequences of this “exorbitant privilege” (a phrase that, the authors note, originated not with Charles de Gaulle, as is commonly held, but with his then-finance minister Val ery Giscard d’Estaing) whereby the United States alone is able to issue what are viewed as the safest of assets.
2. Carmen M. Reinhart and Kenneth Rogoff, *This Time Is Different: Eight Centuries of Financial Folly* (Princeton University Press, forthcoming).
3. Carmen M. Reinhart and Vincent Reinhart, “Is the US Too Big to Fail?” (VoxEU, 2008). www.voxeu.com/index.php?q=node/2568.
4. See Klaus Schmidt-Hebbel and Luis Serv en, “Saving across the World: Puzzles and Policies,” Discussion Paper 354 (Washington: World Bank, 1997), for cross-country evidence on these issue.
5. See Reinhart and Reinhart, “Is the US Too Big to Fail?” on this episode: “If this had happened to any other government in the world whose national financial institutions were in as deep disarray as those of the US, investors would have run for the hills—cutting off the offending nation from global capital markets. But for the US, just the opposite has happened. Rather than facing prohibitive costs of raising funds, US Treasury Bills have seen yields *fall* in absolute terms and markedly in relative terms to the yields on private instruments. This has been called a ‘flight to safety.’ But why do global investors rush into a burning building at the first sign of smoke?”
6. Irving Fisher, “The Debt-Deflation Theory of Great Depressions,” *Econometrica* 1, no. 4 (1933): 348 (italics in original).

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- Fisher, Irving, "The Debt-Deflation Theory of Great Depressions," *Econometrica* 1, no. 4 (1933)
- Gourinchas, Pierre-Olivier, and H el ene Rey, "From World Banker to World Venture Capitalist: US External Adjustment and the Exorbitant Privilege," Working Paper 11563 (Cambridge, Mass.: National Bureau of Economic Research, 2005).
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