Stock Market Interventions: "An update"

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In late August [of 1998], Hong Kong's authorities deflected repeated speculative attacks on their currency and assets by investing heavily in their stock market. The central bank purchased $16 billion worth of equities, roughly 6 percent of the value of the entire Hong Kong market. If the U.S. Treasury were to attempt to purchase a similar fraction of the U.S. market, it would have to buy a staggering half *trillion* dollars of equities, the equivalent of General Electric and Microsoft combined.

In the United States, condemnation of this move was nearly universal. Critics included Alan Greenspan, Milton Friedman and the US Treasury, as well as most of Wall Street and the press. Their objections were mainly along two lines. Some faulted the government for polluting one of the most transparent stock markets in the world. Others called the move a major waste of taxpayers' money.

Donald Tsang, Hong Kong's charismatic Finance Secretary, used the two weeks surrounding the last [1998] IMF-World Bank meetings to offer an *apologia* for the government's unorthodox action. At meetings around the world, he explained that the turmoil was caused by a small number of investors with huge short positions in the Hong Kong stock market. These investors acted in concert to speculate against the Hong Kong dollar, with the intention of reaping massive profits from their short stock positions if, as expected, Hong Kong authorities raised interest rates in defense of their currency. This Machiavellian move (which would constitute a violation of anti-trust laws in the U.S. and most developed economies) may have been bolstered by unfounded rumors that the speculators fed to the media.

We will probably never know exactly what happened: the track of almost any sophisticated financial scam is eventually lost in the Cayman Islands of the world. Whatever the cause, nearly all observers of the crisis agreed on one principle. Hong Kong's stock market intervention was inconsistent with sensible economic management and deserved the world's censure.[1]

I want to argue that this presumption is misguided. Stock market intervention during severe liquidity crises should be as broadly accepted as interest rate manipulation, provided that it is conducted in an orderly and transparent fashion. The same applies to asset support more generally, including corporate bonds and commercial papers purchases. Wielded with care, these interventions may become an invaluable tool of crises' management and prevention, especially for emerging economies.

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[1] There is a related but incorrect criticism which argues that the basic principle of a currency board is that local authorities, and the central banks in particular, must resign to any traditional liquidity provision role. This view is conceptually and factually incorrect; there is absolutely nothing in a currency board system that says that authorities cannot use excess foreign reserves or even borrow for such purpose. A currency board is mainly a constraint on printing unbacked money.

This is the first new paragraph of this short article. Those that preceded it, as well as most of those that follow it, were written nine months ago.[2] I have chosen to reproduce that article verbatim, excluding nothing and adding only a few remarks enclosed in square-brackets, for two reasons. The first one is that ex-ante analysis has less degrees of freedom, and hence is not obscured by ad-hoc remarks aimed at fitting the facts perfectly. The second one is more self-serving, for it aims at vindicating the original article and thus to insist on the relevance of the arguments there made. At the time it was written, the article was dismissed as essentially flawed. One of the main criticism to it –certainly the one that troubled me the most because it reflected a widespread misunderstanding of what a liquidity crisis is all about-- was that if a gain were to be had at the time of intervention, it would be surely lost when the shares are finally sold back to the market. Well, the time has come. A couple of week ago, Hong Kong's government announced that it would bundle its equity portfolio in a unit trust to be listed in the local stock market. The response of the market was to soar by four and a half percent! Regardless of whether one chooses to interpret such bundling and listing as effectively selling the equity back or as the opposite, the size of the equity movement bears no comparison with the dramatic improvement in equity prices experienced by the Hang Seng index during the crisis intervention. The "old" article explains why this is not entirely surprising and what at are the circumstances under which stock market interventions may not be as bad as they are often portrayed to be.

During a recession, a developed economy can satisfy most of the liquidity needs of its distressed firms with interest rate policy alone. Emerging economies, on the other hand, not only have much larger liquidity problems and widespread equity fire sales, but they also have their interest rates locked ---or moving in the wrong direction--- due to currency and capital flow considerations.

It is vitally important that emerging economies have access to alternative methods for the provision of liquidity. The good news is that the increasing securitization of these economies is expanding the set of options available to authorities. The bad news is that the tendency among economists has been to declare these (admittedly unorthodox) policy options taboo.[3] This is a mistake. Economists should study the instruments available to emerging economies and learn to use them rather than categorically declaring them off-limits.

In what follows, I discuss some of the virtues, dangers and limitations of asset market interventions.

Liquidity needs.

Consider the passage of a typical recession in the United States. As depressed sales dry up internal funds, the lack of easily available credit becomes increasingly distressing for

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[2] See Caballero (1998), which in turn was an expanded version of an unsuccessful editorial article written in October.

[3] The possibility of corruption that such intervention brings about is a serious concern. But that applies to most forms of intervention which economist do find acceptable (e.g. injecting funds into banks). As always, the answer to this concern is transparency.

firms trying to finance investment and production plans. Tight credit dims the outlook for all firms, but the smallest and youngest firms tend to have the most limited access to credit, and consequently they are disproportionately endangered. Deprived of the liquidity they need to ride out a recession, they may fall into financial distress even if their long-term prospects are strong.[4]

At some point, the Federal Reserve is called into action. By lowering interest rates, the Fed adds liquidity and facilitates the reallocation of resources to distressed firms. Suddenly, banks that were only lending to their very best clients find the means to lend to a larger circle of firms. At the same time, the lower rate of interest makes the collateral value of smaller, lesser-known firms look more appealing. In conjunction with measures like automatic fiscal stabilizers, this liquidity reallocation mechanism is instrumental in accelerating the recovery phase of the business cycle.

What we observe in emerging economies during severe crises looks quite different. Rather than “leaning against the wind,” monetary and fiscal policies tighten when times are worst. Although tightening might be appropriate in some cases, when the problem at the root of the crisis is a history of government excess, the degree of it that countries exhibit frequently seems excessive.[5]

In light of the apparent success of stabilization policy in developed economies, isn’t a contractionary reaction to crises in emerging economies counterintuitive? Yes… if the country has only one problem to solve. Unfortunately, as an emerging market economy runs into trouble, it is often faced with a potentially massive exodus of foreign and domestic capital. While the main issue in the U.S. is one of reallocating existing liquidity within the country; the first priority of emerging economies must be to keep liquidity *in* the country.

One way to do this is to institute capital controls. This approach may be effective in the short run if the country does not need new funds, but such a policy can do long-term damage to a country’s reputation—and it is not clear that controls will work anyway.

Aside from strong-arm tactics, then, the most direct way to entice investors to stay is by offering them a high return for doing so, in the form of high domestic interest rates. The country faces a tradeoff. Even though it may want to lower interest rates to increase liquidity, it may need to raise them in order to retain its capital base. Without capital,

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[4] See Gertler and Gilchrist (1994) for evidence on the relatively large impact of recessions and interest rates on small firms in the U.S.

[5] For evidence that emerging markets tighten monetary and fiscal policy during crises, consider the sky-high interest rates experienced by Latin America and Asia during the past months. Note also that high interest rates and curtailed public spending are standard features of the IMF crisis response package. For direct evidence that fiscal policy in Latin America is *procyclical,* see Gavin and Hausmann (1996).

there would be no liquidity anyway—so the country must make the capital flow its top priority and keep rates high.[6]

An emerging economy may also have to raise rates to defend a much narrower, purely monetary feature of the liquidity base: the international reserves supporting the currency. Interest rates can soar as a speculative attack on the currency collides with the immutable nominal exchange rate of a sustainable currency board. Particularly as it goes through the bottleneck of the banking system. This was the case in Hong Kong, where interbank rates reached levels above 200% during the speculative attack that followed the Taiwanese devaluation.

While a country may feel that it has no choice but to raise rates, it cannot afford to ignore domestic firms' demand for liquidity. High interest rates place further pressure on the increasingly illiquid corporate sector, and bankruptcies can be expected to surge. As firms and investors struggle for the scarce liquidity, asset prices collapse. Claims on firms without access to international markets are the hardest hit, and with these fire sales any remaining hope for external financing vanishes.

Unorthodox liquidity injections

With interest rates locked at high levels by currency or capital flow considerations, an emerging economy needs another policy option to inject liquidity quickly. It must find a way to channel resources into financially distressed firms and banks.

While the most direct route is to subsidize individual firms and banks, this policy is difficult to implement and easy to corrupt. An alternative and possibly complementary way to give firms a boost is to strengthen the collateral that they can use for borrowing. Perhaps the most direct, transparent strengthening measure is a stock market purchase.

A stock market purchase is likely to be more expensive than individual subsidies in the short run, but it has several advantages. First, it offers fewer opportunities for scams or cronyism, especially if the purchase is targeted at boosting a broad-based stock index.[7] Second, a transparent policy of stock support during fire sale episodes should encourage foreign and domestic investors with long-term investment horizons and reduce panic-driven sales. Third, if restricted to severe liquidity crises, these interventions may yield a hefty capital gain to taxpayers, a point I develop in some detail in the next section.

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[6] Given foreigner's required rate of return, the alternative of keeping the interest rates low while implementing a controlled devaluation of the exchange is not realistic. With low interest rates, foreigners will get their high required return through a sharp exchange rate depreciation, enough to ensure an expected appreciation of the currency and thus a capital gain on holding the domestic assets. The low interest rate – low devaluation recipe is outside the menu of possibilities. The more feasible, low domestic interest rate – high depreciation is, but it can prove devastating for the nontradeable and financial sectors. A different matter is when the currency is unsustainable, and this is the only reason why interest rates are high (i.e. foreigners do not require a higher expected return to provide financing but they only want to cover the expected devaluation). More on this below.

[7] Not necessarily the main index, as one may want to favor smaller firms.

I have focused on stock market interventions because Hong Kong's action brought them to the fore, but there is nothing special about stocks as opposed to other assets held and issued by the private sector. The basic principle is simple and it applies more generally: Liquidity provision should not be solely understood as central banks "cash" injections into the financial system. Liquidity provision during crises is primarily about maintaining the value of the assets which are used by domestic economic agents as means of funding and backing their normal activities.

If domestic interest rates have to rise to defend a currency, alternative means to reach credit-constrained firms must be found. To the extent that is possible, the normal connection between interest rates and liquidity provision has to be severed at these times. Authorities, as well as private agents, must design a transparent system in which firms effectively find partial insurance against sudden spikes in domestic interest rates.

Somewhat paradoxically, the same dilemma may be faced at the other extreme of the interest rate spectrum. If interest rates and inflation are already so low, as is the case in Japan today, that further reductions in nominal interest rates are no longer feasible without making them negative, the need for alternative liquidity provisions mechanisms reemerges. This is probably one of the arguments behind Japan's authorities recent decision to intervene in commercial-papers markets.

One for the taxpayers

Frequently, taxpayers are on the short end of most policies designed to support the existing productive structure. This needs not be the case during liquidity interventions. Indeed, there is an important benefit of asset-intervention which seems to have been completely overlooked by its critics. The stock (and other assets) market action can be a great investment for taxpayers. In the best-case scenario, the government buys assets at the height of the crisis, when stock prices have fallen to fire-sale values. Under these circumstances knowledgeable investors, equipped with ample supplies of liquidity and patience, should buy into the market, recognizing that the potential profits are enormous. One of the things that define a crisis, however, is that few of these hypothetical investors can be found. If these investors don't come, then authorities have two powerful reasons to intervene: they should expect to earn hefty capital gains for taxpayers, while simultaneously alleviating the domestic capital crunch.[8]

Milton Friedman said many years ago that the performance of a Central Bank should be measured by its profits. Hong Kong's stock market intervention passes this test with flying colors. The government bought when the Hang Seng index was at 6,500. A few weeks later, without further intervention, the index is hovering around 10,500 [and today, at around 14,500] Admittedly, the Hong Kong action is an extraordinary success story, and the standard caveat that "past performance is no guarantee of future returns" must be applied to all government intervention. But the arguments that these interventions cannot generate excess returns on average, or that gains will be lost when shares are finally sold

[8] See Caballero and Krishnamurthy (1998) for a model of liquidity crises and fire sales.

back to the market, reflect a fundamental misunderstanding of what a liquidity crisis is all about.

Is this a panacea?

Is stock market intervention always advisable during a crisis? No. In fact, very few countries should think about implementing such a policy today. This article is not so much about ways to solve current crises but about preparing the system for the near future.

A country should meet at least three criteria before authorities consider stock market intervention. First, the government must have access to enough resources to credibly support its stock market purchases in the face of potential speculative attacks. Second, the fundamental economic problems causing the crisis must be transitory rather than structural in nature. And third, the stock market must be deep and broad enough that intervention and the market reaction to it can reach distressed firms and banks.[9]

Russia, for example, doesn't satisfy any of these criteria. A few months ago, Japan, which attempted a form of intervention through its pension funds, failed because it did not meet the second test: its economic problems were structural in nature, and not liquidity-based. This seems to be changing today, as they have finally decided to deal with their broken financial system. Argentina doesn't pass the test either. While it does not have serious structural problems, its equity markets lack the necessary size, and the public sector is short of resources.

Fostering liquidity channels

As I mentioned before, the stock market is not the only asset market that can be used to inject liquidity. In Argentina, for example, a long history of oversized government deficits has endowed it with a healthy market in public debt. Support of the public bonds market may be an excellent way to inject liquidity. While it would be somewhat ironic to find a silver lining, the thick market in public debt may be the positive legacy of these deficits.[10] On the other hand, Hong Kong's fiscal prudence means that its bond market is too small to serve as a potential liquidity channel.[11] Well-developed corporate bond markets would be another potential channel to inject liquidity.

As the cases of Hong Kong and Argentina suggest, policy-makers will have to consider their economy's idiosyncrasies when choosing among possible forms of asset market intervention. Forward-thinking governments will carry this planning a step further.

[9] One of the "puzzles" of asset interventions, including regular monetary policy, is that small amounts of it can be leveraged many times by the market. In this sense, even large markets are "thin;" perhaps one of the most prominent examples is the large effect of a few traders following portfolio insurance techniques during the U.S. stock market crash of October 1997.

[10] It is a further irony that Argentine authorities are raising the funds to finance domestic intervention in the international bonds market. This market was created by the Brady bonds, which were also the result of widespread excesses in Latin America a few years back…

[11] I am most definitely not advocating lack of fiscal discipline to generate asset markets!

During good times, they can aid the growth of asset markets, so that these markets are available to transmit liquidity from the government to the private sector when needed.[12]

In Chile, for example, the overhaul of the pension system was instrumental in fostering the development of its equity market. By allowing pension funds to hold certain instruments and not others, or by encouraging investment in particular assets, governments determine (explicitly or implicitly) which markets will be robust enough to use in a liquidity crisis.

Funding synergies

Even if the asset markets are in place, governments must consider how they will fund intervention. With its renowned war chest of foreign reserves, Hong Kong was an exception: authorities needed only to decide when and how to inject funds into the economy. For most countries, however, finding the resources is a major issue. Even if they have the funds to intervene in the market, they may not have enough to fend off a determined attack of short selling. A country that lacks the funds will have to borrow in the usual manner, offering its sovereign commitment as collateral, sending its best people abroad to woo reluctant financiers, and persuading international institutions of its devotion to sensible economics.

While it may be initially difficult to fund intervention, the policy of intervention itself can make the funding battle easier. When the government purchases assets at fire-sale prices, a beneficial snowball effect may be triggered. The more funds a country receives, the more assets it can purchase, and the more it can purchase, the more prices will return to levels more in line with fundamentals. As the effects of intervention accumulate, the collateral value of the equity purchase increases, facilitating private sector borrowing. As the credit market reactivates, the asset market gains depth and stability. In a recovering market, the government should start selling assets back to repay its foreign loans, reaping a healthy profit for taxpayers at the same time.[13] The biggest obstacle to the success of this strategy is our ingrained reticence to accept it.[14]

[12] See Holmstrom and Tirole (1998) for a liquidity-based argument supporting the existence of government bonds.

[13] An often-heard objection to intervention is that the policy involves the government putting its hands on sizable amounts of assets. This sort of "reverse privatization" is an unpleasant side effect. Nonetheless, the problem should be easy to solve by removing control rights and votes from shares held by the government, and by mandating a gradual and automatic sale of the assets after the crisis subsides.

[14] As firms return to life, the balance sheets of banks should also recover. This is a key step of the recovery, since informed banks are often the crucial lubricants that get the corporate sector running smoothly again after a credit crunch. This is the reason governments often aid banks directly rather than through improving the health of the corporate sectors. If banks are sound, this may indeed be the most efficient liquidity tool. Aiding banks does have drawbacks, however. It often involves big transfers to bank owners and promotes negligent behavior. More importantly, the banking sector often lies at the root of the crisis. Injecting funds into an unhealthy banking sector may delay rather than accelerate the recovery.

Taking stock

There is no point in defending grossly overvalued currencies. When a currency moves too far out of line with economic fundamentals, a swift devaluation may be unavoidable and even advisable. In most emerging economies these days, however, the problem of overvaluation has not reached these levels. The countries that devalued or floated their exchange rates early on are already recovering from the excessive devaluation that accompanied systemic fire sales and, in some cases, from their failure to raise interest rates early enough. Other emerging markets, led by a shaky Brazil, are clearly overvalued but probably not enough to risk the turmoil that an abrupt devaluation would bring in these times of jittery markets. These countries may yet have to rethink their exchange rate systems, but that is a problem to consider in a steadier economic climate.[15]

For countries in this intermediate category, it seems worth trying to defend the currency and capital flow, but the defense locks out the traditional liquidity provision channel, which works through interest rates. What should these countries do? I have argued that once one takes a broad view of credit and liquidity, government intervention in asset markets is no more exotic or expensive than central bank adjustment of interest rates.

In the medium run, governments should aid the growth of deep, well-functioning financial markets. Pension funds and other big market participants may play a crucial role here in spurring market development and accelerating the securitization of emerging economies. It is worthwhile to give market players investment incentives, so that in difficult times the markets that will serve as channels of liquidity provision are thick enough to be useful.

Most of the time markets, especially financial ones, are an incredibly sophisticated and efficient mechanism for gathering information and allocating resources. In times of panic and illiquidity, however, asset values can implode. The real consequences of asset deflation can be devastating. Helping out in those brief instances when markets fail may well be worth the few secondary costs. The alternative may be a catastrophic spread of Malaysian-style disillusionment with international capital markets.

[15] [As we all know by now, eventually Brazil experienced a new confidence crisis as Itmar Franco, the Minas Gerais' governor who risked his country on a "personal vendetta," chose to default on his state's debt with the central government. Unable to stop the drainage of reserves, the devaluation finally came on January of 1999. While the days following the devaluation were characterized by great confusion and gloom, things eventually settled without the devastating consequences feared by many. I believe the latter was possible precisely because the devaluation did not occur in the middle of the global crisis, and because it did not come as a great surprise. Perhaps a sizeable fraction of the 40 billions of reserves that were lost during the months preceding the devaluation allowed locals corporations and banks to hedge away much of the devaluation risk. The counterpart of Brazil's "successful" devaluation is the somewhat unexpectedly high pressure put by it on Argentina's rigid "currency board" system . Again, it seems safe to argue that this pressure would have been much greater had Brazil's devaluation occurred in the middle of the Russian crisis.]

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