

Global Liquidity^{*}

Hyun Song Shin

hsshin@princeton.edu

Low interest rates maintained by advanced economy central banks in the aftermath of the global financial crisis have ignited a lively debate about capital flows to emerging economies. The argument is that such capital flows are driven by carry trades that seek to exploit the interest rate differences between advanced and emerging economies and that such flows result in overheating and excessively permissive financial conditions in the recipient country, posing challenges for policy makers.

The U.S. dollar has special significance in this debate. As well as being the world's most important reserve currency and an invoicing currency for international trade, the dollar is also the currency that underpins the global banking system. It is the funding currency of choice for global banks. The United States hosts branches of around 160 foreign banks whose main function is to raise wholesale dollar funding in capital markets and then ship it to head office. Foreign bank branches collectively raise over one trillion dollars of funding, of which over 600 billion dollars is channeled to headquarters¹. Figure 1 shows the interoffice assets of foreign bank branches in the U.S. – the lending by branches to headquarters. Interoffice assets increased steeply in the last two decades, saw a sharp decline in 2008, but bounced back in 2009.

It is instructive to compare the role of the dollar with that of the Japanese yen as a funding currency for global banks. Figure 2 plots the interoffice assets of foreign banks in Japan. Fuelled by the yen carry trade, yen funding grew rapidly before the crisis but it has subsequently been unwound in the aftermath of the crisis. Yen interoffice assets are now at their lowest level since the mid-1990s. The persistent strength of the yen after the crisis may owe in part to this unwinding.

^{*} Remarks at the IMF conference on “Macro and Growth Policies in the Wake of the Crisis”, Washington DC, March 7-8, 2011.

¹ “Funding patterns and liquidity management of internationally active banks” CGFS paper 39, May 2010, Bank for International Settlements. <http://www.bis.org/publ/cgfs39.htm>

Figure 1. Interoffice assets of foreign bank branches in U.S. (Source: Federal Reserve)

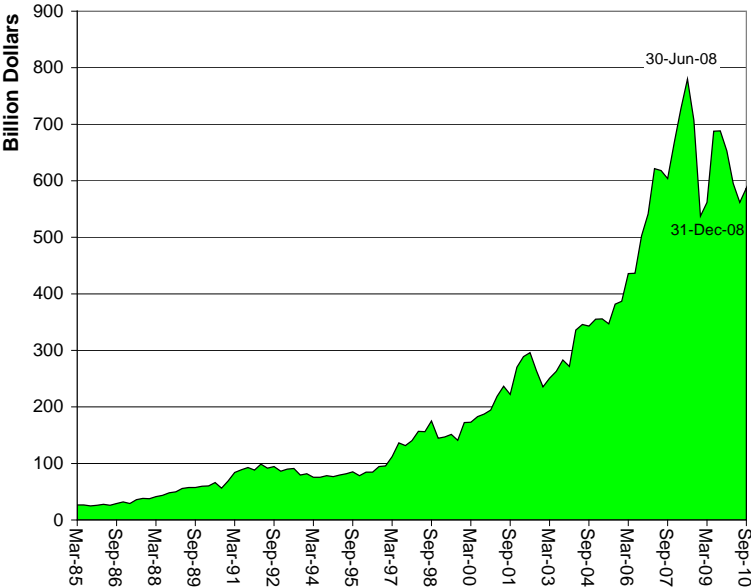
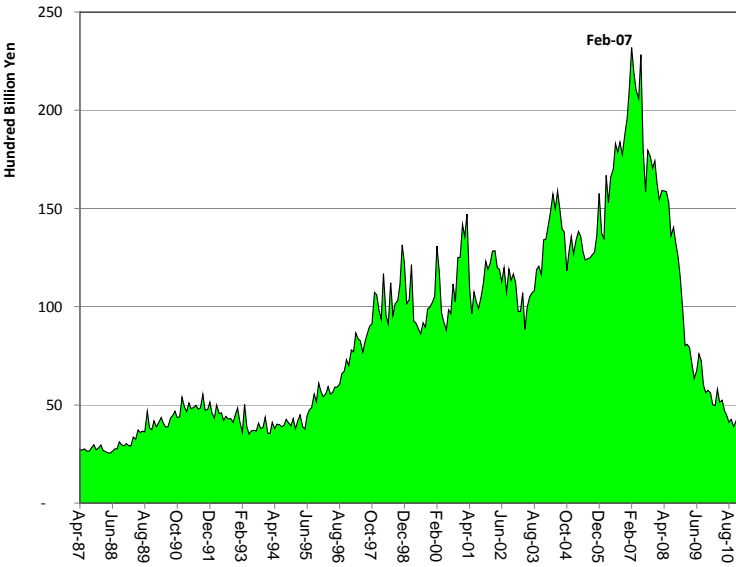


Figure 2. Interoffice assets of foreign bank branches in Japan (Source: Bank of Japan)



In net terms, global banks have maintained negative interoffice accounts in yen, except for a brief period at the height of the boom before the global financial crisis, as can be seen in Figure 3. In other words, the funds obtained from head office for allocation in Japan has outweighed the yen shipped to headquarters.

Figure 3. Net interoffice assets of foreign bank branches in Japan. (Source: Bank of Japan)

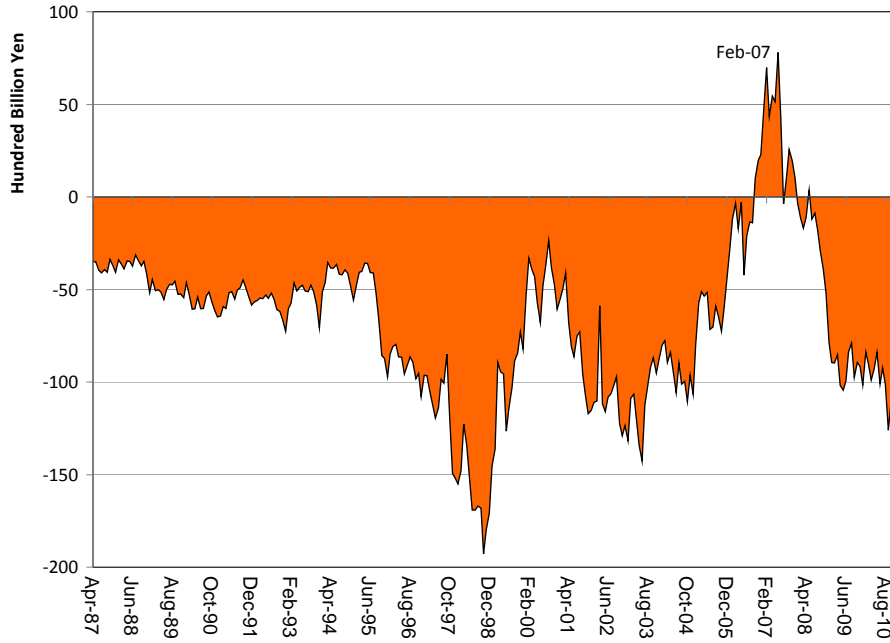
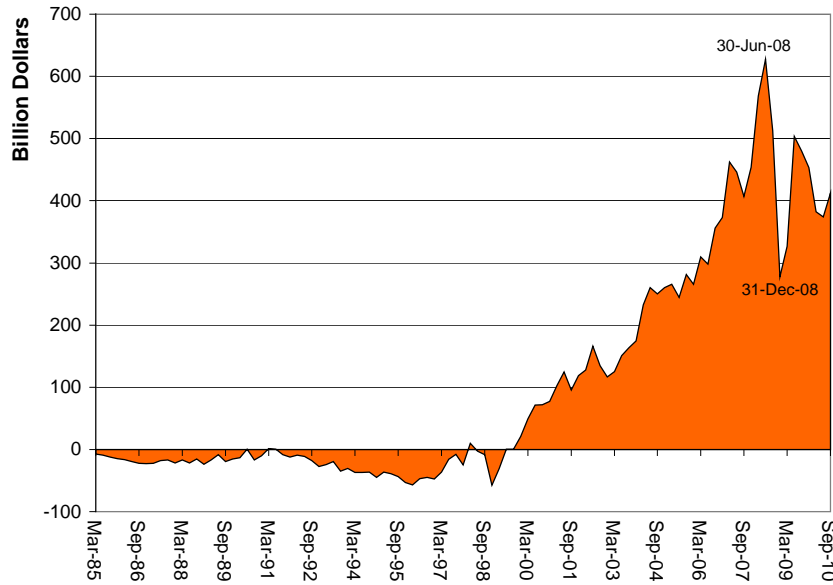


Figure 4. Net interoffice assets of foreign bank branches in U.S. (Source: Federal Reserve)



However, what is remarkable about the U.S. dollar is that even in *net* terms, foreign banks have been channeling large amounts of dollar funding to head office. Figure 4 shows the net interoffice assets of foreign banks in the United States. Net interoffice

assets were negative in the 1980s and most of the 90s, but in 1999, net interoffice assets surged into positive territory and increased steeply thereafter.²

We thus face an apparent paradox. Although the United States is the largest net debtor in the world, it is a substantial *net creditor* in the global banking system. In effect, the United States is borrowing long (through treasury and other securities) but lending short through the banking sector. This is in contrast to countries such as Ireland and Spain who financed their current account deficits through their respective banking sectors, and who have subsequently paid the price through runs by wholesale creditors on their banks.

The large net positive interoffice accounts of foreign banks in the U.S. highlights the potential for cross-border spillovers in monetary policy. Dollar funding that is shipped abroad to headquarters will be deployed globally according to portfolio allocation decisions that seek out the most profitable use of such funds.

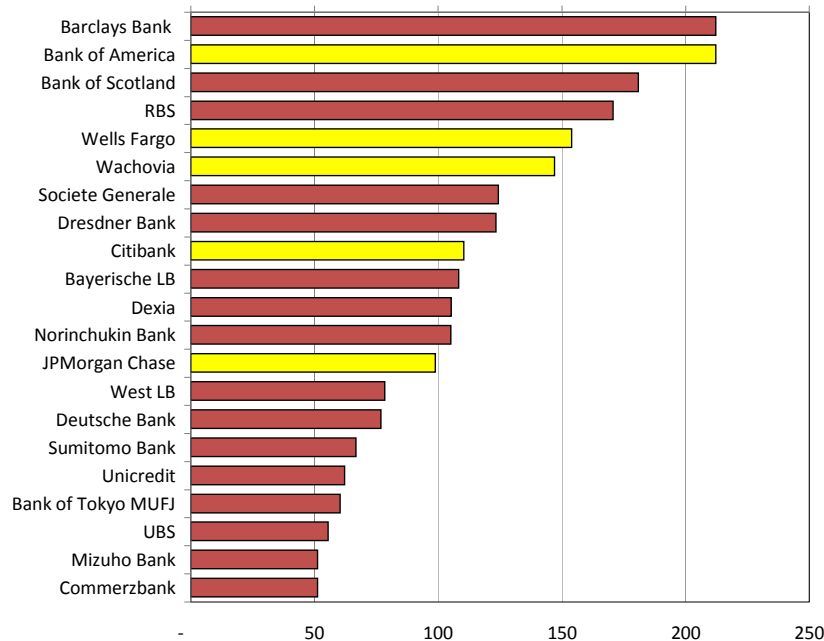
Some of the borrowed dollars will find its way back to the U.S. to finance purchases of mortgage backed securities and other assets (remember UBS and its portfolio of subprime CDOs). But some of it will flow to Europe, Asia and Latin America where global banks are active local lenders. At the margin, the shadow value of bank funding will be equalized across regions through the portfolio decisions of the global banks, so that global banks become carriers of dollar liquidity across borders. In this way, permissive U.S. liquidity conditions will be transmitted globally, and U.S. monetary policy becomes, in some respects, *global* monetary policy.

A glimpse into the dollar's role as the funding currency of choice for global banks can be had in the identity of banks that took advantage of the emergency liquidity from the Federal Reserve during the crisis. Figure 5 shows the cumulative borrowing under the Term Auction Facility (TAF) that allowed banks to receive term funding while avoiding the stigma of borrowing at the Fed's discount window. The light bars indicate U.S. banks and dark bars indicate non-U.S. banks.

² <http://www.federalreserve.gov/econresdata/releases/assetliab/current.htm>

The cumulative total overstates the total support outstanding at any one time given the repeated roll-over of one month term funding. But it is notable how the list is dominated by foreign banks, especially from Europe and Japan. Indeed, the largest borrower is Barclays, and three of the top four are U.K. banks.

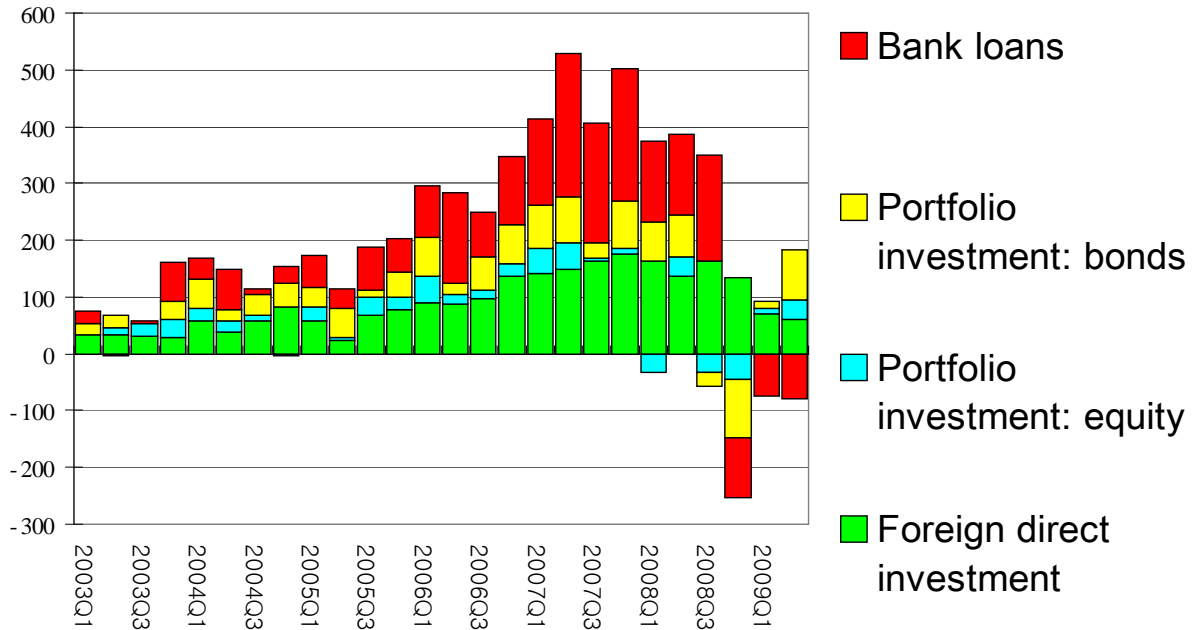
Figure 5. Cumulative borrowing under Federal Reserve's Term Auction Facility (Source: Federal Reserve)



Once the foreign banks send wholesale dollar borrowings to their headquarters, the trail grows cold since we cannot peer into the internal global portfolio decisions of these banks. However, we can pick up the trail on the other side. Once the dollars are on-lent to local borrowers in Europe, Asia and Latin America, we can pick up the trail again by examining the banking sector capital flows in the balance of payment accounts.

Figure 6 is a chart from a recent issue of the IMF's Global Financial Stability Report, showing the capital inflows into 41 countries including many emerging economies. The flows are disaggregated into the four main categories of capital flows. We see that FDI flows are steady and portfolio equity flows are small in net terms. However, banking sector flows display the signature procyclical pattern of surging during the boom, only to change sign abruptly and surge out with the deleveraging of the banking sector.

Figure 6. Components of capital flows (billion dollars)
 (Source: IMF Global Financial Stability Report, April 2010 p. 123)



A more detailed picture emerges when we examine the non-core liabilities for the Korean banking sector, given in Figure 7. The first peak comes immediately prior to the 1997 financial crisis. After a lull in the early 2000s, non-core liabilities again pick up speed and increase rapidly up to the 2008 financial crisis.

Figure 8 normalizes non-core liabilities of the Korean banking sector as a fraction of M2. We see the procyclicality and substantial variation, ranging from around 15% to a peak of 50% during the crisis of 2008.

The growth in foreign currency liabilities and debt security liabilities of Korean banks in the period between 2003 to 2007 in Figure 7 can be seen as the mirror image of the increase in net interoffice accounts of foreign banks in the U.S. in Figure 4. In effect, Figure 4 reflects the liabilities side of global banks' balance sheets while Figure 7 reflects (a small part of) the asset side of global banks' balance sheets.

Figure 7. Non-Core Liabilities of Korean Banking Sector
 (Source: Bank of Korea and Shin and Shin (2010)³)

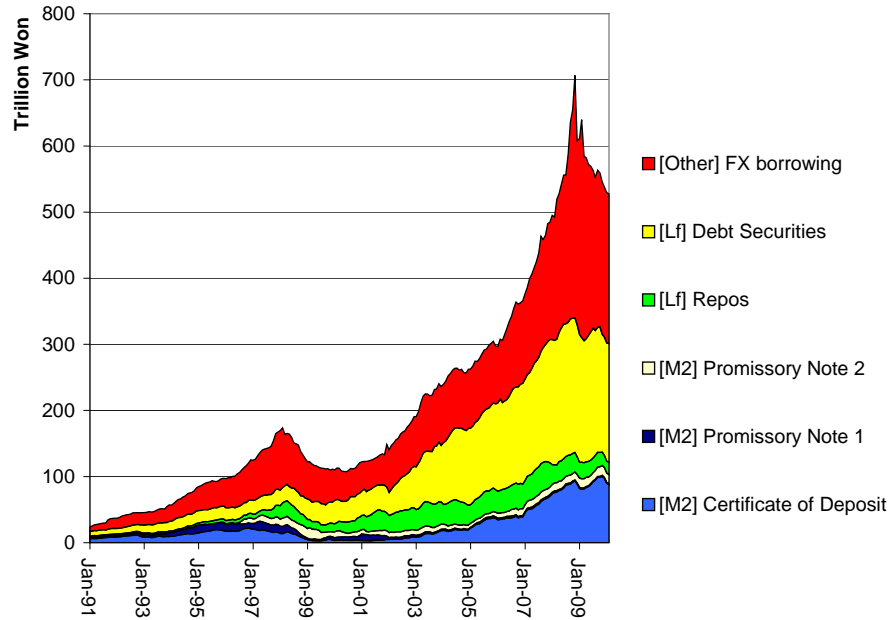
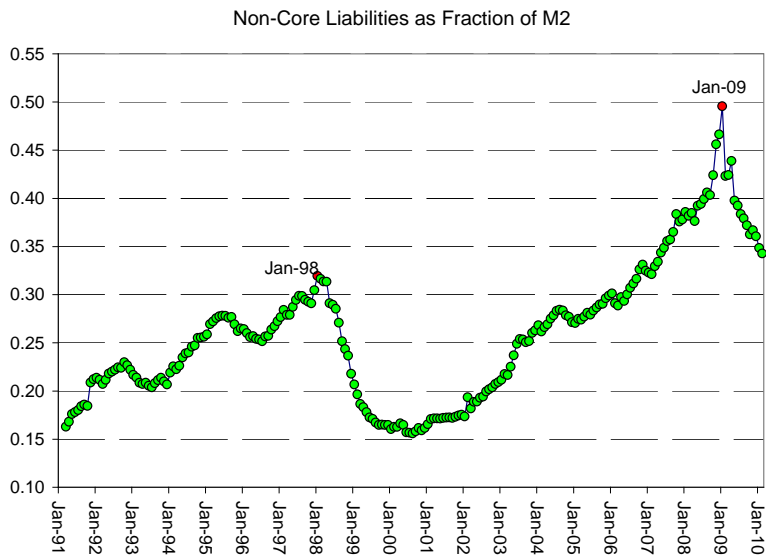


Figure 8. Non-core liabilities as a proportion of M2
 (Source: Bank of Korea and Shin and Shin (2010))



³ Shin and Shin (2010) "Procyclicality and Monetary Aggregates" NBER working paper 16836
<http://www.nber.org/papers/w16836>

Figure 10. Net Capital Flows of Equity and Banking Sector (Billion Dollars)
 (Source: Bank of Korea and Shin and Shin (2010))

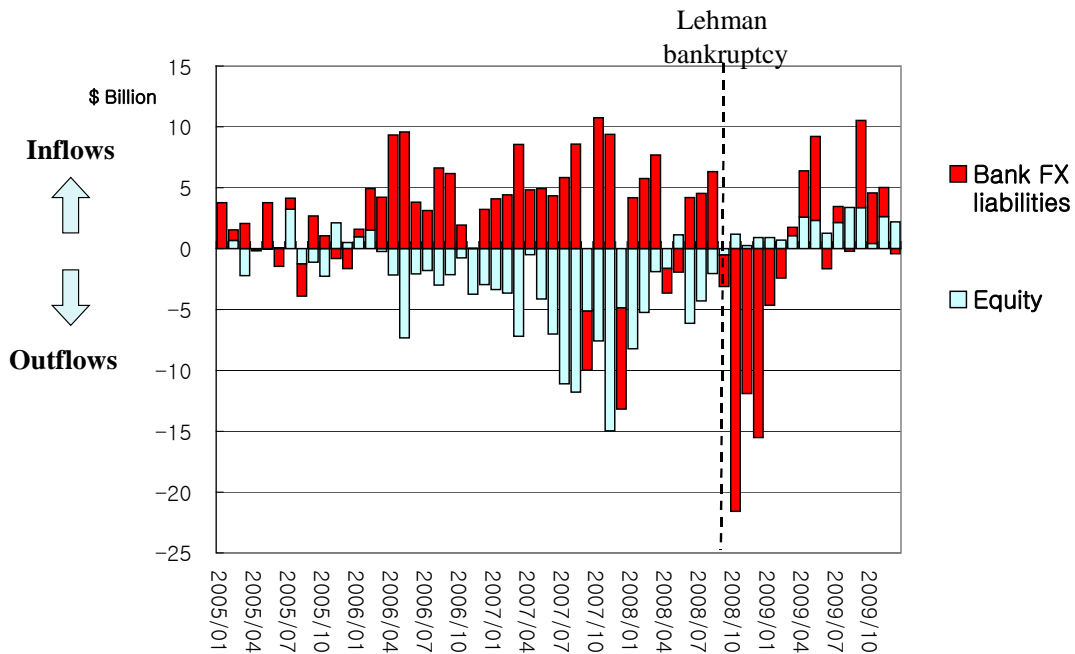


Figure 10 is a monthly chart of flows in the equity and the banking sectors in Korea. The equity sector actually saw net inflows during the crisis in the autumn of 2008, as selling by foreigners was more than matched by the repatriation flow of Korean investors who sold their holdings of foreign equity. However, the banking sector saw substantial outflows in the deleveraging episode following the bankruptcy of Lehman Brothers.

Letting the currency appreciate in response to capital inflows may mitigate the pressure from surging capital flows. However, when banking sector flows form the bulk of the inflows and the leveraging and deleveraging cycle amplifies distortions to liquidity conditions, additional prudential measures may be necessary to lean against the build-up of vulnerabilities to sudden reversals and deleveraging.

Macroprudential policy that leans against the build-up of non-core banking sector liabilities has some merit in this regard. Korea has announced that it will introduce a *Macroprudential Levy* in the form of a levy on the foreign exchange denominated liabilities of the banking sector, with a higher rate applying to short-term liabilities. The

levy is intended to lean against excess liquidity and the build-up of vulnerabilities to sudden reversals associated with deleveraging.

The levy can be expected to work as an automatic stabilizer, since the base of the levy is larger during booms. The automatic stabilizer element is a virtue given the political economy impediments with relying on discretionary policy. The macroprudential levy also has the virtue that it leaves the core intermediation function largely untouched, operating primarily on the bubbly portion of the banking sector liabilities.

Although the levy will have some effect on exchange rates, holding down the exchange rate should not be the primary objective of such a levy. By the same token, a debate that focuses exclusively on exchange rates and trade imbalances undervalues the financial stability role of macroprudential policy. Policy makers would do well to remember the main lesson from the global financial crisis – that the leveraging and deleveraging cycle of the banking sector is the driver of financial instability, both for advanced and emerging economies.

The IMF's Financial Stability Contribution (FSC) proposed a broad-based levy on the non-core liabilities of the banking system, and could have been expected to exert some restraint on the leverage cycle of the global banks.⁴ However, the IMF's FSC did not find sufficient support among G20 governments, and was shelved at the Toronto summit in June 2010.

The failure of the G20 to adopt the FSC may reflect in part the framing of the debate in terms of raising revenue and “punishing” the banks. It may also reflect the dynamics of the complex multilateral process that the G20 represents. However, the imperative for well-designed macroprudential policies in a world with monetary policy spillovers increases the attractiveness of revisiting the merits of the FSC.

⁴ <http://www.imf.org/external/np/g20/pdf/062710b.pdf>