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Monetary Options for Postwar Iraq

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Executive Summary

Following a swift military campaign to remove the Saddam Hussein government in Iraq, it has become clear that preparations for the postwar period have been inadequate and that the occupying forces lack a workable exit strategy. Specifically, the Coalition Provisional Authority has failed to anticipate the challenges that face the postwar Iraqi economy, including the introduction of sound money to facilitate exchange.

Recent actions by the Coalition Provisional Authority to institute an independent central bank in Iraq are wrongheaded. The Central Bank of Iraq will be able to operate only through financially repressive measures that are inconsistent with a market economy. It will be prone to fiscal abuse from a provisional government and future Iraqi governments with more proposals for expenditure than probable sources of revenue. Accordingly, the central bank cannot in any way be considered independent. In light of the current realities in Iraq, central banking can only be regarded as an inferior monetary regime of last resort.

Two alternative monetary regimes that would work well to introduce sound money in postwar Iraq are a currency board regime and official "dollarization." Both regimes have worked well to produce confidence and stability in postconflict situations and could be introduced in postwar Iraq rapidly. Moreover, both regimes have been employed previously in Iraq, with success. The quick introduction of either regime will help the Coalition Provisional Authority to establish economic stability and pave the way for a timely exit from the increasingly costly postwar engagement.

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Introduction

The military campaign against Iraq was devastating. The country has sustained numerous civilian and military casualties; a battered physical infrastructure; disrupted trade; drastic political, administrative, and social dislocation; and the psychological difficulties and resentments of a vanquished people adjusting to the peculiarities of life under alien rule. These grim realities, plus an unexpected guerrilla-type campaign, promise no end of problems for postwar Iraq.

During the occupation, it has become clear that the military's preparations for the postwar period were inadequate and that the coalition lacks a workable exit strategy. Despite their exposure in Afghanistan, the armed forces have not developed a core competency for managing the challenges of nation building and winning the peace.[1] A chief lacuna in the Coalition Provisional Authority's planning has been preparing to relaunch the Iraqi economy. The vital first step for a postwar economic strategy is to implement a currency reform rapidly.[2] Without sound money, transactions in the Iraqi economy will be impaired, and development will be postponed.

The State of Money and Banking in Postwar Iraq

Because of Iraq's long isolation from the rest of the world, very little is known about the state of money and banking in Iraq today. A review of the scant literature and press reports yields some basic facts, however.

There are two currencies circulating in Iraq. The so-called Saddam dinar is issued by the Central Bank of Iraq. Denominations of 250 and 10,000 dinars circulate, but only the 250-dinar denomination is accepted for most transactions. Currency traders will exchange 10,000-dinar notes for 250-dinar notes at a discount of roughly 30 percent. In the semiautonomous Kurdish areas of Iraq, a second class of notes, the so-called Swiss dinar, circulates. The notes have been in circulation since before the 1991 Gulf War and are in an advanced state of deterioration. Because the Hussein government did not continue to print them after the Gulf War (opting instead to spread the Saddam dinar), they have escaped the inflation tax and now trade at approximately 200 Saddam dinars per Swiss dinar.

Inflation was a problem during the Hussein regime. Prices rose at a 68 percent annual rate in 1979, 95 percent in 1980, 139 percent in 1981, and 369 percent in 1988.[3] The Economist Intelligence Unit estimates that inflation was 100 percent per year in 1997, declining by 10 percent per year to reach 60 percent in 2001 and returning to 70 percent in 2002.[4] The official exchange rate of the Iraqi dinar is still US$3.22 = ID 1, but the black-market rate has long since diverged from the official rate, suggesting that repressed inflation has been significant and that the above-mentioned inflation estimates are best understood as lower bounds. State commercial banks began selling foreign exchange to the public in 1999 at the parallel market rate of 2000 dinars to the U.S. dollar.[5] The market exchange rate now fluctuates significantly from day to day and is consistently in excess of 1000 dinars to the U.S. dollar.

The banking system was nationalized on July 14, 1964, and remained nationalized until 1991, when six private banks, whose "independence was limited," were opened.[6] In addition to the central bank, the Rafidayn Bank (also spelled al-Rafidine and Rafidain) is the primary commercial bank, having operated since 1941, and the Agricultural, Industrial, and Real Estate banks are responsible for lending to their respective sectors. A second large state bank, the Rasheed Bank, opened in 1986. The commercial banks played an active role in mobilizing private-sector savings to support the extension of credit to state enterprises, although some private-sector lending also occurred.[7] The state banks are currently unable to perform most basic banking functions. They have not recovered their foreign assets, and their cash holdings have been looted.[8]

The government borrowed heavily from the central bank and the commercial banks to finance its deficits, and "since the commercial banking system was a government monopoly, such borrowing from the banking system was tantamount to printing money, one step removed."[9] The only other financial activity seems to be in the insurance industry, which was also government owned,[10] and in a stock market that began operating in 1992 but has not reopened since the war.[11]

We can expect that the Central Bank of Iraq and all of the commercial banks are insolvent, since their balance sheets are dominated by claims on the now-defunct Hussein government, which have been suspended by CPA order no. 4. Whether those claims will be repaid is subject to an impending decision of the CPA.[12] Bank liabilities are high since state lending was supported by mobilizing private deposits, which still constitute legitimate claims of Iraqi citizens on banks. We can also expect that there is no functional payments system or money market. The government has never been able to borrow in the open market, since there is no financial system outside the state-owned financial system.[13]

Proposals by the Transitional Authorities to Introduce Sound Money

"The General has no plan, or even the idea of a plan, nor do I believe he knows the meaning of the word *plan*." When he wrote these words, the Duke of Wellington was referring to the blunders of Sir Hew Dalrymple in Portugal, in 1808.[14] He might as well have been talking about the CPA in post-Saddam Iraq.

The recent embarrassment brought on by the printing of new dinars, complete with Saddam Hussein's image, to pay the wages of Iraqi public servants has forced the transitional authority to confront the issue of Iraq's money.[15] To correct this maladroit decision, Paul Bremer, head of the CPA, announced on July 7 that new Iraqi dinars would be introduced over a three-month period starting October 15. These will replace both the Saddam dinars and the so-called Swiss dinars that circulate in the Kurdish areas of Iraq. The new notes will be printed by the British company De La Rue, which printed the Swiss dinars and still possesses the plates in its vaults. The Saddam dinar will be retired at par, and the Swiss dinar will be retired at the rate of 150 Saddam dinars per Swiss dinar, a significant discount to its open market rate, but one approved by Kurdish leaders.

This routine is roughly the same one that was followed in Afghanistan in 2002. Under the Taliban government, the central bank had issued local currency, the afghani, but the notes were printed in Russia and the plates were not secure. Warlords took advantage of the confusion and began to print their own scrip. To clean up the ensuing multiple-currency mess, the various renditions of the afghani were retired and replaced by a new issue of afghani notes.

The state of financial markets in Iraq rules out all indirect instruments of monetary policy.

Signals about the future course of monetary affairs are few. The U.S. Agency for International Development states that its intention is "to help the Iraqi Central Bank, the Ministry of Finance, and the private banking sector achieve long-term goals that will stabilize the economy by equipping the Ministry of Finance to handle government payrolls, developing a legal framework that encourages the private sector, and providing widespread access to commercial banks."[16] Blurry even by propaganda standards, this tells us little about the administration's reconstruction plans besides U.S.AID's conviction that the Central Bank of Iraq should be maintained—sentiments that have been echoed by the CPA.

Randal Quarles, assistant secretary of the treasury for international affairs, has indicated that a sound currency is one of the principles that will guide the economic reconstruction of Iraq.[17] This signal must be met by substance. Establishing sound money in Iraq

It is unclear how the management of the Iraqi central bank will even formulate a rational basis for operating.

would send a confidence shock through the Iraqi economy necessary to kick-start economic growth.

A Comparison of the Alternatives

The CPA has signaled its preference for an independent central bank to maintain the currency issue in Iraq, following the retirement of the Saddam dinars and Swiss dinars. We believe that this is an unsuitable option for Iraq. Two superior alternatives to central banking exist for Iraq: a currency board system and "dollarization." Either of those alternatives would be more effective than maintaining the Central Bank of Iraq, whether it is independent or not.

Option A: An Independent Central Bank

We address first the question of whether Iraq can operate a central bank at all. The additional matter of independence is considered afterwards.

The traditional responsibilities of a central bank include monopoly issue of base money, regulation of the financial sector, rediscounting financial claims and extending overdrafts to the financial system (i.e., acting as lender of last resort), acting as banker to the government, holding the government's official foreign reserves, and ensuring stability of the payments system and financial stability overall. Certainly that is a long list of goals for any institution.

Indirect and Direct Instruments of Monetary Policy. An Iraqi central bank will be expected to conduct monetary policy. Central banks conduct monetary policy with indirect and direct instruments. Indirect instruments include transactions through foreign exchange and money and interbank markets and also include setting reference interest rates (such as discount rates) and adjusting the supply of base money. In contrast, direct instruments of monetary control can include, inter alia, controls on banks' deposit and lending rates, credit ceilings, rediscount quotas, statutory liquidity ratios, selective credit controls, and moral suasion.[18] The objective of either type of monetary control is to administer the price or quantity of money and credit available to the economy. However, indirect instruments aim to achieve desired prices and quantities through markets, while direct instruments do so through regulations.

Institutions do not exist in Iraq for a central bank to operate using indirect monetary policy instruments. There is currently no primary market in which the Iraqi government auctions debt securities to the financial system or to the nonfinancial public. There is a small secondary market in debt issued by the Hussein government, but it may very well disappear should the new government decide not to service the Hussein debt, a position supported by many influential neoconservatives.[19] There are currently no functioning markets for debt or equity securities issued by private Iraqi firms. It follows that there is no formal money market in Iraq as money markets are commonly understood. Additional informal sources of finance may exist, but their informal nature suggests that central bank participation in them is an impossibility.

For an interbank market to exist, a competitive banking system and an efficient payment and settlement system linking banks together are required. Iraq has neither. In countries where the economy is administered mostly by command, the banking system intermediates funds without the guidance of market price signals. Funds are mobilized by fiat and channeled to state-owned enterprises and other ventures that enjoy the favor of the government. Iraq's banking system is no exception. Now that the institutions of Saddam Hussein's command economy are in ruin, Iraqi banks are saddled with uncollectable claims on the Ba'ath government that have been suspended by the CPA. The banking system—to the extent that one even exists—is bankrupt. Whether there is still a payment and settlement system linking the banks is another matter.Two factors should be considered, however. First, the payment system is above all a set of contractual arrangements and operating facilities used to transfer value.[20] In Iraq's lawless environment, the existence and enforceability of any set of contractual agreements must be regarded with strong doubts. Second, payments systems in command economies have been generally unsophisticated. China, Poland, and Russia, for instance, relied on physical transportation of detailed paper documentation of every financial transaction for payment clearing while under their command economies. Final settlement, therefore, could take weeks.[21] The interbank market in Iraq, if it resembles those of other command economies, will be a shoddy affair.

Foreign exchange markets are another institution that is primitive in Iraq. Foreign exchange trades against the dinar are not managed electronically through some investment bank market maker, but through the open outcry of the bazaar. To even ascertain the fair market value of the dinar will require a nonnegligible monitoring cost, and interventions will be sloppy at best and coercive at worst.

Even such relatively benign operations as setting a reference interest rate or adjusting the quantity of base money cannot happen easily in Iraq. At present there is no interbank market, meaning that banks do not currently lend to (or borrow from) each other under any circumstances. Accordingly, there is no market-clearing rate of lending that the central bank can hope to influence by setting its own lending rate. In the event that some interbank lending does exist, problems of communication, payment systems, and liquidity will hobble the interest rate arbitrage that makes changes in reference rates useful for monetary policy. Most developing countries have run into those problems when attempting to regulate the price of money and have chosen instead to regulate the quantity of money. The quantity of base money can only be affected by altering the amount of currency in circulation, since there are no efficiently cleared bank reserve accounts to be debited or credited at the central bank. Bundles of notes will have to be distributed physically in return for physical delivery of some asset, which could include such marketable things as title to grains in storage, milk cows, or farm equipment.

The state of financial markets in Iraq rules out all indirect instruments of monetary policy. Accordingly, only direct instruments can be called upon, but one precaution should be pointed out: *They fly in the face of a market economy.* Any statutory restriction placed on commercial banks by the central bank as regulator of the financial sector prevents banks from competing and achieving an optimally allocated portfolio in response to market signals. Besides being a poor position from which to expect a new market economy to start, direct controls are generally counterproductive. Mitra Farahbaksh and Gabriel Sensenbrenner evaluated the experience of bank-by-bank credit ceilings as direct instruments of money control in nineteen developed and developing countries. They concluded, "In all countries reviewed, monetary control through the imposition of ceilings—often combined with other administrative controls—left the banking system highly uncompetitive, inhibited growth of bank financial intermediaries, and led to a large buildup of excess reserves, often caused by the monetary financing of the budget deficit."[22]

One must also consider that, for an Iraqi central bank to operate rationally, it must confront and calibrate models of the Iraqi economy with historical and contemporaneous data. Quantitative data on the Iraqi economy are, in most cases, nonexistent. The International Monetary Fund does not have any data on even the balance sheets of the central bank or the financial system since 1977, let alone national income accounts (missing since 1993), prices, interest rates, or the balance of payments. It is unclear how the management of the Iraqi central bank will even formulate a rational basis for operating, and there is no telling how long it will take to put an apparatus in place to collect the necessary information. For an indefinite period, an Iraqi central bank will be flying blind, without instruments.

The prospects for a strong budget are not bright.

It is likely that the fiscal situation will necessitate monetization of the deficit.

It is clear that the most that one could hope for with an Iraqi central bank would be that it would sit on its hands indefinitely. Even that expectation may be too hopeful. After all, the staff will be inclined to do something.

Central Bank Independence. The CPA has published a set of "Measures to Ensure the Independence of the Central Bank of Iraq."[23] The measures suspend the central bank's authorization "to loan funds to Iraqi Government Ministries" and allow the central bank to "determine and implement monetary and credit policy without the approval of the Ministry of Finance." The two-page document, signed into force by Paul Bremer on July 7, leaves a number of questions unanswered. The measures make reference to the Central Bank of Iraq Law, which was not appended to the CPA's order and for all practical purposes is unavailable. Does the lending prohibition apply only to cash advances to the government? Or is the central bank prohibited from holding any Iraqi government debt at all? (If so, how will the central bank conduct monetary policy?)

If the independence of the Iraqi central bank is to be credible, the government must be able to put together an ironclad budget. Simply put, no central bank can be independent without a strong dose of fiscal control, because any budget deficit that cannot be financed in domestic or foreign debt markets will have to be financed by money creation. That is the inflation tax at work.

The prospects for a strong budget are not bright, however. On the revenue side, the CPA plans to rely on oil revenues. However, a great deal of investment and repair is required before oil will be able to flow again in full force from Iraq, and preliminary estimates of Iraq's capacity to bring oil to market have proven to be far too optimistic. Among other things, the oil sector continues to be plagued by theft, smuggling, and sabotage.[24] Opportunities for spreading the tax base are few, as little productive activity survives, and resources are not in place to administer income or excise taxes. And there are so far no privatizations in the works.

On the expenditure side, the administration will need to confront a number of demons. Besides paying for reconstruction—no easy task—the CPA will have to unwind the institutions of a command economy. It will inherit bankrupt state-owned enterprises. The banking sector will have to be recapitalized and revamped to operate in a market economy, if the claims of Iraqi depositors are to be honored. A decision must be made on whether outstanding debt from the Hussein regime will be serviced, an issue that has not been resolved following the suspension of the financial obligations of the Ba'ath Party. In addition, there is the growing wish list cobbled together by Washington, including massive health care spending, investment in educational facilities, and the construction of that great open-ended contingency and hallmark of Western welfare states, the "social safety net." The gap between potential revenues and planned expenditures will probably be large. When the shortfall must be covered, the inflation tax will be hard to resist.

It is likely that the fiscal situation will necessitate monetization of the deficit. And worse, inasmuch as the central bank is the regulator of the financial system—a role that it will not likely be denied—the CPA and future Iraqi governments will be in a position to force their financing requirements on the financial system at large. Such an outcome is the consequence of the fiscal dominance hypothesis developed brilliantly by the late Maxwell Fry.[25] Indeed, so long as there is a central bank, Iraqi governments will have less incentive to follow the rules of fiscal prudence. Faced with a soft budget constraint, the fiscal authorities will force the central bank to cooperate in financing its deficits.

Our fears about the integrity of future budgets are borne out by the interim budget produced by the Ministries of Finance and Planning in conjunction with the CPA. The budget for July–December 2003 anticipates revenues of $3.9 billion and operating and capital expenditures of $6.1 billion, leaving a $2.2 billion primary deficit. But an off-budget line item of $2.1 billion for "central bank currency support," if accounted for properly as an on-budget outlay (it is, in all likelihood, recapitalization of the central bank), nearly doubles the deficit.

If the CPA is unwilling to face the size of its deficit openly, what are the chances that a new Iraqi government will do so? Furthermore, as the line item's name implies, there is a high probability that the increase in the central bank's net worth of $2.1 billion will be transformed, in full or in part, into another item on the liability side of the central bank's balance sheet, namely a monetary liability used to finance budget deficits. In that case, the loss of central bank independence will take the form of central bank "decapitalization," with base money (a central bank liability) increasing and the central bank's net worth decreasing.[26] This differs from the typical modus operandi for monetization of a fiscal deficit, which is a forced purchase of government bonds (a central bank asset). In either case, central bank independence is thrown to the winds.

Does Iraq Need a Floating Exchange Rate? Some observers may argue that a central bank is nevertheless the most desirable option for Iraq because it is only with a central bank that Iraq could have a floating exchange rate. With a floating exchange rate, the argument goes, the Iraqi economy will be more resistant to external shocks resulting from changes in the market price of oil, Iraq's primary export. In other words, the variability of Iraqi output will be stabilized under central banking because the floating exchange rate will adjust Iraq's terms of trade more quickly than changes in prices within the Iraqi economy.

That argument ignores the significance of internal shocks to the economy that are generated by the conduct of monetary policy. In many countries, such internal shocks can dominate external shocks and have more influence on output variability and the exchange rate than commodity prices, such as the price of oil. For example, the appreciation of the pound sterling in the late 1970s was found to be the result of tight monetary policy and not a result of the increasing price of oil, of which Britain was emerging as a substantial producer. The price of oil was found to have only a "relatively small and transitory" effect on the exchange rate.[27]

The argument also fails to recognize that developing countries are reluctant to let their exchange rates float freely. Even if they claim to operate a floating exchange rate regime, their preference is to retain management of their nominal exchange rates through interventions in the foreign exchange markets and adjustment of domestic monetary policy. Their "floating" exchange rates are actually managed and are, consequently, a type of *pegged* exchange rate.[28] That preference has been described and documented as the "fear of floating."[29] By pegging rather than fixing their exchange rates, the countries maintain some ability to use the exchange rate as an instrument of adjustment, but it is done at the authorities' discretion rather than automatically. Accordingly, adjustment becomes a question of the authorities' ability to distinguish movements in the exchange rate that are produced by the pattern of international trade and those that are produced by domestic monetary policy and central bank interventions in the foreign exchange market. The authorities will have to aggregate and correctly interpret a phenomenal amount of information and will face a classic socialist calculation problem, a problem articulated and declared impossible in the landmark work of Friedrich Hayek.[30]

The fear of floating is observed in oil-exporting countries. Their preference has been to keep their exchange rates pegged to the U.S. dollar or to the IMF's unit of account known as the Special Drawing Right. According to the official IMF classifications, 7 out of 10 OPEC members (excluding Iraq), which account for 75 percent of the crude oil exports from OPEC, operate pegged exchange rate regimes. Although Indonesia has a long history of pegged exchange rates, its regime is currently classified by the IMF as independently floating, while Algeria and Nigeria maintain managed floats that are less rigidly connected to the U.S. dollar. The extent to which the nomi-

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nal exchange rate is allowed to facilitate adjustment in Iraq under central banking, therefore, will probably be circumscribed by the fear of floating.

Returning to concerns about output variability with the fear of floating in mind, we can get some idea of how output variability plays out in countries with and without central banks. Broad cross-country evidence suggests that internal shocks are at least as important as external shocks in most developing countries that have central banks operating pegged exchange rates. In a sample of 98 developing countries (1950–93) with central banks and currency boards (or dollarization), the countries that had central banks experienced variability in their output that was not significantly different from the variability of output observed in countries with currency boards or dollarization. Moreover, the mean annual growth rate in countries with central banking was one full percentage point lower than in countries with a currency board or dollarization.[31] Some important factors contributing to internal shocks in countries with central banking are extensive government borrowing from the central bank and the cost of lending to and bailing out rickety commercial banking systems. As we have argued above, an Iraqi central bank will be prone to both of those disturbances. The evidence suggests that Iraq will not gain more stable output from retaining a central bank.

Conclusions. The Iraqi central bank will be able to operate only through financially repressive measures that are inconsistent with a market economy. It will be prone to fiscal abuse by a provisional government and future Iraqi governments with more proposals for expenditure than probable sources of revenue. It cannot in any way be considered independent. Moreover, staffing will prove to be problematic because most of the existing personnel have experience only as agents of an institution for rationing foreign exchange and credit and administering the inflation tax. In light of the current realities in Iraq, central banking can be regarded only as an inferior monetary regime of last resort.

Option B: A Currency Board

A currency board is one monetary regime that could be constructed quickly in Iraq. A currency board issues domestic currency at a fixed exchange rate with a reserve currency such as the U.S. dollar or the euro. The domestic currency is convertible on demand into the reserve currency at the fixed exchange rate, and convertibility is guaranteed because the currency board maintains 100 percent reserve currency backing of the domestic monetary base.

A currency board has no domestic assets and no domestic liabilities besides the monetary base. It does not lend to the government or the banking sector and does not accept deposits from either. Since it is not banker to the government, fiscal agent, lender of last resort, or guarantor of the financial system's solvency, it is free of fiscal- and financial-sector contingencies. The sole purpose of the currency board is to maintain the integrity of the currency issue.

Because there is no domestic component to the monetary base (only a foreign component), changes in the demand for money translate directly into changes in base money and the currency board's foreign reserves. Thus, balance of payments adjustment is automatic. To ensure automaticity in the adjustment mechanism, the currency board apparatus is completed by the institution of a 110 percent ceiling on the ratio of foreign reserve cover to monetary liabilities. When the domestic currency is linked in this way to the reserve currency, inflation and interest rates will gravitate to their levels in the reserve currency country by arbitrage. The arbitrage mechanism will work best when combined with flexible, market-determined prices and interest rates. Accordingly, the CPA should seek to achieve one of its stated goals quickly, namely the elimination of administered prices. (It is important to note that the impetus to achieve flexible prices with floating exchange rates is much less than with fixed rates.)

The currency board's foreign reserves are managed by a board of directors and invested in a portfolio of high-quality assets denominated in the reserve currency. The accumulated return earned on the reserve assets less the cost of maintaining the currency issue represents a net seigniorage profit that is remitted to the government on a periodic basis. The board is most effective when headquartered abroad and governed by foreign nationals. Both are useful methods of insulating the board's activities from politicization and ensuring strict adherence to the laws governing the currency board.

Another advantage created by the board's policy of holding no domestic assets is that the government cannot borrow from the currency board—that is, the government cannot monetize its deficit. And because the currency board does not regulate the commercial banking sector, it cannot be used as an intermediary in forcing commercial banks to lend to the government directly or indirectly (an example of the latter is instituting reserve requirements that can be met by holding government securities). The government accordingly faces a hard budget constraint and must meet its budget requirements through fiscal revenues and sustainable borrowing on the open market. A currency board thus encourages fiscal discipline.[32]

The currency board's separation from the banking sector paradoxically offers a number of benefits to the developing banking sector. First, because there is no lender of last resort, commercial banks will be compelled to assess and manage risks appropriately from the beginning. Second, since the banking sector is not a contingent liability of the currency board, the stability of the currency cannot be compromised by instability in the banking sector. A stable currency will reduce uncertainty and monitoring costs for banks, and lower interest rates and inflation will encourage the development of longer-term lending. Furthermore, for an economy like Iraq that is dominated by cash and where money substitutes are virtually absent, the integrity of cash—that is, currency—must be the first priority. Should the government wish to bail out the banking sector (or recapitalize it), the endeavor becomes a fiscal expenditure rather than an operation funded by the inflation tax. The banks are protected from currency problems, and the currency is protected from banking problems. Third, by linking the dinar to an international currency, a currency board would lay the groundwork for integration of the Iraqi financial system into deep, liquid international financial markets. Finally, the construction of a payments system under a currency board can be undertaken by commercial banks on an organic basis as new banks enter the Iraqi market. Foreign entrants to the banking market may also be able to use the payments architecture of their country of domicile as an alternative to a newly assembled Iraqi payments system. The ground-up construction of a payments system will force banks to assess and manage settlement risks carefully, an incentive that is weakened when a central bank is in place to guarantee settlement.

The successful establishment of a currency board in Bosnia and Herzegovina (BH) after its bloody civil war argues in favor of such a monetary system for Iraq. The civil war erupted shortly after BH declared independence in March 1992 and continued until the last of many ceasefires on October 15, 1995. The war devastated the country. The death toll was 250,000, and 3 million of the country's 4.4 million people were displaced, with 1 million becoming refugees abroad. About 18 percent of the housing stock was destroyed and 60 percent was damaged. The war left much of the territory covered with land mines, and the economy was in shambles, with output declining to about 20 percent of the 1990 level. BH was cordoned off into Croat, Muslim, and Serb ethnic zones. Although the German mark was the dominant currency in each zone, they each used distinct local currencies: the Croatian kuna, the BH dinar, and the Yugoslav dinar. To unify the new postwar federation and provide the economy with a much-needed sound money confidence shock, it was deemed essential to establish a monetary system that would reintegrate and unify the ethnic zones.

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To do that, it was necessary to design a system that was strictly rule bound and insulated from ethnic backbiting.

With those objectives, the Clinton administration insisted that Article VII be included in the Dayton/Paris Accords of 1995. That article mandated a currency board for the first six years of the new federation and specified that the board's governor be a foreign national appointed by the IMF after consultation with the presidency. With the mandate from an international treaty, the IMF staff and outside experts designed what has proved to be the most rule bound and automatically functioning of the modern currency boards.[33] It commenced operation on August 11, 1997, and has successfully achieved its original objectives. Stanley Fischer, former first deputy managing director of the IMF, confirmed this in a press conference announcing his retirement from the IMF. When asked what his proudest moment had been during his tenure at the IMF, Fischer mentioned, among other things, the speed with which the IMF staff was able to put the currency board in place and the unqualified success of the board following its short gestation.[34]

Of the arguments leveled against currency boards (and their close cousin dollarization), the only one with strong staying power relates to sovereignty. The sovereignty argument says that instituting a currency board (or dollarizing) deprives a government of its sovereign right to a central bank and a distinct unit of account that can be manipulated for various policy ends. But sovereignty is an ambiguous and plastic term that is not easily defined.[35] Consequently, statements that are made about it cannot be refuted. We have no way of knowing whether an event (save a territory's wholesale conquest) augments or diminishes sovereignty; thus sovereignty is an untestable and nonfalsifiable concept.

The confusion that surrounds the sovereignty debate as it pertains to monetary regimes illustrates the fluidity of the sovereignty concept. Whereas a potential new currency board (or the official adoption of a foreign currency) can be said to threaten a country's sovereignty, one can also find currency boards that have been instituted precisely to assert a country's sovereignty! The obvious example is Estonia. At the extreme, Montenegro, which was part of the Federal Republic of Yugoslavia in 1999, adopted the German mark as a means of asserting its "sovereignty" and independence from Yugoslavia. Any argument that invokes sovereignty rests on very shaky epistemic footing, however.

Let us assume for argument's sake that sovereignty means the power of the state, and that measures that increase or decrease sovereignty augment or diminish the power of the state.[36] In that case, there is no reason we should conclude that granting more power to the state is either desirable or just. Rather, it would be desirable to grant more power to the citizens of Iraq, who have long been under the repression of the Hussein regime. That would enhance liberty. Accordingly, the citizens of Iraq should not be coerced into transacting with a medium of circulation that is subject to debasement by the government, such as that produced by a central bank. Either a currency board or dollarization prohibits such government monetary mischief and, therefore, is to be preferred to a central bank in an operation designed to liberate the people of Iraq.

Other arguments against currency boards derive from Argentina's experience with a system that resembled a currency board but was not actually a currency board. This point was emphasized from the start by those who were familiar with the arrangement.[37] Argentina's monetary authority, the Banco Central de la República Argentina, resembled a central bank more than it resembled a currency board during the convertibility era. The BCRA rediscounted financial assets and extended overdrafts to banks, set reserve requirements and capital adequacy ratios for banks, lent to the government, and enabled the government to place debt with the commercial banking system through its power as regulator. It is telling that the BCRA's net domestic asset position—a balance sheet item that is zero or frozen under a currency board regime—was six times more volatile than that of Chile's central bank under a system that plainly operates a domestic monetary policy and has had a floating exchange rate since 1999.[38] In consequence, Argentina's experience does not constitute an argument against the efficacy of currency boards because the system was not a currency board. Rather, Argentina's experience provides a powerful warning to those, such as the IMF, who water down currency board statutes with central banking features.

A currency board would be well suited for Iraq. Moreover, the country has already had a successful experience with a currency board. The Iraqi Currency Board operated from 1931 to 1949 and maintained a fixed exchange rate and full convertibility with the British pound. The Iraqi Currency Board was headquartered in London and had two Iraqi government officials, two representatives of commercial banks (which at the time were all British owned), and a British chairman chosen by the Bank of England as its directors. Although it was intended only as a transitional measure to central banking, it operated smoothly for its 18 years of existence before being replaced with the National Bank of Iraq.[39]

Option C: Dollarization

Iraq could go a step further than a currency board and simply replace the dinar with an international currency such as the U.S. dollar or the euro. No monetary authority would be necessary. The international process of adjustment would work in the same manner as under a currency board, and the credibility of the arrangement would be enhanced because there would be no institution through which the government could interfere with the currency issue.

The benefits of dollarization are identical to those associated with currency boards. Some drawbacks of dollarization are the loss of seigniorage profits[40] that would be earned with a currency board and perhaps, in the case of Iraq, the lack of an institution to meet the demand for notes and coins. Most episodes of dollarization, such as those in Liberia and Panama, have involved at least one foreign-headquartered commercial bank that has access to foreign notes and coins through its home office.[41] There are currently no operational commercial banks in Iraq, domestic or foreign, so importing currency to meet the needs of Iraqi money demand risks being a slow process. The demand can, nevertheless, be met by international transactions settled in cash in the Iraqi markets, and there are no technical obstacles to introducing a foreign currency as Iraq's currency.

Several countries have successfully replaced their low-quality domestic currencies with foreign ones in the past few years. Montenegro is a particularly noteworthy case. As part of the Federal Republic of Yugoslavia, Montenegro wanted to distance itself from Slobodan Milosevic's grip and—curiously enough—to establish a degree of economic sovereignty.[42] To do so, it rapidly replaced the Yugoslav dinar—the world's worst currency at the time, reaching monthly inflation rates of 313 *million* percent[43]—with the German mark in November 1999. It has subsequently replaced the mark with the euro, and although it remains part of Serbia and Montenegro, it retains sound money and a degree of autonomy.

Iraq also has an episode of dollarization in its past, having used the Indian rupee (which was linked to the pound sterling) from 1916 to 1931. When the British made the rupee the official currency in 1916, the government was merely ratifying the Iraqis' de facto preference for the rupee over the Turkish pound, which had been forced tender when Iraq was part of the Ottoman Empire.

To conclude our discussion of dollarization, it is noteworthy that the IMF expert on currency reform in postconflict countries, Warren Coats, recommended dollarization for Afghanistan.[44] Unfortunately, the government of Afghanistan and the Bush administration didn't follow this counsel and opted for central banking. Afghanistan's economy has since floundered without sound money.

We have summarized the features of central banking, currency boards, and dollariza-

Iraq has already had a successful experience with a currency board.

Table 1
Comparing the Merits of Three Monetary Regimes for Iraq

	Central Bank	Currency Board	Dollarization
Issues notes and coins	Yes	Yes	Done by foreign issuer
Exchange rate[a]	Floating or pegged	Fixed	Fixed
Foreign reserves	Variable	Full coverage	Held by public
Convertibility	Subject to restriction	Guaranteed	Unnecessary
Lender of last resort	Almost always	No	No
Responsible for financial stability	Increasingly	No	No
Regulates commercial banks	Almost always	No	No
Transparency[b]	Generally low	Generally high	Total transparency
Risk of political interference	High	Low	Low
Capacity for deficit finance	Unlimited	None	None
Inflation potential	Unlimited	None	None
Encourages fiscal discipline	No	Yes	Yes
Can be implemented quickly	No	Yes	Yes
Requires preconditions for operation	Yes, several	No	No
Staff size	Large	Small	None
History in Iraq	Poor	Good	Good
History in developing countries[c]	Poor	Good	Good

[a]On the distinction between floating, pegged, and fixed exchange rates, see Steve H. Hanke, "How to Establish Monetary Stability in Asia," *Cato Journal* 17, no. 3 (Winter 1998): 295–301.

[b]For the elements of transparency and the problems of central banking that contribute to low transparency, see Steve H. Hanke and Matt Sekerke, "A Shroud of Secrecy," *Central Banking* 13, no. 1 (August 2002): 131–35; idem, "An Accountancy Standard for Monetary Authorities." in *Accounting Standards for Central Banks*, ed. Neil Courtis and Benedict Mander (London: Central Banking Publications, 2003): 273–302; and idem, "Towards a Better SDDS," *Central Banking* 14, no. 1 (August 2003): 56–69.

[c]For a comprehensive study of the performance of alternative monetary regimes in developing countries, see Kurt Schuler, *Should Developing Countries Have Central Banks? Currency Quality and Monetary Systems in 155 Countries*, IEA Research Monograph no. 52. (London: Institute of Economic Affairs, 1996). Other characteristics of central banking in developing countries are described in Maxwell J. Fry, Charles A. E. Goodhart, and Alvaro Almeida, *Central Banking in Developing Countries: Objectives, Activities & Independence* (London: Routledge, 1996); and Anand Chandavarkar, *Central Banking in Developing Countries* (New York: St. Martin's, 1996).

tion in Table 1.[45] On balance, the currency board or dollarization options have more to offer postwar Iraq than a central bank.

On balance, the currency board or dollarization options have more to offer postwar Iraq than a central bank.

Implementing a Currency Board System or a Dollarization Reform

Our discussion above suggests that the only serious alternatives for a successful monetary reform in Iraq are to institute a currency board or to dollarize officially. Either of those reforms could be accomplished quickly, in contrast to the development of a modern central bank, which would require an untold number of years to become operational and would face government interference at every turn. Currency boards and dollarization have been successful approaches for introducing sound money to countries with limited financial infrastructure, weak legal systems, and severe disruptions to their economies.

Moreover, Iraq has had good experience with both systems in the past.

Draft legislation to institute a currency board or dollarization reform is contained in the Appendix. Either law can be introduced and implemented quickly by the CPA. We recommend that the coalition do so immediately.

The primary technical issue in implementing either of those reforms is the method by which the fixed exchange rate will be chosen for a currency board, or a conversion rate in the case of dollarization. We recommend a market-based selection of an exchange rate. After a monetary reform is announced by the CPA, the dinar will be allowed to trade on the open market against the chosen reserve currency for 30 days. At the end of the 30-day period, information from the trading period will be used in choosing an exchange rate based on market activity. The exact method for fixing the exchange rate is contained in the Appendix as a procedure designed to accompany the introduction of either monetary reform draft law.

Either currency reform would help to establish confidence and stabilize Iraq's economy, paving the way for a timely U.S. exit. A quick stabilization, which can be achieved with dollarization or a currency board, is, therefore, of utmost importance.

Appendix: Draft Legislation

A Draft Law for an Iraqi Currency Board[46]

The Iraqi Currency Board Law

1. The Iraqi Currency Board is hereby created. The purpose of the Board is to issue notes and coins in Iraqi dinars, and to maintain them fully convertible at a fixed exchange rate into a reserve currency as specified in paragraph 6.
2. The Board shall have its legal seat in Switzerland and shall be subject to the laws of Switzerland.
3. a) The Board shall be governed by five directors. Three directors shall be citizens of the Group of Seven countries appointed by the Bank for International Settlements (BIS) in Basel. Two directors shall be appointed by the Government of Iraq, with one being a citizen of the Group of Seven countries and one being a citizen of Iraq. The directors from the Group of Seven countries shall not be employees of governments or multi-governmental organizations. b) A quorum shall consist of three of the Board's directors, including at least one of the directors chosen by the Government of Iraq. Decisions shall be made by majority vote, except as specified in paragraph 15. c) The first two directors appointed by the Government of Iraq shall serve terms of one and four years. The first three directors appointed by the BIS shall serve terms of two, three, and five years. Subsequent directors shall serve terms of five years. Directors may be reappointed once. Should a director resign or die, the BIS shall choose a successor to complete the remainder of the term if the former director was appointed by the BIS, or the Government of Iraq shall choose the successor if the former director was appointed by the Government of Iraq.
4. The board of directors shall have the power to hire and fire the Board's staff, and to determine salaries for the staff. The by-laws of the Board shall determine salaries for the directors.
5. The Board shall issue notes and coins denominated in Iraqi dinars. The notes and coins shall be fully convertible into euros. The notes shall be printed outside Iraq.
6. a) Initially, the reserve currency shall be the euro, and the fixed exchange rate shall be determined thirty days after the promulgation of this law is announced. The procedures for determining the fixed exchange rate are contained in a separate law that accompanies this law. The fixed exchange rate so determined will be used as the fixed exchange rate for the duration of the currency board arrangement, subject to changes of the

reserve currency in accord with paragraph 13. b) Failure to maintain the fixed exchange rate with the reserve currency shall make the Board and its directors subject to legal action for breach of contract according to the laws of Switzerland. This provision does not apply to embezzled, mutilated, or counterfeited notes and coins or to changes of the reserve currency in accord with paragraph 13.

7. The Board shall charge no commission for exchanging Iraqi dinars for the reserve currency, or the reverse.
8. The Board shall begin business with foreign reserves equal to at least 100 percent of its notes and coins in circulation. It shall hold its foreign reserves in highly rated and liquid securities, or other forms payable only in euros. These reserves shall be on deposit at the BIS. The Board shall not hold securities issued by the national or local governments of Iraq, or by enterprises owned by those governments. The reserves of the Board are the property of the Iraqi people and may not be appropriated by the Government of Iraq.
9. The Board shall pay all net seigniorage (profits) into a reserve fund until its unborrowed reserves equal 110 percent of its notes and coins in circulation and deposits. It shall remit to the Government of Iraq all net seigniorage beyond that necessary to maintain 110 percent reserves. The distribution of net seigniorage shall occur annually.
10. The head office of the Board shall be in Baghdad. The Board may establish branches or appoint agents in other cities of Iraq. The Board shall also maintain a branch in Switzerland.
11. The Board shall publish a financial statement, attested to by the directors, monthly or more often on a publicly accessible Internet site. The statement shall appraise the Board's holdings of securities at their market value. An annual audit of the Board shall be made by an international audit firm and shall be published by the Board.
12. Board may issue notes and coins in such denominations as it judges to be appropriate.
13. Should the annual change in the weighted average of the consumer price index for the member countries of the European Monetary Union fall outside the range –5 percent to 20 percent for more than two years, or –10 percent to 40 percent for more than six months, the Board must, within sixty days, either: a) devalue (if the change in the index is negative) or revalue (if the change in the index is positive) the Iraqi dinar in terms of the reserve currency by no more than the change in the index during the period just specified, or b) choose a new reserve currency and fix the exchange rate of the Iraqi dinar to the new currency at the rate then prevailing between the new reserve currency and the former reserve currency.
14. If the Board chooses a new reserve currency in accord with paragraph 13, it must convert all its foreign reserves into assets payable in the new reserve currency within one year.
15. The Board may not be dissolved nor may its assets be transferred to a successor organization unless all of the following conditions are satisfied: 75 percent of the members of the Parliament of Iraq approve, the President of Iraq approves and all of the directors of the Board approve.
16. The Board may accept loans or grants of reserves from multi-governmental organizations or foreign governments to establish the initial 100 percent foreign reserve backing of the monetary base. The loans shall not exceed 100 percent of the monetary base. After establishing the initial backing, the Board may not accept loans.
17. Exchanges of currency by the Board shall be exempt from taxation by the Iraqi governments.

18. Both Iraqi dinars and euros shall be legal tender for paying taxes and settling debts in Iraq, and these legal-tender currencies shall be the only currencies used for final settlements in the payments system of Iraq. However, Iraqi dinars and euros shall not be forced tender for contracts between private parties. Private parties shall be free to contract among each other in any currencies they wish to specify.
19. The Iraqi Currency Board shall not perform banking services for the Government of Iraq and shall not be responsible for the financial obligations of the Government.
20. The Iraqi Currency Board Law shall take effect upon its passage by the Government of Iraq or the Coalition Provisional Authority.
21. The Government of Iraq must amend the laws governing the banking system, the payments system and contracts so that they are in accord with the Iraqi Currency Board Law.

A Draft Law for Dollarizing Iraq[47]

The Iraqi Dollarization Law

1. The Central Bank of Iraq shall cease to issue dinars. It shall withdraw from circulation all currency issued by the Central Bank of Iraq and convert it into euros thirty days after the announcement of this law. The procedures for determining the conversion rate are contained in a separate law that accompanies this law. The Central Bank of Iraq shall preferably accomplish the bulk of this task within 30 days after the rate for conversion of dinars into euros is determined. Dinars currently accepted for redemption into euros shall continue to be accepted by the Central Bank of Iraq or the government for one year after this law enters into force. After one year, all dinar notes in circulation may be demonetized by a decree of the President of Iraq.
2. Wages, prices, assets, and liabilities shall be converted from dinars to euros at the conversion rate chosen for the redemption of the dinar monetary base. By sixty days after this law enters into force, wages and prices shall cease to be quoted in dinars.
3. Interest rates and other financial ratios shall remain the same in euros as they were in dinars. The maturities of loans and other financial obligations shall remain unchanged.
4. The Executive Power may appoint a committee of experts on technical issues connected with this law to recommend changes in regulations that may be necessary.
5. Nothing in this law shall prevent parties to a transaction from using any currency that is mutually agreeable. However, the euro may be established as the default currency where no other currency is specified.
6. Previously enacted legislation conflicting with this law is repealed. The Government of Iraq must amend the laws governing the banking system, the payments system and contracts so that they are in accord with this law.
7. This law becomes effective immediately.

A Draft Law for Determining the Rate of Exchange between the Dinar and the Euro

1. This law shall take effect upon the promulgation of the Iraqi Currency Board Law or the Iraqi Dollarization Law.
2. After the promulgation of the Iraqi Currency Board Law or the Iraqi Dollarization Law, the Iraqi dinar shall be allowed to trade for thirty days on the open market without intervention from the Government of Iraq. The prices and quantities of dinars traded shall be tabulated by dealers in foreign currency for the duration of the thirty day period.

3. An independent accounting firm will use foreign currency dealers' tabulated trading records to calculate the weighted average of the dinar-euro exchange rate at the end of each of the thirty days in the thirty-day trading period, and for the overall period. The results of these calculations will be taken into consideration by an independent committee of experts to determine the fixed exchange rate. The rate will be chosen to best represent the fair market value of the dinar, facilitate economic calculation and allow for rapid implementation of the Iraqi Currency Board Law or the Iraqi Dollarization Law.
4. The appropriate international cross currency rates shall be used to convert transactions in currencies other than the euro into euro terms.
5. The fixed exchange rate determined according to the procedures above will be used as the fixed exchange rate in the Iraqi Currency Board Law or the conversion rate in the Iraqi Dollarization Law.

Notes

The authors thank Kurt Schuler for suggestions.

1. Anthony Cordesman, "Iraq and Conflict Termination: The Road to Guerrilla War," July 28, 2003, www.csis.org/features/Iraq_ConflictTerm.pdf.

2. The necessity of sound money was stressed by Randal Quarles, assistant secretary of the treasury for international affairs: "Our work [in Iraqi reconstruction] is guided by a set of principles that are fundamental to creating the foundation for sustained economic growth. These principles include open markets, the rule of law, established property rights, transparent and accountable governance, and a sound currency." Randal Quarles, "Iraqi Economic Reconstruction," Remarks delivered at the Cato Institute, June 25, 2003, U.S. Department of the Treasury, public affairs release no. JS-504, www.treas.gov/press/releases/archives/200306.html.

3. Abbas Alnasrawi, *The Economy of Iraq: Oil, Wars, Destruction of Development and Prospects, 1950–2010* (Westport, Conn., and London: Greenwood, 1994), p. 95.

4. Economist Intelligence Unit, *Showdown with Iraq: Risks and Opportunities for Politics and Business* (London: Economist Intelligence Unit, 2002); and idem, *Iraq: Country Profile 2003* (London: Economist Intelligence Unit, 2003).

5. Ibid., p. 47.

6. Ibid., p. 44.

7. Helen Chapin Metz, ed., *Iraq: A Country Study* (Washington: Federal Reserve Division of the Library of Congress, 1990), pp. 131–32.

8. Economist Intelligence Unit, *Iraq*, p. 44.

9. Alnasrawi, *The Economy of Iraq*, p. 108.

10. Abbas Alnasrawi, *Iraq's Burdens: Oil, Sanctions and Underdevelopment* (Westport, Conn., and London: Greenwood, 2002), p. 138.

11. Economist Intelligence Unit, *Iraq*, p. 44.

12. CPA website, www.cpa-iraq.org/regulations/CPA ORD4.pdf.

13. Alnasrawi, *The Economy of Iraq*, p. 108.

14. Julian Rathbone, *Wellington's War: His Peninsular Dispatches* (London: Michael Joseph, 1984), p. 29.

15. One need only note the placement of a Saddam dinar to mark the grave of his son Qusay to understand the role of the currency as an enduring symbol of the old regime. See photo on page A7, *Washington Times*, August 3, 2003.

16. U.S.AID website, www.usaid.gov/stories/iraq/iraq_snapshot6.html.

17. Quarles.

18. Anand Chandavarkar, *Central Banking in Developing Countries* (New York: St. Martin's, 1996), p. 30.

19. See "Cutting Iraq's Excessive Debt," *Financial Times*, June 16, 2003.

20. E. Philip Davis, *Debt, Financial Fragility, and Systemic Risk*, rev. ed. (Oxford: Clarendon, 1995), p. 357.

21. Maxwell J. Fry et al., *Payment Systems in Global Perspective* (London: Routledge, 1999), p. 85.

22. Mitra Farahbaksh and Gabriel Sensenbrenner, "Bank-by-Bank Credit Ceilings: Issues and Experiences," in *Instruments of Monetary Management: Issues and Country Experiences*, ed. Tomás J. T. Baliño and Lorena M. Zamalloa (Washington: International

Monetary Fund, 1997), p. 239.

23. CPA order no. 18, www.cpa-iraq.org/regulations/CPAORD18CBI.pdf.

24. Neela Banerjee, "Just a Dribble of Oil Exports As Iraq Struggles," *New York Times*, July 17, 2003; and Gareth Smyth, "Damage to Iraq Pipelines Hits Oil and Water Supply," *Financial Times*, August 18, 2003.

25. See Maxwell J. Fry, *Money, Interest and Banking in Economic Development*, 2d ed. (Baltimore: Johns Hopkins University Press, 1995); and idem, *Emancipating the Banking System and Developing Markets for Government Debt* (London: Routledge, 1997).

26. For what we believe to be an incorrect interpretation of these matters, see Peter McPherson, "Now under Construction: A Functioning Iraq," *Wall Street Journal*, July 28, 2003; and see the rejoinder by Steve H. Hanke, "Iraq's Budget Not Square," *Wall Street Journal*, August 12, 2003.

27. See Alan A. Walters, *Britain's Economic Renaissance* (Oxford: Oxford University Press, 1986), pp. 162–63; and Jürg Niehans, T*he Appreciation of Sterling—Causes, Effects, Policies* (Rochester, N.Y.: University of Rochester Center for Research in Government Policy and Business, 1981).

28. The distinction between various types of exchange rate regimes is explained in Steve H. Hanke, "How to Establish Monetary Stability in Asia," *Cato Journal* 17, no. 3 (Winter 1998): 295–301.

29. Guillermo Calvo and Carmen Reinhart, "Fear of Floating," *Quarterly Journal of Economics* 117, no. 2 (May 2002): 379–408.

30. See, for example, Friedrich A. Hayek, "The Use of Knowledge in Society," *American Economic Review* 35, no. 4 (September 1945): 519–30.

31. Steve H. Hanke, "Some Reflections on Currency Boards," in *Central Banking, Monetary Policies, and the Implications for Transition Economies*, ed. Mario I. Blejer and Marko Skreb (Boston: Kluwer, 1999), pp. 341–66.

32. See ibid., p. 347. The mean budget deficit as a percentage of GDP in countries with fixed exchange rates was 59 percent lower than in countries with central banks. Part of this difference can be attributed to the higher rates of growth observed in countries with fixed exchange rates.

33. Warren Coats, "The Central Bank of Bosnia and Herzegovina: Its History and Its Issues." in *Central Banking, Monetary Policies and the Implications for Transition Economies*, pp. 367–99; Steve H. Hanke, "A Field Report from Sarajevo and Pale," *Central Banking* 7, no. 3 (Winter 1996–97): 36-40; and idem, "On Dollarization and Currency Boards: Error and Deception." *Journal of Policy Reform* 5, no. 4 (2002): 203–22.

34. Stanley Fischer, Press conference, May 8, 2001, www.imf.org/external/np/tr/2001/tr010508.htm.

35. Most political scientists and students of international relations would, perhaps surprisingly, acquiesce to such a judgment: "*What is sovereignty*? If there are questions political science ought to be able to answer, this is certainly one. Yet modern political science often testifies to its own inability when it tries to come to terms with the concept and reality of sovereignty. . . ." Jens Bartelson, *A Genealogy of Sovereignty* (Cambridge: Cambridge University Press, 1995), p. 1.

36. This follows the classic definition: "Sovereignty is the absolute and perpetual power of the commonwealth. . . ." Jean Bodin, *On Sovereignty* (1583; Cambridge: Cambridge University Press, 1992), p. 1.

37. See Steve H. Hanke, "Argentina Should Abolish Its Central Bank," *Wall Street Journal*, October 25, 1991; and Steve H. Hanke, Lars Jonung, and Kurt Schuler, in *Russian Currency and Finance: A Currency Board Approach to Reform* (London: Routledge, 1993), pp. 72–74.

38. Hanke, "On Dollarization and Currency Boards."

39. Kurt Schuler, "Currency Boards" (Ph.D. diss., George Mason University, 1992), http://users.erols.com/kurrency/webdiss1.htm.

40. Some people, including Rep. Paul Ryan (R-Wis.), have suggested that the loss of seigniorage profits could be mitigated through a seigniorage-sharing arrangement with the United States, should Iraq adopt the U.S. dollar as its official currency. The United States would rebate to Iraq most of the profit it earned from dollar notes and coins circulating in Iraq. Iraq would be free to start or stop using the dollar officially at any time, although if it stopped, the rebates would cease.

41. Although dollarization will introduce sound money to any country that embraces that regime, it is important to mention the importance of coupling dollarization with an open banking system that permits the entry of foreign banks. For example, Panama was dollarized in 1904, but it wasn't until the banking reforms of 1970 that Panama's financial system was fully unified with international capital markets. Since then, it has become an international financial center. See Steve H.

Hanke, “Panama’s Innovative Money and Banking System,” in *Panama Financiero* (Bogota: Colombia: Ediciones Gamma, 2002).

42. Zeljko Bogetic and Steve H. Hanke, *Cronogorska Marka* (Podgorica, Montenegro: Antena M., 1999).

43. Steve H. Hanke, “Yugoslavia Destroyed Its Own Economy,” *Wall Street Journal*, April 28, 1999.

44. Mark Landler, “I.M.F. Backs Official Shift to U.S. Dollar by Afghans,” *New York Times*, January 31, 2002.

45. The table is an extension of Hanke, Jonung, and Schuler, p. 6.

46. The draft law is based on Steve H. Hanke and Kurt Schuler, *Currency Boards for Developing Countries* (San Francisco: Institute for Contemporary Studies, 1994). An updated version is available on Kurt Schuler’s website, http://users.erols.com/kurrency/icegrev.htm. We suggest using the euro as the reserve currency, but the U.S. dollar would work just as well.

47. The draft law is based on Steve H. Hanke and Kurt Schuler, “A Monetary Constitution for Argentina: Rules for Dollarization,” *Cato Journal* 18, no. 3 (Winter 1999): 405–19. Again, the U.S. dollar would work just as well as the euro.

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