"Everyone can create money," Hyman Minsky often reminded us. "The problem is to get it accepted." Having money accepted widely is what it means to be credible, and in past crises, if money was credible it was constrained by the amount and quality of its gold or silver backing, whereas if it was unconstrained, that is fiat money money, it was not terribly credible. Were we still living in that world, we would already have seen a wave of sovereign defaults and the forced, rapid recognition and writing down of bad debts. We would have probably also seen a collapse in several national banking systems and an even more brutal economic contraction than what we have already experienced.

No more collapsing money?

"Panics do not destroy capital," John Mill proposed in his 1868 paper to the Manchester Statistical Society.

"They merely reveal the extent to which it has been previously destroyed by its betrayal into hopelessly unproductive works."

Our ability to postpone the recognition of the full extent of these unproductive works depends in part on our ability to expand the supply of credible money. If we are constrained in our ability to expand the money supply, one impact of the crisis is a contraction in money (velocity collapses) that forces lenders to write down debt. If money can expand without constraints, however, debt does not have to be written down nearly as quickly.

With the main central banks of the world having banded together to issue unprecedented amounts of credible currency, in other words, we may have changed the dynamics of great global rebalancing crises. We may no longer have to forcibly write down "hopelessly unproductive works", during which process the seemingly endless capital of the globalization phase is wiped out, and we enter into a phase in which capital is scarcer and must be allocated much more carefully and productively.

Instead, the historically unprecedented fact of our unlimited ability to issue a credible fiat currency allows us to postpone a quick and painful resolution of the debt burdens we have built up. It is too early to say whether this is a good thing or a bad thing. On the one hand, it may be that postponing a rapid resolution protects us from the most damaging consequences of a crisis, when slower growth and a rising debt burden reinforce each other, while giving us time to rebalance less painfully — the Great depression in the US showed us how damaging the process can be. On the other hand the failure to write down the debt quickly and forcefully may lock the world into decades of excess debt and "Japanification". We may have traded, in other words, short, brutal adjustments for long periods of economic stagnation.

Only the passage of time will tell us whether or not this is indeed the trade-off we have made or want to make. Argentina used to be the archetype of financial crisis, when a collapse in the supply of money caused massive debt write-downs. "This time" may indeed be different in the sense that there is a very real possibility, as the authors of the

Bain study propose, of many years of "superabundant" capital, instead of the scarce capital that has historically characterized the post-crisis period.

Excess capital tends to be associated with periods of tremendous technological advances, and because these are experienced primarily by the technologically most advanced countries, the next decade might bring some benefit to the world's most advanced economies — which will be all the more noticeable in the context of the low commodity prices that presage the end of "convergence". The idea that advanced countries may outperform developing countries may seem shocking. For the past few decades the world has gotten used to the idea that economic convergence between rich countries and poor is inexorable.

But it isn't. Over long periods of time, convergence has been the exception, not the rule. In periods during which commodity prices are high, or the advanced economies have created artificially high demand that developing countries can exploit (during war, for example), we are usually swept by waves of optimism and a firm belief in economic convergence. But once these conditions end, the high hopes quickly abate. I have written elsewhere, for example, of Albert Hirschman's optimism during the 1950s and 1960s that led him and many others, especially those influenced by Marxist ideas of economic growth, to believe that development was primarily a technical problem. Once we had resolved the problem, as we seemed to be doing in the heady days of the 1950s and early 1960s, we could expect fairly rapid economic convergence.

By the late 1970s, of course, development economists were despairing over the seeming intractability of backwardness. Their models of linear development (most famously W.W. Roster's "five stages" of economic development) were gradually replaced by more complex analyses of economies as "systems", in which complex institutional constraints could distort or prevent convergence. The now (unfairly) discredited dependence theorists, for example, argued that under certain conditions convergence was not even theoretically possible.

Hirschman too became far more pessimistic about long term convergence, and began worrying about the nature of these constraints, even pointing out how misguided optimism itself could lead to highly pro-cyclical policies that reverse the convergence process, in part by encouraging the kinds of inverted balance sheets that I discussed in my blog entry of two weeks ago. The outpouring of almost comically muddled explanations of and forecasts for the Chinese growth miracle has been an especially egregious example of the way well-intentioned economic analysis has led to, or at least encouraged, worse outcomes. China's cheerleaders have for many years encouraged policies that we are finally recognizing as foolish.

The idea of emerging markets having decoupled from the advanced economies has died, and I suspect the idea of convergence will soon become another victim of the crisis. If the world does indeed face another decade or two of "superabundant capital" in spite of economic stagnation and slow growth, the historical precedents suggest a number of other consequences.

The brave new world of weak demand and frenzied speculation

Last week I had drinks with one of my former Peking University students and we discussed some of the ways the global economy might react to a world adjusting from a global crisis with weak demand and excess liquidity. In no particular order and very informally these are some of the consequences we thought were likely or worth considering:

During periods of excess capital, investors are willing to take on far more risk than they normally would. High tech is one such risky investment, and has historically done very well during periods in which investors were liquid and hungry for yield. This suggests that developed countries will benefit relatively because of their dominance of high tech, and the US will benefit the most.

But we have to make some important distinctions. The willingness to take excess risk is not necessarily a good thing socially. If it leads investors to pour money into non-productive investments, excess real estate and manufacturing capacity, or into investments that with negative externalities, excess risk-taking simply destroys wealth. The economy is better off, in other words, only if policymakers can create incentives that channel capital into entrepreneurial activity or into activity with significant positive externalities (i.e. whose social value is exceeds the value that investors can capture).

In several countries before the crisis, including the US, China and parts of Europe, a lot of overly-aggressive financing went into projects with negative externalities — empty housing, useless infrastructure, excess capacity — and it is important that this kind of risk-taken isn't encouraged. Policymakers should consider the conditions under which excess risk-taking is channeled by the private sector into socially productive investments, for example into high tech, small businesses, and high value added ventures. With their highly diversified financial systems and incentive structures that reward innovation and entrepreneurialism, the US, the UK and perhaps a handful of "Anglo-Saxon" and Scandinavian economies, in their different ways, are especially good at this. Much of Europe and Japan are not. The latter should take steps to increase the amount by which they will benefit from many more years of high risk appetite among investors.

Normally, developing countries only benefit indirectly from periods of abundant capital and excess risk taking because abundant capital tends to lead increased investment in developing countries and higher commodity prices. This, however, is perhaps the first time that excess liquidity has overlapped with a period of crisis and contraction, so it is hard to know what to expect except that the days of historically high hard commodity prices are well behind us (food may be a different matter). I suspect that developing countries are going to lag economically over the next few years largely because of high debt levels.

Why? Because one of the ways the market will probably distinguish between different types of risk is by steering away from highly indebted entities. Excess debt is clearly

worrying, and while there will always be investors who are willing to lend, in the aggregate they will probably discriminate in favor of equity-type risks unless policymakers create incentives in the opposite direction.

Developing countries almost never benefit from the high tech boom that typically accompanies periods of excess liquidity because they tend to have limited technology capabilities. Policymakers should consider nonetheless how to take advantage of what capabilities they do posses.

India for example has a vibrant innovation-based sector, but it suffers from low credibility and from regulatory and red-tape constraints that will make it hard for Indian innovation to benefit from global investors' high risk appetites. New Delhi — and perhaps local state capitals — should focus on addressing these problems. If Indian technology companies are given the regulatory flexibility and if investors find it easy to put money into (and take it out of) Indian technology ventures, we might see India capture some of the benefits of what may be a second or third wave of information technology.

Brazil is another large developing economy with pockets of tremendous innovation but which overall also suffers from low credibility and distorted incentive structures — and way too much debt. I am neither smart nor knowledgeable enough to propose specific policies, but policymakers in Brazil, like in India and in other very large developing economies — and they must be large in order that their relatively small technology sectors can achieve critical mass — must develop an explicit understanding of the institutional constraints and distorted incentive structures that prevent the development of their technology sectors, and take forceful steps to reverse them.

China is weak in high -tech innovation largely because of institutional constraints, including education, regulatory constraints, distorted incentive structures, and a hostile environment for innovative thinking (defying attempts to separate "good" innovative thinking from "bad"). Overly-enthusiastic American venture capitalists, Chinese policymakers, and Chinese "entrepreneurs", many of whom have almost become Silicon Valley caricatures will disagree, but in my experience most China, and certainly those involved in technology, are very skeptical about Chinese innovation capabilities. For example, when I taught at Tsinghua University, China's answer to MIT, my students regularly joked that the only way to turn Tsinghua graduates into high tech innovators was to send them to California.

The main reason for its weak track record in innovation, I would argue, is that in China, like in many countries, there are institutional distortions that directly constrain innovation, as I explain in my blog entry on "social capital". There are also indirect distortions, most obviously extraordinarily low interest rates and the importance of guangxi, that made accessing credit or developing good relationships with government officials infinitely more profitable, and requiring far less effort, for managers than encouraging innovation.

It is politically too difficult to resolve many of these institutional constraints nationally. In fact we are probably not even moving in the right direction — for example Beijing has recently sharply reduced internet access within China for domestic political reasons, and it is a pretty safe bet that this and other attempts to secure social stability will come at the expense of a culture of innovation.

But if Beijing is reluctant to relax constraints at the national level, it might nonetheless be willing to do so in specific local jurisdictions. If there were pockets within the country operating under different legal, regulatory, tax and cultural systems, and much more tolerant of the political and social characteristics of highly innovative societies, China might see the creation of zones of innovation that would benefit from the favorable global environment. I am skeptical about the impact of the Shanghai free-trade zone on trade or investment, for example, but it could become a more credible center of Chinese innovation under a very different legal and regulatory system — much as Shanghai was, by the way, in the 1920s and 1930s. China has benefitted in the past from special economic zones, with different laws and regulations, dedicated to manufacturing. It might benefit in the future if it turns these into special "innovation" zones, also with very different laws and regulations — and above all a far greater appetite for the "bad" things that are always part of highly innovative cultures, including a wide open internet and tolerance for any kind of discussion.

Excess liquidity and risk appetite makes it easy to lock in cheap, long-term funding for investment projects. Countries that have weak infrastructure, or whose infrastructure is in serious need of improvement, have today an historical opportunity to build or replenish the value of their infrastructure with very cheap capital. This is truly the time for governments to identify their optimal infrastructure needs and to lock in the financing. The most obvious places for productive infrastructure spending, it seems to me, are the United States, India and Africa.

The constraint in the US seems to be a politically gridlocked Congress unable to distinguish between expenditures that increase the US debt burden and expenditures that reduce it. Borrowing \$100 for military expansion, higher government salaries, or an expansion in welfare benefits will increase the US debt burden, for example, but borrowing \$100 in order to build or improve infrastructure in a way that increases US productivity by \$120 actually reduces the US debt burden.

This mindset at the federal, state and local levels prevents highly accommodative money from flowing easily into infrastructure projects, and it means that the US will probably miss an historic opportunity to upgrade its infrastructure cheaply in ways that will boost growth for decades to come. The US must come up with institutional alternatives that will allow it to overcome these constraints, for example there has been some talk of a national development bank whose sole purpose was to raise money for infrastructure investment. That is a great idea if Congress can pull it off.

The constraint in both India and Africa is low credibility. Aside from concerns about the siphoning off of a significant share of the money that was earmarked for investment,

especially in several African countries, foreign funding of infrastructure would come mainly in the form of debt financing, and this would almost certainly have to be denominated in dollars, euros or some other hard currency, which, given the size of the required funding, might raise questions about repayment prospects.

In the case of India it may be that under Prime Minister Narendra Modi the issue of credibility will be resolved, although my Indian friends tell me that we are far from resolving the issues of bureaucratic entanglement that hamstring attempts to put into place the kind of infrastructure that India needs. One way or the other India has a very rare opportunity, if it is able to put together a credible plan, to build out substantial infrastructure on very accommodating financing terms, and given its urgent need for infrastructure, the resulting increases in productivity would actually cause India's debt burden to fall substantially.

For African countries the problem is far more complex. Not all African countries are the same, of course, but many if not most African economies are likely to be directly or indirectly very sensitive to commodity prices. Some African countries has been able to get funding from China beyond what has been available in the market, but as commodity prices decline, as many of the funded projects turn out to be less productive than planned, and especially as earlier loans to African and Latin American countries begin to come due, my suspicion is that China will face the same problems new lenders to African have historically faced. The path of regaining credibility for individual countries is likely to be slow and arduous.