The crisis of 2008: structural lessons for and from economics

Daron Acemoglu MIT and CEPR

le do not yet know whether the global financial and economic crisis of 2008 will go down in history as a momentous or even uniquely catastrophic event. Unwritten history is full of events that contemporaries thought were epochal and are today long forgotten. And on the other side of the scale, there were many in the early stages of the Great Depression that belittled its import. Though it is too soon to tell how the second half of 2008 will feature in history books, there should be no doubt that it signifies a critical opportunity for the discipline of economics. It is an opportunity for us - and here I mean the majority of the economics profession, unfortunately myself included to be disabused of certain notions that we should not have so accepted in the first place. It is also an opportunity for us to step back and consider what the most important lessons we have learned from our theoretical and empirical investigations - that remain untarnished by recent events – are and ask whether they can provide us with guidance in current policy debates.

Our belief in a more benign economy made us more optimistic about the stock market and the housing market.

This *Policy Insight* first provides my views on what intellectual errors we have made and what lessons these errors offer us moving forward. My main objective, however, is not to dwell on the intellectual currents of the past, but to stress that economic theory still has a lot to teach us and policy makers as we make our way through the crisis. I would like to argue that several economic principles related to the most important aspect of economic performance, the long-run growth potential of nations, are still valid and hold important lessons in our intellectual and practical deliberations on policy. But, curiously, these principles have played little role in recent academic debates and have been entirely absent in policy debates. As academic economists, it is these

principles and the implications of current policies for the growth potential of the global economy that we should be reminding policymakers of.

Lessons from our intellectual complaisance

The crisis is still evolving and there remains much uncertainty about what happened in the financial markets and inside many corporations. We will know more in the years to come. Already with what we know today, many of the roots of our current problems are apparent. But most of us did not recognise them before the crisis. Three notions impelled us to ignore these impeding problems and their causes.

The first is that the era of aggregate volatility had come to an end. We believed that through astute policy or new technologies, including better methods of communication and inventory control, the business cycles were conquered. Our belief in a more benign economy made us more optimistic about the stock market and the housing market. If any contraction must be soft and short lived, then it becomes easier to believe that financial intermediaries, firms and consumers should not worry about large drops in asset values.

Even though the data robustly show a negative relationship between income per capita of an economy and its volatility and many measures did show a marked decline in aggregate volatility since the 1950s, and certainly since the prewar era, these empirical patterns neither mean that the business cycles have disappeared nor that catastrophic economic events are impossible. The same economic and financial changes that have made our economy more diversified and individuals firms better insured have also increased the interconnections among them. Since the only way diversification of idiosyncratic risks can happen is by sharing these risks among many companies and individuals, better diversification also creates a multitude of counter-party relationships. Such interconnections make the economic system more robust against small shocks because new financial products successfully diversify a wide range of idiosyncratic risks and reduce business failures. But they also make the economy more vulnerable to certain lowprobability, tail events precisely because the intercon-

Author's note

1 thank David Autor, Ricardo Caballero, Simon Johnson, Bengt Holmstrom and James Poterba for comments. Needless to say, all opinions expressed here are mine.

nections that are an inevitable precipitate of the greater diversification create potential domino effects among financial institutions, companies and households. In this light, perhaps we should not find it surprising that years of economic calm can be followed by tumultuous times and notable volatility.

The same economic and financial changes that have made our economy more diversified and individuals firms better insured have also increased the interconnections among them.

There is another sense in which the myth of the end of the business cycle is at odds with fundamental properties of the capitalist system. As Schumpeter argued long ago, the workings of the market system and the innovation dynamics that constitute its essence involve a heavy dose of creative destruction, where existing firms, procedures and products are replaced by new ones. Much of creative destruction takes place at the micro level, but not all of it. Many companies are large and replacement of their core businesses by new firms and new products will have aggregate implications. Moreover, many general-purpose technologies are shared by diverse companies in different lines of businesses, so their failure and potential replacement by new processes will again have aggregate ramifications. Equally importantly, businesses and individuals make decisions under imperfect information and potentially learning from each other and from past practices. This learning process will introduce additional correlation and co-movement in the behaviour of economic agents, which will also extend the realm of creative destruction from the micro to the macro.

The large drops in asset values and the simultaneous insolvencies of many companies should alert us that aggregate volatility is part and parcel of the market system. Understanding that such volatility will be with us should redirect our attention towards models that help us interpret the various sources of volatility and delineate which components are associated with the efficient working of markets and which others result from avoidable market failures. A more in-depth study of aggregate volatility also necessitates conceptual and theoretical investigations of how the increasingly interconnected nature of our economic and financial system affects the allocation of resources and the allocation and sharing of risks of both companies and individuals.

Our second too-quickly-accepted notion is that the capitalist economy lives in an institutional-less vacuum, where markets miraculously monitor opportunistic behaviour. Forgetting the institutional foundations of markets, we mistakenly equated free markets with unregulated markets. Although we understand that even unfettered competitive markets are based on a set of laws and institutions that secure property rights, ensure enforcement of contracts, and regulate firm behaviour and product and service quality, we increasingly abstracted from the role of institutions and regulations supporting market transactions in our conceptu-

alisation of markets. Sure enough institutions have received more attention over the past 15 years or so than before, but the thinking was that we had to study the role of institutions to understand why poor nations were poor, not to probe the nature of the institutions that ensured continued prosperity in the advanced nations and how they should change in the face of ever evolving economic relations. In our obliviousness to the importance of market-supporting institutions we were in sync with policymakers. They were lured by ideological notions derived from Ayn Rand novels rather than economic theory. And we let their policies and rhetoric set the agenda for our thinking about the world and worse, perhaps, even for our policy advice. In hindsight, we should not be surprised that unregulated profitseeking individuals have taken risks from which they benefit and others lose.

But we now know better. Few among us will argue today that market monitoring is sufficient against opportunistic behaviour. Many inside and outside academia may view this as a failure of economic theory. I strongly disagree with this conclusion. On the contrary, the recognition that markets live on foundations laid by institutions - that free markets are not the same as unregulated markets - enriches both theory and its practice. We must now start building a theory of market transactions that is more in tune with their institutional and regulatory foundations. We must also turn to the theory of regulation - of both firms and financial institutions - with renewed vigour and hopefully additional insights gained from current experience. A deep and important contribution of the discipline of economics is the insight that greed is neither good nor bad in the abstract. When channelled into profit-maximising, competitive and innovative behaviour under the auspices of sound laws and regulations, greed can act as the engine of innovation and economic growth. But when unchecked by the appropriate institutions and regulations, it will degenerate into rent-seeking, corruption and crime. It is our collective choice to manage the greed that many in our society inevitably possess. Economic theory provides guidance in how to create the right incentive systems and reward structures to contain it and turn it into a force towards progress.

When channelled into profit-maximising, competitive and innovative behaviour under the auspices of sound laws and regulations, greed can act as the engine of innovation and economic growth

The third notion that has also been destroyed by recent events is at first less obvious. It is also one that I strongly believed in. Our logic and models suggested that even if we could not trust individuals, particularly when information was imperfect and regulation lacklustre, we could trust the long-lived large firm s – companies such as the Enron's, the Bear Stearn's, the Merrill Lynch's, and the Lehman Brothers's of this world – to

monitor themselves and their own because they had accumulated sufficient reputation capital. Our faith in long-lived large organisations was shaken but still standing after the accounting scandals in Enron and other giants of the early 2000s. It may now have suffered the death blow.

Our logic and models suggested that even if we could not trust individuals, we could trust the long-lived large firms to monitor themselves and their own because they had accumulated sufficient reputation capital.

Our trust in the self-monitoring capabilities of organisations ignored two critical difficulties. The first is that even within firms, monitoring must be done by individuals - the chief executives, the managers, the accountants. And in the same way as we should not have blindly trusted the incentives of stockbrokers willing to take astronomical risks for which they were not the residual claimants, we should not have put our faith in individuals monitoring others simply because they were part of larger organisations. The second is even more troubling for our way of thinking about the world: reputational monitoring requires that failure should be punished severely. But the scarcity of specific capital and knowhow means that such punishments are often non-credible. The intellectual argument for the financial bailout of the Fall 2008 has been that the organisations that are clearly responsible for the problems we are in today should nonetheless be saved and propped up because they are the only ones that have the specific capital to get us out of our current predicament. This is not an invalid argument. Neither is it unique to the current situation. Whenever the incentives to compromise integrity, to sacrifice the quality, and to take unnecessary risks are there, most companies will do so in tandem. And because the ex post vacuum of specific skills, capital and knowledge that their punishment will create make such a course of action too costly for the society, all kinds of punishments lose their effectiveness and cred-

The lessons for our thinking from this chain of reasoning are twofold. First, we need to rethink the role of the reputations of firms in market transactions taking the general equilibrium – the scarcity value of their skills and expertise when reputations of several of them fail simultaneously – into account. Second, we need to revisit the key questions of the economics of organisation so that firm reputations should be derived from the behaviour – and interactions – of directors, managers and employees, rather than from that of the hypothetical principal maximising the net present discounted value of the firm.

When we look at the academic tally, we can always blame ourselves for missing important economic insights and not being more farsighted than policymakers. We can even blame ourselves for being complicit in the intellectual atmosphere leading up to the current disaster. But on the bright side, the crisis has increased

the vitality of economics and highlighted several challenging, relevant and exciting questions . These range from the ability of the market system to deal with risks, interconnections and the disruptions brought about by the process of creative destruction to issues of a better framework for regulation and the relationship between underlying institutions and the functioning of markets and organisations. It should be much less likely in the decade to come for bright young economists to worry about finding new and relevant questions to work on.

Lessons from our intellectual endowment

Although various notions we held dear need rethinking, several other principles that are part of our intellectual endowment are useful for understanding how we got here and for forewarning us against the most important policy mistakes in our – and more importantly in policymakers' – attempts to deal with the crisis. Perhaps not surprisingly given my own intellectual background, I think these principles are related to economic growth and political economy.

On the bright side, the crisis has increased the vitality of economics and highlighted several challenging, relevant and exciting questions

First, it is obvious why we should heed issues of economic growth. Barring a complete meltdown of the global system, even with the ferocious severity of the global crisis, the possible loss of GDP for most countries is in the range of a couple of percentage points, and most of this might have been unavoidable given the overexpansion of the economy in the prior years. In contrast, modest changes in economic growth will cumulate to much larger numbers within one decade or two. Thus, from a policy and welfare perspective, it should be self-evident that sacrificing economic growth to deal with the current crisis is a bad option .

Economic growth deserves our attention not only because of its greater import in meaningful welfare calculations, but also because many aspects of growth and its main sources are reasonably well understood. There is broad theoretical and empirical agreement on the roles of physical capital, human capital and technology in determining output and growth. But equally, we also understand the role that innovation and reallocation play in propagating economic growth and we recognise the broad outlines of the institutional framework that makes innovation, reallocation and long-run growth possible.

Recent events have not shed doubt on the importance of innovation. On the contrary, we have enjoyed prosperity over the past two decades because of rapid innovations – quite independent from financial bubbles and troubles. We witnessed a breakneck pace of new innovations in software, hardware, telecommunications, pharmaceuticals, biotechnology, entertainment, and retail and wholesale trade. These innovations are responsible for the bulk of the increases in aggregate

productivity we enjoyed over the past two decades. Even the financial innovations, which are somewhat tainted in the recent crisis, are in most cases socially valuable and have contributed to growth. Complex securities were misused to take risks with the downside being borne by unsuspecting parties. But when properly regulated, they also enable more sophisticated strategies for risk sharing and diversification. They have enabled and will ultimately again enable firms to reduce the cost of capital. Technological ingenuity is the key to the prosperity and success of the capitalist economy . New innovations and their implementation and marketing will play a central role in renewed economic growth in the aftermath of the crisis.

The other pillar of economic growth is reallocation. Because innovation often comes in the form of Schumpeterian creative destruction, it will involve production processes and firms relying on old technologies being replaced by the new. This is only one aspect of capitalist reallocation, however. Volatility that is part of the market economy also exhibits itself by incessantly changing which companies and which services have greater productivity and greater demand. Such volatility, perhaps strengthened now more than ever because of the greater global interconnections, is not a curse against which we should defend ourselves, but for the most part an opportunity for the market economy. By reallocating resources to where productivity and demand are, the capitalist system can exploit volatility. The developments of the last two decades again highlight the importance of reallocation, since economic growth, as usual, did take place in tandem with output, labour and capital moving away from many established companies towards their competitors, often foreign competitors, and from sectors in which the US and other advanced countries ceased to have comparative advantage toward those where their advantages became stronger.

From a policy and welfare perspective, it should be self-evident that sacrificing economic growth to deal with the current crisis is a bad option

The final principle that I would like to emphasise relates to the political economy of growth. Economic growth will only take place if the society creates the institutions and policies that encourage innovation, reallocation, investment, and education. But such institutions should not be taken for granted. Because of the reallocation and creative destruction brought about by economic growth, there will always be parties, often strong parties, opposed to certain aspects of economic growth. In many less-developed economies, the key aspect of the political economy of growth is to ensure that incumbent producers, elites and politicians do not hijack the political agenda and create an environment inimical to economic progress and growth. Another threat to the institutional foundations of economic growth comes from its ultimate beneficiaries. Creative destruction and reallocation not only harm established businesses but also their workers and suppliers, sometimes even destroying the livelihood of millions of workers and peasants. It is then easy for impoverished populations suffering from adverse shocks and economic crises – particularly in societies where the political economy never generated an effective safety net – to turn against the market system and support populist policies that will create barriers against economic growth. These threats are as important for advanced economies as they are for less-developed countries, particularly in the midst of the current economic crisis.

Technological ingenuity is the key to the prosperity and success of the capitalist economy. New innovations and their implementation and marketing will play a central role in renewed economic growth in the aftermath of the crisis.

The importance of political economy has also been underscored by recent events. It is difficult to tell the story of the failure of regulation of investment banks and the financial industry at large over the past two decades and of the bailout plan approved without some reference to political economy. The US is not Indonesia under Suharto or the Philippines under Marcos. But we do not need to go to such extremes to imagine that when the financial industry contributes millions to the campaigns of Senators and Congressmen that it will have an acute influence on policies that influence its livelihood or that investment bankers setting up - or failing to set up as the case may be - the regulations for their former partners and colleagues without oversight will likely lead to political economy problems. It is also difficult to envisage a scenario in which current and future policies will not be influenced by the backlash against markets that those who have lost their houses and livelihoods feel at the moment.

Absent lessons

The design of policies to contain and end the global crisis has considered many economic factors. But their impacts on long-run economic growth, innovation, reallocation and political economy have been conspicuous in their absence in the ensuing debate.

A large stimulus plan that includes bailouts for banks, the financial sector at large, auto manufacturers and others will undoubtedly influence innovation and real-location. This is no reason for not endorsing the stimulus plan, but it is important to consider its full set of implications. Reallocation will clearly suffer as a result of many aspects of the current stimulus plan. Market signals suggest that labour and capital should be real-located away from the Detroit Big Three and highly skilled labour should be reallocated away from the financial industry towards more innovative sectors. The latter reallocation is critically important in view of the fact that the Wall Street attracted many of the best (and most ambitious) minds over the past two decades and

JANUARY 2009 5

we now realise that though these bright young minds have contributed to financial innovation, they also used their talents for devising new methods of taking large risks, the downside of which they would not bear. Halted reallocation will also mean halted innovation.

Market signals suggest that labour and capital should be reallocated away from the Detroit Big Three and highly skilled labour should be reallocated away from the financial industry towards more innovative sectors.

There are several additional areas of potential innovation that may directly suffer as a result of the current crisis and our policy responses to it. Improvements in retail and wholesale trade and service delivery will undoubtedly slow down as consumer demand contracts. A key area of innovation for the next decade and beyond, energy may also become a casualty. The demand for alternative energy sources was strong before the crisis and promised a platform, similar to that we enjoyed in computing, pharmaceuticals and biotechnology, with powerful synergies between science and profits. With the decline in oil prices and the odds turning against the much-needed tax on gasoline, some of the momentum is undoubtedly lost. If bailouts are not tied to the appropriate reorganisation of the auto companies, then another important aspect of the drive towards new energy-efficient technologies will have been squandered as well.

All these concerns are not sufficient to make us refrain from a comprehensive stimulus plan. In my view, however, the reason for this is not to soften the blow of the recession but is again related to economic growth. The risk that we face is one of an expectational trap consumers and policymakers becoming pessimistic about future growth and the promise of markets. We do not understand expectational traps well enough to know how exactly they happen and what economic dynamics they unleash. And yet, this does not deny the dangers that they pose. Consumers delaying purchases of durable goods can certainly have major effects, particularly when inventories are already high and credit is tight. An expectational trap of this sort would deepen and lengthen the recession and create extensive business failures and liquidation rather than the necessary creative destruction and reallocation.

In my opinion, however, the greater danger from an expectational trap and a deep recession lies elsewhere. We may see consumers and policymakers start believing that free markets are responsible for the economic ills of today and shift their support away from the market economy. We would then see the pendulum swing too far, taking us to an era of heavy government involvement rather than the needed foundational regulation of free markets. I believe that such a swing and the antimarket policies that it would bring would be the real threat to the future growth prospects of the global economy. Restrictions on trade in goods and services would be a first step. Industrial policy that stymies real-

location and innovation would be a second equally damaging step. When the talk is of bailing out and protecting selected sectors, more systematic proposals on trade restrictions and industrial policy may be around the corner.

A comprehensive stimulus plan, even with all of its imperfections, is probably the best way of fighting off these dangers, and on balance, there are sufficient reasons for academic economists as well as concerned citizens to support current efforts as insurance against the worst outcomes we may face. Nevertheless, the details of the stimulus plan should be designed so as to cause minimal disruption to the process of reallocation and innovation . Sacrificing growth out of our fear of the present would be as severe a mistake as inaction.

The risk that the belief in the capitalist system may collapse should not be dismissed. After all, the past two decades were heralded as the triumph of capitalism, so their bitter aftermath must be the failure of the capitalist system. It should be no surprise that I disagree with this conclusion, since I do not think the success of the capitalist system can be found in or was based upon unregulated markets. As I mentioned above, what we are experiencing is not a failure of capitalism or free markets per se, but the failure of unregulated markets in particular, of unregulated financial sector and risk management. As such, it should not make us less optimistic about the growth potential of market economies - provided that markets are based on solid institutional foundations. But since the rhetoric of the past two decades equated capitalism with lack of regulation, this nuance will be lost on many who have lost their houses and jobs.

The risk that we face is one of an expectational trap – consumers and policymakers becoming pessimistic about future growth and the promise of markets.

A backlash is thus inevitable. The question is how to contain it. Yet the policy responses of the past several months have only made matters worse. It is one thing for the population at large to think that markets do not work as well as the pundits promised. It is an entirely different level of disillusionment for them to think that markets are just an excuse for the rich and powerful to fill their pockets at the expense of the rest. But how could they think otherwise when the bailouts have been designed by bankers to help bankers and to minimise damage on those responsible for the debacle in the first place?

This is not the place to formulate concrete proposals to improve the stimulus and bailout packages nor do l have that expertise. Although the economics profession was partly complicit in the build-up of the current crisis, we still have important messages for policymakers. They are not on the details of the bailout plan, on which many pundits are only too keen to express opinion, but on the long-run perspective. We should instead be vocal in emphasising the implications of current pol-

icy proposals on innovation, reallocation and political economy foundations of the capitalist system. Economic growth ought to be a central part of the discussion, not an afterthought

Daron Acemoglu is the Charles P. Kindleberger Professor of Applied Economics at MIT and winner of the biannual 2005 John Bates Clark Medal for the best economist under 40, and co-editor of *Econometrica*, *Review of Economics and Statistics*, and associate editor of the *Journal of Economic Growth*. He has published numerous articles on the role of institutions in growth, political economy, economic development, economic growth, technology, income and wage inequality, human capital and training, and labour economics. His most recent works concentrate on the role of institutions in economic development and political economy. He is a CEPR Research Fellow.

The Centre for Economic Policy Research, founded in 1983, is a network of over 700 researchers based mainly in universities throughout Europe, who collaborate through the Centre in research and its dissemination. The Centre's goal is to promote research excellence and policy relevance in European economics. CEPR Research Fellows and Affiliates are based in over 237 different institutions in 28 countries. Because it draws on such a large network of researchers, CEPR is able to produce a wide range of research which not only addresses key policy issues, but also reflects a broad spectrum of individual viewpoints and perspectives. CEPR has made key contributions to a wide range of European and global policy issues for over two decades. CEPR research may include views on policy, but the Executive Committee of the Centre does not give prior review to its publications, and the Centre takes no institutional policy positions. The opinions expressed in this paper are those of the author and not necessarily those of the Centre for Economic Policy Research.