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TIME, JURISDICTION, AND SOVEREIGN RISK

by

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This paper was written in June 1986 when the author was a visitor at the European University Institute working on the project "Innovation, Regulation and Integration of European Financial Markets", directed by Marcello De Cecco. I am indebted to the Institute for providing a stimulating atmosphere and excellent research facilities and support.

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Time, Jurisdiction, and Sovereign Risk

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In this paper I provide examples of several practices that can arise when banks and regulators operate in several countries which are located in different time zones. The goal is to provide simple analytical frameworks in which the practices can be understood and to suggest mechanisms that may serve to limit their potentially damaging consequences.

In the first section a problem is considered in which banks and corporations that operate in several time zones can get around reserve requirements and other regulations. The games work because the regulations are imposed by using end-of-day balance sheet checks at a bank's head office. This problem is called solar float; it involves moving assets and liabilities from branches in some time zone progressively westward into time zones with more hours remaining in a business day. In principle this means that the books need never be closed on a large multinational bank. Assets and liabilities can circle the globe so that they are always in the sunlight, in a glorified sort of check kiting.

In the second section a less exotic problem is studied where banks and their clients choose to locate assets and transactions in countries where regulation is lax. It is a variation of Gresham's law where, in effect, weak regulation areas take activity away from strong. More accurately, given a choice banks and their clients will choose to book loans and deposits in locations where regulations and their enforcement are weak instead of in where they are strong. This problem is called Gresham's Law of Regulation.

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In the third section I examine the merits of extending loans to governments rather than to individuals and enterprises. It has been repeatedly claimed that sovereign states cannot default and, therefore, despite numerous examples to the contrary that bank loans to governments are less risky than loans to individuals. This problem of sovereign risk is studied using a set of highly simplified portfolio selection models.

The concluding section contains some suggestions for coping with each problem, but does not attempt to analyze how they or other proposals might be made politically acceptable to different countries. Ralph Bryant (1981) has discussed this question. This section also does not analyze the desirability of expanding international trade and capital flows, which I accept as being received wisdom in a wide variety of circumstances.

I. Solar Float

What follows may seem like fantasy to the reader and, since hard evidence about its occurrence and frequency is not available, skepticism is warranted. However, modern satellite communications and the rapidly growing global volumes of currency trading suggest that something quite similar to the schemes described below and in the next section are happening. For example, a story in the Sunday New York Times in April 1986 identified major currency trading centers and showed that international currency markets are continuously open around the globe. The article reported that a major and flexibly scheduled exchange market is situated in Bahrain and Kuwait; it is open Saturdays, Sundays, and on Western holidays. It also reported that the fastest growing exchange center in the Far East is located in Sydney and Melbourne, Australia which conveniently overlaps market hours in Tokyo, Hong Kong, Singapore, and San Francisco.

Table 1 provides another fragment of evidence about the massively growing volume of international currency trading. It shows the number and amount of dollar denominated transactions that are handled by the New York Clearing House Interbank Payments System (CHIPS) during the past 16 years. Transactions in Eurodollars must be cleared through CHIPS, wherever they are booked. The annual volume in recent years exceeds 50% of annual debits to bank transactions accounts in the United States and CHIPS clearings are rising more rapidly than debits. (The two measures involve some double counting since a transfer of funds from a U.S. bank to its off shore branch will necessitate both a debit and a CHIPS transfer.) Using data through February 1986, the dollar value of CHIPS trading accelerated markedly as the international exchange value of the dollar declined.

To describe solar float, it is convenient to assume that three trading centers exist which are separated by seven time zones. In local times at noon in Center A it is 4 AM in Center B and 8 PM in Center C. Assume that reserve requirements of r% are imposed on close-of-day deposits in each center and that each center is operating 8½ hours a day so that funds may be transfered between adjacent centers during an interval when both centers are open. Asset and liability document facsimiles or summaries are transferable by satellite when centers are open. Finally, assume that the only bank assets are cash and loans and the only liability is deposits.

Consider a bank with branches in each center.[1] Table 2 indicates that the volumes of the bank's assets and deposits are unconstrained by reserve requirements that are uniformly imposed by all countries at the close of a banking day in each center. For

1. A bank need not have branches in different centers to play the game since a correspondent bank can act as its agent.

Table 1

Annual Number and Dollar Volume of Payments through CHIPS

Year	Annual Dollar Volume (trillions/year)	Annual Message Volume (millions/year)
1970	0.5	0.5
1971	1.1	0.8
1972	4.8	2.0
1973	9.2	2.7
1974	10.7	3.5
1975	11.0	6.0
1976	13.1	7.1
1977	16.2	8.2
1978	20.4	9.6
1979	26.8	10.9
1980	37.1	13.2
1981	40.1	15.9
1982	53.0	18.6
1983	60.3	20.2
1984	70.7(a	23.5(a
1985	80.1(a	25.4(a
1986(extrapolated)	108.8(a	29.0(a

Source: Personal correspondence with New York Clearing House Interbank Payments System

Notes:

a: Estimated from average daily data assuming 255 business days in 1984 and 1985. Estimates for 1986 extrapolated from data for two months, January and February. Average daily dollar volume was 35.9% higher in 1986 relative to 1985. Average daily message volume was 14.0% higher in 1986.

simplicity, assume that all deposits and reserves are denominated in dollars in each center. [2]

Table 2

How Solar Float Nullifies the Effects of Reserve Requirements

Center Reserve Constraints (eight hours difference in universal time)

Center	Net Worth	Loans	Deposits	Required Reserves
1	NW_1	$-L_1$	$+D_1$	$\geq R_1$
2	NW_2	$-L_2$	$+D_2$	$\geq R_2$
3	NW_3	$-L_3$	$+D_3$	$\geq R_3$

Gross Intraday Transfers between

Center 1	Center 2	$-x_1$	$+x_1$	$=0$
Center 2	Center 3	$-x_2$	$+x_2$	$=0$
Center 3	Center 1	$-x_3$	$+x_3$	$=0$

The table shows that the bank satisfies end-of-day reserve requirements in each center and the canons of double-entry bookkeeping. However, the bank's total loans and deposits at any point in universal time exceed the sums of each across three centers at end of day by undetermined amounts, that are less than the maximum x_i. [3] The excess of demand deposits over

2. This is an innocuous assumption in the world of continuously operating currency exchanges, since reserves and deposits are available in any currency.

3. Solar float is similar to but more serious than daylight overdrafts in the United States where banks are not required to satisfy reserve requirements or indeed have collected funds to effect transactions until the close of a business day. The Federal Reserve has recently acted to limit the volume of daylight overdrafts.

that allowed by satisfying reserve requirements can persist for an indefinitely long time. If bank safety is measured by leverage at the end of a business day (irrespective of universal time), the bank's leverage and its risk exposure would be understated. To convey an order of magnitude of this understatement, it may be noted that average daily clearings through CHIPS in early 1986 was about $400 billion or about 2½ times the assets of Citicorp, the largest multinational bank holding company. It also corresponds to about 15% of outstanding Eurodollar deposits.

The foregoing calculations are not an accurate summary of the magnitude of solar float for several reasons. First, several transfers through CHIPS may be required for one encirclement of the globe. Second, transfers can be effected through other currencies than the dollar. Finally, transfers through CHIPS are undertaken for a variety of reasons; float games may not be the most important. For example, deposits may shift daily through CHIPS between the Grand Cayman Islands and New York with closing and opening balances located off shore to avoid reserve requirements, as is discussed in the next section.

However, the principle of continuously shifting funds to avoid regulation is as old as banking itself. Many regulations imposed on financial balance sheets at a time and location can be avoided. The Medici Bank practice of lending in one currency and requiring payment in another was a successful program confounding sovereignty, time, and regulation - in that case bans against charging interest. Not so ancient American bankers have been known to shift bad loans and supporting funds among banks in a holding company in anticipation of a visit by an examiner to one of the banks.

II. Gresham's Law of Regulation.

The distinction between the problem considered in this section and its predecessor is that in this section transactions occur at specific geographic coordinates, in specific forms, and possibly at specific points in time. Whereas solar float emphasized motion and beating closing hour deadlines in different financial centers, the focus here is on expected cost minimization where costs include those imposed by complying with regulations and/or those associated with avoiding them. The approach is to exploit the possibility that transactions and the booking of assets and liabilities are relocatable, geographically or in type of instrument. The distinction between universal and local time which was essential to solar float is irrelevant in this section.

In the spirit of recent contributions by Oliver Williamson (1985) individuals and organizations are viewed as adapting to effect transactions in ways that subjectively minimize some function of transactions cost and risk of default (opportunism in Williamson's framework). The minimization problem is inherently static, but cost minimizing tactics change through time because of varying clearing charges, regulations, institutions, and perceptions of costs and risks.

Reserve requirements again provide a useful backdrop for illustrating the problem. Consider a two-country world with banks having the same portfolio choices as previously. Initially the two countries are assumed to be identical in the costs of processing and maintaining deposits and in the interest rates, net of servicing costs, that can be earned on loans. All costs and revenues are proportional to the levels of deposits and loans respectively. It is assumed that loans and deposits can be booked in any currency and that there are no impediments to capital flows in any currency. The two countries differ in the reserve requirements that must be held against deposits; country one is assumed to have a higher reserve requirement. If a bank has branches in both countries, it should seek to book

all deposits in country two because there will be a smaller deadweight loss in terms of idle reserves.

If net returns on loans or deposit costs are not proportional to loans and deposits respectively, one would observe Eurocurrency flows toward the high profit-margin country until the shadow price of loanable funds was the same in both countries. If deposits are required for transactions purposes in either country, they can be transferred daily through CHIPS or some other mechanism. So long as they are repositioned at the close of a day in the low reserve requirement country, the story remains the same.

An observable feature of financial markets is that the average cost of making or maintaining loans and deposits declines sharply with the size of transactions. It follows that large firms are likely to benefit from booking deposits and loans in favorable havens. Through competitive pressures banks will be forced to share the gains from optimal siting of transactions with them. With present technologies and regulations, it is unlikely that accounts of individuals and small businesses can be relocated to avoid reserve requirements. For example, deposit insurance in the U.S. only applies to domestically booked deposits.

Banks in the U.S. have pioneered in devising weekend Eurodollar games as Coats (1981) has reported. They are a technique for reducing the amount of reservable deposits by artificially creating a cash item in the process of collection. While time was involved, the game worked by exploiting clearing rules that distinguished access to funds in the New York Clearing House and the Federal Reserve System. Foreign branches or banks were essential, but they were passive players because transactions were usually no more than transfers within a bank's own computer.

When disclosure is incomplete, other regulations can be avoided by strategically siting funds and transactions; these include stipulations

about maximum bank leverage, accounting rules, maximum loans to any one borrower, loan review procedures, etc. In a world where banks prosper, disclosure is inherently incomplete and information is asymmetrically distributed. Banks are essentially information processors and, as Grossman and Stiglitz (1976) argue, incomplete information is required if banks are to recover their investigative and data processing costs. In the absence of coordinated regulation financial institutions have aggressively sought new credits and assumed risks with a variety of imaginative techniques and new institutions.

The following discussion considers messy institutional matters; it attempts to argue that risk, risk bearing by financial institutions and, indeed, what qualifies as a financial institution are very murky matters internationally. There are two safeguards in international finance, reputation and regulation, and as will become clear the former may provide more effective protection. Contemporary multinational banking organizations consist of a banking head office and branches in some country, branches in foreign countries, domestic subsidiaries and foreign subsidiaries; all provide a rich menu of services. Services often entail very lengthy contracts that typically are only credibly grievable in a limited number of countries' judicial systems. These contracts involve futures, options, leases, loans, deposits, securities, guarantees, refundings, etc. and may be issued by the bank or its subsidiaries. To a varying extent, activities are beyond the reach of regulators in the institution's home country. Regulators and government agencies in other countries attempt to prevent abuses within their jurisdictions, but one suspects that they are only moderately successful. Examples of abuses include an alleged practice of Citicorp in which funds were simultaneously converted at different exchange rates from French francs to Caribbean nation currencies and back again to francs in order to transfer taxable profits from France to a tax haven and another alleged Citicorp check-kiting scheme in Hong Kong. No regulator is responsible for the global practices or soundness of large multinational financial conglomerates.

Thus, the best protection one has is that the institutions are engaged in a repeated game and will need to be credible next year.

The perception that governments and central banks are obligated to prevent bank failures and losses to creditors is widespread, although formal deposit insurance and guarantees exist in only a small number of countries. There have been losses as, for example, when the Herstatt and Franklin National banks failed in the 1970s. When the Banco Ambrosiano failed the Bank of Italy protected creditors of its Italian offices, but declined to reimburse creditors of that bank's international subsidiaries. Thus a distinction was drawn for a given conglomerate between elements that could be monitored by a central bank and those that could not. No opportunity to monitor implied no responsibility.

In the United States there has been notable vaccilation and policy inconsistency about the government's and its agencies' responsibility in the event of a default. In law deposit insurance is limited to the first $100,000 of a depositor's balance at a failing institution. On several occasions depositors with larger balances in an account have sustained losses. However, in the case of the Continental-Illinois and Seafirst near failures, federal agencies intervened to prevent any losses to creditors. This blanket bailout could be justified under temporary emergency provisions of the Garn-St Germain Act, which lapsed in July 1986. Such actions may also be justified by liberal interpretations of portmanteau clauses in other laws. However, until new legislation is passed, the status of large deposits in the event of a bank default remains unclear. Far more ambiguous is the standing of someone holding repurchase agreements, bank related commercial paper, securities issued by a bank holding company and an account at a foreign branch or subsidiary of an American bank. The Treasury and Federal Reserve may arguably have authority to protect such creditors, but their obligation to intervene is nonexistent, except for good faith pledges made to other central banks and international organizations. Arm twisting was evident when the Chase

Manhattan Corporation was induced as a holder in due course to reimburse holders of repurchase agreement in the Drysdale Government Securities fraud case. Other investors in repurchase agreements have not been so lucky.

In recent years, an unknown amount but apparently very large dollar volume of off-balance-sheet guarantees, pledges, endorsements, certifications, and fallbacks have been created by large multinational banks and their parent organizations in the United States and possibly elsewhere. They increase the amount of risk being borne by banks and their parents to an unknown extent. The standing of such commitments in the event of a default is unknown. Similarly unknown are the values of large loans to third world countries, farms, the energy industry, etc. Whether or not the net worth of large multinational bank holding companies is positive is an open and relatively uninteresting question, if such assets were valued at market. There are probably no potential buyers, apart from governments, who would buy such assets at prices that would leave banks with a positive net worth. The operative notion of net worth is how much governments will pay to keep multinational banks afloat, not an output from skilled accountants.

Banking organizations do not assume risks or make loans with the intent of establishing losses. Most banks are profitable although ratios of operating profits to reported assets have generally been declining. As suggested in the preceding paragraph net worth is not accurately reported. The variation of Gresham's Law of Regulation that U.S. banks are playing is increasingly to assume international risks that yield them positive expected returns with diminishing domestic ability to absorb losses which may have already been incurred or are likely to accrue.[4] In effect they have managed to privatize gains and socialize

4. As of this writing the most recent report on the capital, earnings, losses, and ability to generate capital of bank holding companies concerns calendar 1984. Wolfson (1985) describes both the increasing tendency of large multinational firms to acquire off balance sheet risks and their decreasing ability to generate capital internally. His report also discloses the incomplete nature of Federal Reserve information about bank holding company loans.

risk bearing. A variety of bailouts, including proposals by Treasury Secretary Baker to inject $10 billion of IMF and World Bank loans in developing countries, illustrate how this variation works. In other countries where banks are nationalized or more tightly regulated the game takes a more indirect form through Eurocurrency markets. Tightly regulated banks lend Eurodollars to less regulated banks who, in turn, assume risks. The probable losses are no less socialized because they are incurred through depreciation of the dollar or involuntary rollovers of Eurodollar loans at low interest rates.

My purpose is not to alarm or hang out dirty linen, but to emphasize the ambiguity that is associated with assessing the effectiveness and enforcement of regulations by different governments. A government may be willing to buy or refinance domestic loans made by its banks to prevent default, but to buy loans made to foreign governments or agencies at above market prices is simply involuntary foreign aid.

III. Sovereign Risk.

By sovereign risk I refer to the possibility that a government or agencies that it directly controls will default on an obligation. It is claimed by leaders of U.S. multinational banks that many of their international loans are safe because they are made to nations which, unlike individuals, cannot default. To the contrary, of course, there are numerous nearly worthless bonds circulating in the world that were issued by former governments. The object of this section is to shed some light on the bankers' claim by analyzing attributes of sovereign loans. A simple model is used to illustrate some basic principles.

At the outset two elementary points must be established. First, it is desirable for financial institutions and for the efficient allocation of resources that no artificial bans restrict flows of credits

internationally. If expected returns from foreign loans are high relative to returns on domestic loans or if returns on foreign and domestic loans are not perfectly correlated, a strong prima facie case exists for international lending, private or sovereign. Second, it is disingenuous to claim that default cannot occur, but acknowledge that loans may have their repayment schedules repeatedly extended at submarket interest rates or that loans are sound when they must be rolled over in ever increasing amounts so that there is no default on owed interest. To the extent that sovereign loans make bailouts and subsidized refinancings necessary, they represent an erosion of lending standards and reduce international financial stability.

Typically loans to borrowers in foreign countries are endorsed by multinational corporations who have attachable assets in many countries or by the borrower's government. Loans with endorsements by governments qualify as sovereign loans in this discussion. Such endorsements afford lenders some additional legal standing when a borrower gets into difficulty, but do not prevent rescheduling or default. For example, a lending bank's home government then has more justification for intervening with a borrower's, for threatening with sanctions, for freezing bank accounts, etc. Such actions do not amount to neoimperialism, but they certainly are not laissez faire capitalism either.

Quite apart from such possible international intimidation to ensure repayment, having a government endorse a loan greatly expands the dimensionality of credit evaluation. It both strengthens and weakens a lender's claim. On the one hand, governments administer foreign currency controls and determine whether hard currencies are made available to pay interest and principal. Governments have the power to tax, spend, coerce, expropriate, and allocate. They are not constrained to be profitable. Tautologically they have a broader economic base than any constituent enterprise and, therefore, are more diversified and less risky. In all these respects they are potentially better able to protect a lender than an enterprise.

On the other hand, because governments are larger than any constituent enterprise they are better able to resist threats and intimidation by multinational banks. Also, governments may not be able to be flexible when dealing with foreign creditors; because they can be voted out of office or overthrown, they must be sensitive to domestic political pressures. If a government is a party to a loan contract between a bank and a borrower, an additional bureaucratic cost is incurred and also an additional element of inflexibility. It is very doubtful that the intervening bureaucracy is as informed as either a lender or the ultimate user of funds. On balance there does not seem to be a strong a priori case for sovereign loans when funds are destined to flow to productive enterprises. Indeed, an identification problem is possible; it may be that borrowers rather than lenders seek to be shielded by governments and their agencies. All that is observed is the resulting frequent government presence in loan transactions.

In principle banks could arrange a diversified portfolio of loans to borrowers in a country, but the greater the size of a bank's loan exposure the greater is the moral hazard that the rules of the game could be changed by government fiat. It is probably safer to deal directly with the government.

It is possible to construct examples in which sovereign loans increase or decrease flows of loans. Assume a government is indifferent about whether economic activity is conducted in the public or private sector, but is concerned that credit be obtained from foreign sources in adequate quantities at a low cost. Consider a two country world in which the only bank, a price taker, is located in country 1, a potential capital exporter. Each country produces a single commodity that is subject to a random supply shock, e. The shocks in the two countries are assumed to be independent. The bank may lend to firms in the private sector of each country and the two governments, but nowhere else. Assume a fixed exchange rate system and that governments must tax to acquire funds to pay their creditors. Three different tax regimes are considered, proportional, risk compensating, and

a head tax on workers. Workers receive their remuneration from a wages fund that is assumed always to be exceeded by a country's product. The excess is paid to the bank according to financial contracts and tax regimes that are to be described. Loan rollovers and reschedulings are impossible because the portfolio selection problem is assumed to be a two-point problem. That is, the bank lends at the beginning of a period, random shocks impact each country, and loan repayment occurs at the end of each period. Loans are thus one period equity shares; the loan rate is interpreted as the expected value of the return to a share. For simplicity, the bank's utility function is assumed to be approximated locally by a quadratic expression: $U=E(r)-b\sigma_r^2$ where r is the return on its investments, σ_r^2 the variance of returns, and E the expectation operator.[5] Table 3 provides a statement of the covariance matrix that is studied.

Table 3

	Country 1 sectors		Country 2 sectors	
	private	government	private	government
1-private	σ_{11}	σ_{12}	0	0
1-government	σ_{21}	σ_{22}	0	0
2-private	0	0	σ_{33}	σ_{34}
2-government	0	0	σ_{43}	σ_{44}

The variances and covariances in each country are related to the fundamental underlying shock to an economy through δ which indicates the fraction of the country's output that is financed through direct loans to the private sector; $(1-\delta)$ is the fraction that is financed through sovereign loans. Without loss δ can be read as the fraction of the bank's loans to an economy that are not sovereign.

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5. The quadratic utility function has many serious limitations that have been described by Borch (1969) and Chipman (1973). It is assumed in the discussion that b is "small" and that the function is monotonically increasing in the range of possible values of r.

Thus: $\sigma_{11} = \delta_1^2\sigma_r^2$, $\sigma_{12} = (1-\delta_1)\delta_1\sigma_r^2$, and $\sigma_{22} = (1-\delta_1)^2\sigma_r^2$; and similarly for economy 2.

At this point it is immediately evident using standard quadratic programming techniques that the bank cannot be made worse off by being allowed to make loans, private or sovereign, in country 2. If the bank has a fixed amount of resources to lend, it is likely that the economy of country 1 will receive fewer loans by allowing international lending, even if the expected return on country 1 loans is slightly higher. The economy of country 2 is likely to receive some loans and thus should become more productive.

If the fraction of property income being received by individuals who borrow with government assistance in country 2 is $(1-\delta_2)$ and there are no costs for government underwriting, sovereign loans are innocuous. If, on the other hand, there is a sure deadweight loss to financing through sovereign loans because of efficiency distortions or corruption, then either sovereign loans will be zero or the loss must be recouped through additional taxes on workers and/or private borrowers.[6] If the tax is proportional to income or capital income, the bank may or may not increase lending in country 2; both cases are possible as Domar and Musgrave argued more than forty years ago. Which case obtains depends upon the parameters of the distribution of returns and b. However, at least one country is worse off because of the deadweight loss. If the tax is a head tax on workers and it is used solely to pay for the deadweight loss, workers will be worse off and securities markets will be as they were when no deadweight loss existed. If one recognizes that transfers are simply negative taxes, this situation of a head tax seems to bear a striking resemblance to the IMF conditionality negotiations that are currently going on in Latin America. Shifting the burden to workers is potentially politically

6. There is no diversification "gain" from making both private and sovereign loans in country 2, because all borrowers there are subject to the same random shock.

destabilizing, which would have the effect of increasing country 2 parameters in Table 3 and reducing the expected return on loans.

If bankers are correct in perceiving that sovereign loans are safer than private loans, they must be assuming that governments will take actions to offset negative shocks to an economy by some form of compensatory tax. That is, when an economy sustains a negative shock, part of the potential loss to foreign lenders is absorbed by putting a higher tax on either private borrowers or workers. Assume as above that there is no dead-weight loss to sovereign lending. Suppose that the distribution of shocks is symmetric about the expected return to loans in a country and that the compensatory tax is proportional to the negative of the shock. Then the expected return to makers of private or sovereign loans is unaffected by the presence of a compensatory tax. However, the distribution of returns is greatly affected. There are two extreme cases.

First, assume that compensation for a shock is borne entirely by private borrowers in country 2. Their risk has increased. Indeed, if the shock or the share of sovereign loans is large enough, they may not be able to compensate lenders to the government. Assuming that private borrowers are able to make compensation, the variance of return on their loans has increased and the correlation between the return on their loans and sovereign loans remains strongly positive, although less than unity.[7] With less than unitary correlation, small increases in reduced-variance sovereign loans would be matched by relatively larger decreases in increased-

7. A correlation of unity can be excluded since then sovereign loans would dominate private loans; no private loans would be made and thus no revenues could be collected from private borrowers.

variance private loans because of Jensen's equality, so the sum of private and sovereign loans to country 2 is likely to decline.[8]

Second, assume that compensation for a shock to country 2 is borne entirely by workers. In this case the variance of return on sovereign loans declines, while that on private loans is unchanged. The variance might be reduced in a manner that causes the correlation between returns on private and sovereign loans to fall below unity. Since there is no riskless asset in this two-country example, a decline in variance unambiguously increases the volume of sovereign loans and reduces the volume of private loans in country 2. If the correlation between return on sovereign and private loans remains unitary, private loans are strictly dominated and fall to zero. However, the volume of sovereign loans after the compensation regime is introduced unambiguously exceeds the precompensation regime sum of private and sovereign loans. If the correlation falls below unity, some private loans will also be made; again total loans to country 2 unambiguously increase relative to the precompensation regime.[9]

Quite apart from how compensation is financed, it is apparent that sovereign lending increases in a regime where foreign lenders are sheltered by government intervention and that lending to the private sector falls substantially. Extensive resort to compensated sovereign lending almost inevitably weakens private enterprise and laissez faire capitalism

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8. A stronger statement cannot be made because lack of unitary correlation raises the possibility that return adjustments in country 2 are correlated with country 1 shocks and because of possible portfolio rebalancing between the countries.

9. Recall that the expected return to sovereign lending is assumed not to change with compensation so that the expected value of the wages fund does not change. However, in this second case with a positive shock to production in country 2 workers share in the temporary prosperity, which was not the case with a constant wages fund.

in borrowing countries. This is a consequence of the assumption that all agents in a borrowing country experience a common economic shock and of the requirement that the country's income statement identity be respected.

IV. Conclusion

In this section some institutional reforms are proposed that may serve to limit the three practices just described. The justification for proposing reforms is that each practice allows banks and some other players to increase the expected return from their portfolios and/or reduce their own portfolio risk by increasing the risk borne by others. The ultimate bearers of risk are not easy to identify in the abstract, for much depends upon the discretionary actions of governments or their agencies. The case for limiting these practices rests on three premises. First, it is inefficient to allow banks and other institutions with increasingly superior information and mobility to shed risk and expected losses onto others who cannot afford to be as well informed. Such shedding is analogous to introducing negative externalities, pecuniary and real, in a perfectly competitive world, which is well known to corrupt the functioning of prices as allocators. It matters not whether the losses are borne directly by the private sector or indirectly by them through compensatory government taxation.

Second, while hard evidence about the extent of these practices is nonexistent, all indicators strongly suggest that each is growing rapidly. This growth was not likely to have been foreseen by nations and their regulations are correspondingly outdated. Further, autonomous nations do not appear to be able to achieve the sort of coordinated regulation that would be necessary to achieve an optimal level of each practice. While concern for reputation for soundness may limit a bank's risk exposure in each move of a repeated game, one needs to worry that reputation standards may erode over time, as banks are repeatedly bailed out. Reforms to limit growth of these practices serve as a safeguard against

this sort of erosion. Banks should be expected to respect the "stand alone principle" (Foley and Hellwig, 1975) over time, with due allowance for temporary access to the discount window.

Third, each of these practices can serve to weaken monetary policy which is designed to achieve domestic economic objectives. Loans and other transactions booked abroad can, through currency exchanges and swaps, serve to finance domestic economic activity. For example, two multinational corporations may settle accounts or extend credit through a bank to one another in any currency anywhere in the world. These actions may facilitate domestic economic activity. If domestic monetary weapons are to be preserved, offshore games must be limited.

Solar float is very difficult to combat in the absence of uniform policies by countries whose currencies serve as international transactions media. However, individual countries can significantly reduce the effects of this practice in their own currencies either by altering clearing rules through which international transfers in a currency are settled and/or by requiring that their banks and overseas branches hold reserves against deposits and liabilities, denominated in their currencies, which are determined at some universal (Greenwich) time. As I have previously proposed (Hester, 1982, p. 321), a twenty-four hour delay in clearing in a country's currency together with uniform reserve requirements on all deposits denominated in that currency would suffice to eliminate solar float. The clearing delay alone would be partly effective because it would shift risks of exchange rate fluctuations and default to other market institutions. It would also impose an opportunity cost of one day's interest on international transactions since neither the payer nor the payee would have access to funds in transit.

A similar effect to the last could be achieved by imposing a clearing fee (tax) on all transactions, say, through CHIPS. This is similar to a proposal by Tobin (1978) that all currency exchanges be subject to a tax. Tobin, of course, was concerned with impeding international mobility of currencies, not solar float.

Gresham's law of regulation is far more difficult to reform because of the enormous variety of regulations and exceptions in the world. Heterogeneous accounting conventions across countries make disclosure of and enforcement of any reforms on an institution's consolidated balance sheet essentially meaningless. The simplest solution would seem to be to eliminate the concept of branches of financial institutions and to force institutions that desire facilities in foreign countries to establish free-standing subsidiaries.[10] These would be regulated entirely by governments and agencies in those countries. This reform would undoubtedly reduce the flexibility of conducting international finance, which is the unfortunate and necessary consequence of introducing regulation. It does not prevent international loans from, say, British banks to Mexican firms. It does establish that the Bank of England is responsible for a London-based institution who makes Mexican loans and that the Bank of Mexico is responsible for the institution's subsidiary in Mexico City which might make a similar loan. Market participants will then be forced to decide where loans are to be booked in terms of strengths and weaknesses of defined legal and regulatory structures. Banks may choose to operate through subsidiaries in a weakly regulated center, but they will also know that their recourse is limited to that country's courts.

Since governments are a participant in sovereign lending, it seems very doubtful that prescriptions which generally impede the practice will be accepted. Further, private lenders generally gain by having governments as cosigners. With no opposing constituency it is difficult to restrict a practice. Yet the practice should be restricted if sovereign endorsements are only illusory safeguards.

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10. In the spirit of Williamson's (1985, Ch. 4) interesting discussion of vertical integration, it is necessary to justify a branch rather than a subsidiary organizational structure in terms of real economies such as transactions economies. If the only purpose of having branches instead of subsidiaries is regulatory avoidance and evasion, the proposed reform in the text seems apt.

Apart from foreign aid and other subsidies, the capacity of a country to service debts is defined by the return from investments and the sacrifices which present generations make for future generations. Sovereign guaranties may indeed be a convenient device through which weak governments are able to mobilize political support to exact sacrifices from present generations. Such guaranties are not necessarily illusory safeguards.

Sovereign lending is a mechanism for aggregating risk, since a government is directly responsible for all its loans and indirectly influences the quality of all private loans originating from a country. The latter holds because governments can take actions that impair or improve the financial condition of any domestic private borrower. Commercial bankers began to recognize this collectivization process in the 1970s and responded by attempting to assess the "country risk" of their institutions. Country risk (uncertainty?) is very difficult to measure, since disclosure is inherently incomplete and political instability is notoriously difficult to quantify. In these circumstances, the stability of banks in a lending country can be improved by requiring that all loans, sovereign and private, be fully disclosed and that all credit extensions to a country above some nominal percentage of unencumbered capital be approved by a lending country's central bank. It is clearly important that central banks in lending countries be able to exchange information through institutions such as the Bank for International Settlements.

In brief, the foregoing paragraph proposes that symmetry be restored to international lending by "aggregating" lenders so that approximately a bilateral monopoly is established for loans between any two countries. This improves information flows among lenders and serves to limit destructive overextensions of credit by private lenders who seek to increase their market shares in some borrowing country. It is no panacea for three principal reasons. First, it introduces the heavy hand of central bank bureaucracy, which surely will impede desirable international flows of capital.

Second, it promotes a market structure, bilateral monopoly, which like its sister, duopoly, generally does not yield Pareto optimal outcomes. Strategic gaming may lead to more instability than gross ignorance or than may result from rolling over bad loans in increasing amounts at submarket interest rates.

Finally, it raises the possibility that a neoimperialistic order will be established in the world, which politicians in affluent countries may not be able to resist. To the extent that lenders are more affluent and have more flexibility, they may increasingly be able to dictate terms to others which will worsen North-South income and wealth differentials. Information is power and any reform that serves to concentrate it is vulnerable to abuse. One check on this potential for abuse is the existence of competition among lending countries. A second is full disclosure of accounting information about a country and regulatory decisions.

BIBLIOGRAPHY

Borch, Karl H. (1969), "A Note on Uncertainty and Indifference Curves", Review of Economic Studies, 36, January pp. 1-4.

Bryant, Ralph (1980), Money and Monetary Policy in Interdependent Nations, Washington: The Brookings Institution, Chs. 24, 25.

Chipman, John S. (1973), "The Ordering of Portfolios in Terms of Mean and Variance", Review of Economic Studies, 40, April, pp. 167-90.

Coats, Warren L. Jr. (1981), "The Weekend Eurodollar Game", The Journal of Finance, 36, June, pp. 649-59.

Domar, Eveesey David and Richard A. Musgrave (1944), "Proportional Income Taxation and Risk Taking", Quarterly Journal of Economics, May, pp. 388-422.

Foley, Duncan K. and Martin F. Hellwig, (1975), "A Note on the Budget Constraint in a Model of Borrowing", Journal of Economic Theory, 11, October, pp. 305-14.

Grossman, Sanford J. and Joseph E. Stiglitz (1976), "Information and Competitive Price Systems", American Economic Review, Proceedings, 66, pp. 246-53.

Hester, Donald D. (1982), "The Effects of Eurodollar and Domestic Market Innovations and the Interpretation and Control of Monetary Aggregates", in Raymond E. Lombra and Willard E. Witte eds., The Political Economy of Domestic and International Monetary Relations, Ames, Iowa: Iowa State University Press, pp. 303-38.

Tobin, James (1978), "A Proposal for International Monetary Reform", The Eastern Economic Journal, 4, July/October, pp. 153-9.

Williamson, Oliver E. (1985), The Economic Institutions of Capitalism, New York: The Free Press.

Wolfson, Martin H. (1985), "Financial Developments of Bank Holding Companies in 1984", Federal Reserve Bulletin, 1b, December, pp. 924-36.

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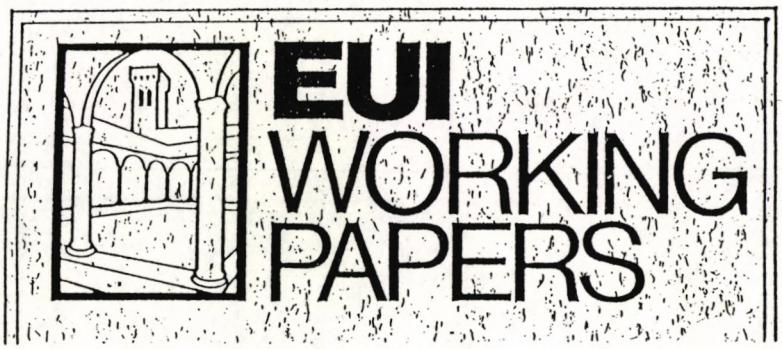

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