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Author

Eichengreen, Barry

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UNIVERSITY OF CALIFORNIA, BERKELEY

Department of Economics
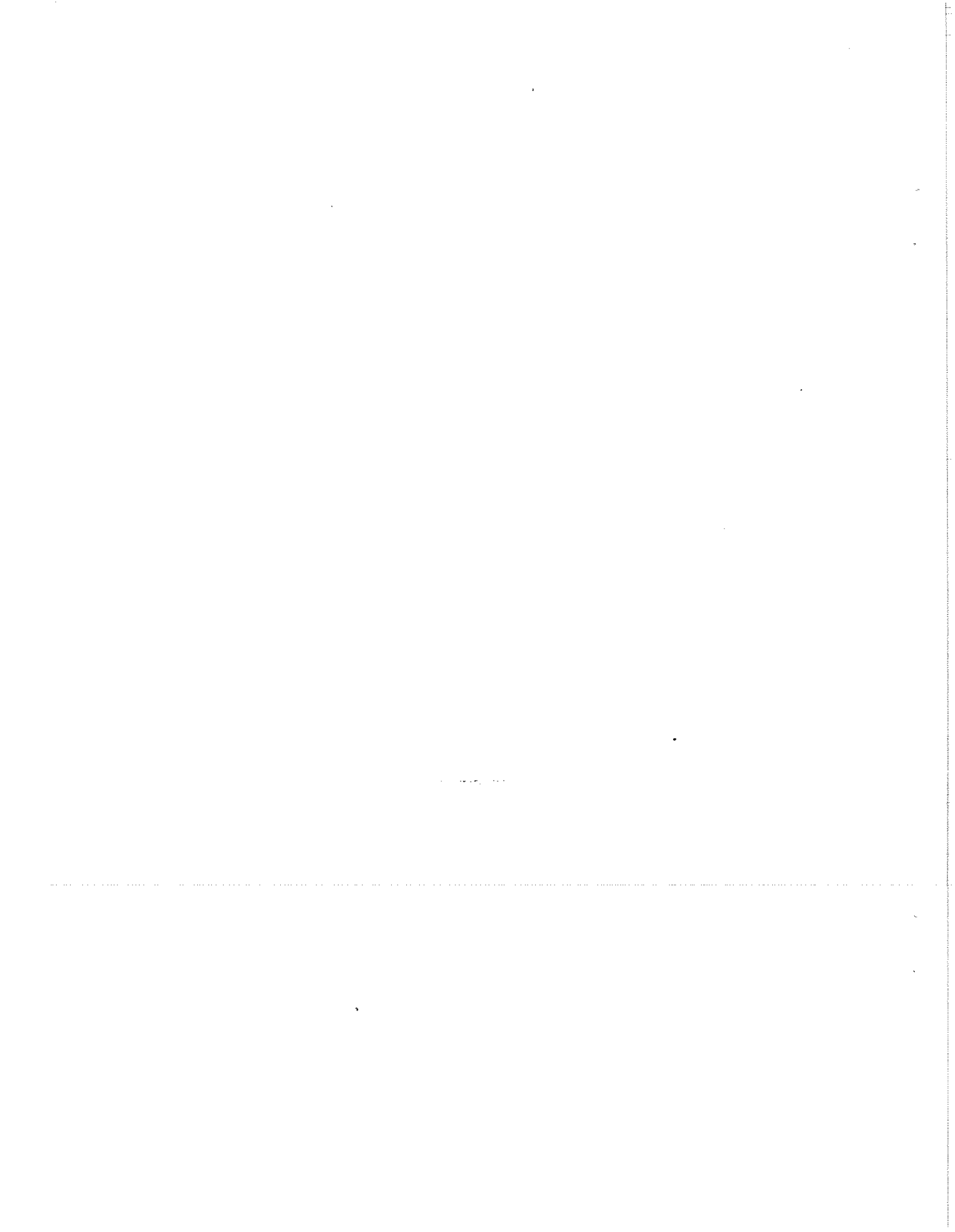
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DID INTERNATIONAL ECONOMIC FORCES
CAUSE THE GREAT DEPRESSION?

Barry Eichengreen

September 11, 1987

I. Introduction

Like the animals came to Noah's Ark, explanations for the Great Depression come in twos. The broadest distinction, as in Figure 1, is between domestic and international explanations. The domestic explanations will be familiar, as they have attracted the sustained attention of academics. They focus on the causes of the exceptionally severe decline in U.S. economic activity following the business cycle peak of 1929 and on the channels through which the American contraction was transmitted to the rest of the world. On the one hand are interpretations that concentrate on real disturbances, on the other those that emphasize monetary factors. Explanations that emphasize real disturbances can be subdivided into those focusing on consumption and investment. Theories that attach precedence to the decline in U.S. investment starting in 1929 have a distinguished Keynesian lineage.[1] The hegemony of Keynesian theory in conjunction with the observed collapse of U.S. investment after 1929 long inclined observers toward this interpretation (e.g. Hansen, 1941; Gordon, 1951). The problem was that the movements of the investment cycle were left as largely unexplained (characterized as a function of animal spirits) and could as easily have been derivative of the boom and slump as the underlying cause. Efforts to reconstruct the spending hypothesis turned therefore from investment to consumption. Temin (1976) in particular argued that the contraction was initiated by an unusual decline in consumption spending in 1929. Besides some dispute over the magnitude of the supposedly exceptional decline in consumption, the problem with this interpretation again has been the absence of a systematic explanation for its occurrence.

The other strand of domestic explanation for the Depression focuses on monetary forces. Again, there are two variants. Friedman and Schwartz, in their Monetary History, placed particular weight on the unprecedented contraction of the U.S. money supply from the end of 1930 -- on the role of bank failures in initiating the monetary contraction and of policy failures in doing nothing to halt them. While there remains debate over the channels through which bank failures exercised their deflationary influence (e.g. Bernanke, 1983), few would dispute that disturbances to financial markets figured in transforming an already serious recession into an unprecedented depression.

Since, however, the first wave of bank failures takes place only toward the end of 1930, it offers little in the way of explanation for the timing and severity of the 1929 downturn. The second variant of monetary explanation focuses therefore on monetary stringency in the United States in the period preceding the 1929 business cycle peak. From 1928 the Federal Reserve Board grew increasingly preoccupied by the Wall Street boom and adopted a restrictive anti-speculative monetary stance. At the same time, the demand for money was buoyed by the sustained expansion of the real economy and by the volume of transactions on the stock market (Field, 1984a,b). The monetary stringency that resulted choked off both consumption and investment spending, plunging the American economy into recession (Hamilton, 1987a). The problem with this explanation is that the ex ante real interest rate movements which might be thought to most clearly signal monetary stringncy are unobservable and therefore difficult to discuss with certainty. In the absence of direct evidence, it is not clear that monetary factors, operating through real

Figure 1

Explanations for the Great Depression
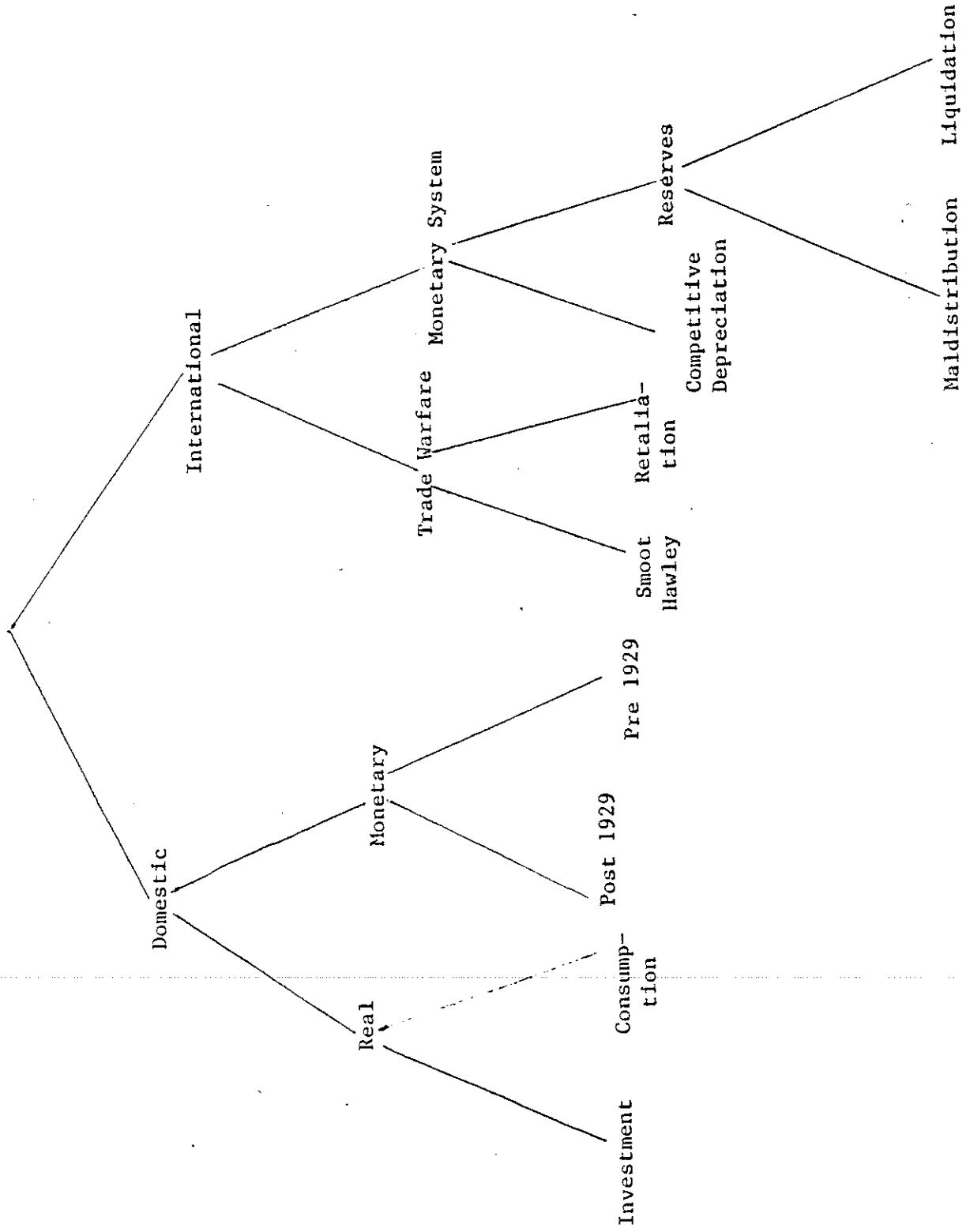
interest rates or other channels, provide a convincing explanation for the timing of the slump.

These domestic explanations are the subject of a large literature and an ongoing debate. They are not, however, the subject of this paper, which considers rather international explanations for the Great Depression. Once again (Figure 1), there are two broad categories of explanation, which might be thought of as real and monetary, respectively. The former focuses on international trade, the latter on international monetary interactions.

On the side of trade, there are again two variants, one which emphasizes the direct effects of the U.S. Smoot-Hawley Tariff Act of 1930, the other which emphasizes the retaliation elicited by Smoot-Hawley and the generalized trade warfare that erupted in its wake. On the side of international monetary policy, the two variants focus on the management of exchange rates and of international reserves. Exchange rate (mis)management allegedly worsened the Depression by unleashing waves of competitive depreciation, from which the initiating countries gained nothing but their competitors suffered beggar-thy-neighbor effects. Reserve (mis)management allegedly worsened the Depression because it led, alternatively, to the maldistribution or to the liquidation of international reserves. The (mis)management hypothesis, built on the linkage between the reserves and monetary liabilities of central banks, argues that a reserve shortage forced the adoption of restrictive monetary policies that worsened the Depression on a global scale. It places blame for the Depression squarely on the Federal Reserve and the Bank of France, who pursued contractionary domestic monetary policies leading to the accumulation of inordinate shares of the

world's monetary gold, thereby depleting the reserves of other countries and forcing the latter to contract their money supplies. The liquidation hypothesis places the blame instead on the instabilities inherent in a gold-exchange standard system. Such a system, in which two reserve assets (gold and foreign exchange) circulate side by side, was allegedly subject to destabilization by the operation of a mechanism analogous to Gresham's Law. As soon as doubts arose about the stability of reserve currencies, according to this explanation, countries scrambled out of foreign exchange and into gold, resulting in the large-scale liquidation of exchange reserves, reducing the value of global reserves and thereby putting downward pressure on global money supplies.

Compared to domestic interpretations of the slump, these international explanations are little understood and the subject of considerable confusion. This paper therefore reviews and assesses the literature on the alternative international explanations for the depth and duration of the Great Depression. The three sections that follow consider in sequence trade policy, exchange rate policy, and reserve management. A final section contains concluding remarks.

To take international forces seriously, it is not necessary to adopt the premise that they provide the explanation for the slump. Ultimately, monistic interpretations are unlikely to shed much light on the complex and multifaceted event that was the Great Depression. To argue that one international factor played an important role need not imply the invalidity of another. Similarly, to argue that international forces contributed to the severity of the Depression need not preclude a role for domestic factors in

the United States and elsewhere.

II. Trade Policy and the Depression

Variants of the thesis that the Smoot-Hawley Tariff was responsible for
the severity of the post-1929 slump in the United States have been advanced by
Meltzer (1976), Gordon and Wilcox (1981), Wanniski (1983) and Saint-Etienne
(1984). Wanniski's thesis that the Depression was caused by the stock market
crash, which was caused in turn by a Congressional committee reporting out a
tariff bill, is not supported by theory or evidence for either link in the
causal chain. It is likely, however, that Wanniski has in mind the kind of
mechanisms emphasized by Meltzer, that Smoot-Hawley was beggar-thy-neighbor
policy. By switching U.S. expenditure away from imports and toward domestic
goods, the tariff had a deflationary impact on the rest of the world and
ultimately redounded unfavorably on the U.S. economy by reducing foreign
demands for American exports. By moving the U.S. balance of payments into
surplus, the tariff drew reserves from other countries, forcing upon them
monetary contraction. For these reasons, Meltzer concludes, Smoot-Hawley
converted "a sizeable recession into a severe depression." While Meltzer
implicitly indicts Smoot-Hawley for the foreign tariff increases that followed
in its wake, it is not clear whether retaliation is essential to his argument.
Gordon and Wilcox elaborate certain of Meltzer's themes but transcend his
analysis by arguing explicitly that Smoot-Hawley would have been
contractionary even in the absence of retaliation. In contrast to Meltzer's
emphasis on the price-specie-flow mechanism, they cite the export multiplier
as the mechanism by which the effects of tariffs are transmitted

internationally and invoke the quantity equation as a channel through which Smoot-Hawley had contractionary effects, arguing that the tariff raised prices and, given money supply, altered the division of nominal income between output and prices, forcing a larger decline in production in 1930-1932.

None of these arguments is easily sustained. It is as likely that the effects of Smoot-Hawley were favorable for the U.S. economy as it is that they were unfavorable abroad. Not only is it unlikely that the international repercussions -- the decline in foreign demands for U.S. imports induced by the decline in U.S. demands for foreign exports -- offset these favorable direct effects, it is not even clear that foreign retaliation swamped the favorable effects on the American economy.

Contrary to Gordon and Wilcox's argument that Smoot-Hawley aggravated the contraction "[d]irectly, without any retaliation," standard theory suggests that under fixed exchange rates a tariff is expansionary for reasons related to both aggregate demand and aggregate supply. A tariff switches expenditure from imports toward domestic goods, raising aggregate demand in the initiating country. While this same expenditure-switching effect reduces aggregate demand and output abroad, it is hard to see how Smoot-Hawley alone can account for the downturn in the United States as opposed to the contraction abroad. As Schumpeter (1939, p. 707) put the point, "[i]t is not easy to see how, had a reduction of import duties been passed instead of the Hawley-Smoot Act, this could have improved short-run conditions in Europe without aggravating them in the U.S."

Gordon and Wilcox take a different approach to the determination of national product, invoking the quantity equation. Since the tariff raised

prices relative to what they would have otherwise been, holding money supply and velocity constant, it must have reduced the volume of production. But it makes little sense to hold money supply constant. The supply of money could adjust endogenously given U.S. adherence to a fixed-exchange-rate regime. The rise in U.S. prices due to Smoot-Hawley, by reducing real balances and absorption, would have moved the balance of payments into surplus, ceteris paribus, permitting gold to be imported from abroad and converted by the Fed until balances were restored to desired levels.[2] While, as Gordon and Wilcox note, the Fed sterilized gold inflows over much of the period, this does not change the fact that U.S. money supply was endogenously determined. Given continued U.S. adherance to the gold standard, sterilization would have just caused more gold to flow in until the incremental money demand was satisfied.

It might be objected that domestic output was depressed by the real balance effect on spending. Real money balances fell temporarily, the argument would run, because time was required to generate the payments surplus needed for gold imports. By raising prices and temporarily reducing real balances, one could hypothesize that Smoot-Hawley compressed U.S. spending sufficiently to depress output and employment. But to so argue would overlook that, precisely by creating an excess demand for real balances which were then accumulated by running a balance-of-payments surplus, the tariff placed a wedge between domestic production and domestic spending, rendering the latter an inappropriate indicator of the tariff's impact on output and employment.

It might be argued that Smoot-Hawley was contractionary due to its international repercussions. By "restrict[ing] the operation of the

price-specie-flow mechanism" (Meltzer, 1976, p. 460), Smoot-Hawley attracted

gold to the U.S., or at least prevented it from flowing out, reinforcing

contraction abroad and reducing foreign demands for U.S. exports. Might the

impact on the U.S. of the decline in foreign demand have swamped the increased

domestic demand for American goods? This seems unlikely. Since the marginal

propensity to consume U.S. goods was significantly higher out of U.S. than

foreign incomes, the demand for U.S. goods should have increased, assuming

foreign incomes to have fallen by roughly the same amount that U.S. incomes

rose. One place to look for evidence of the net effect is the relative price

of domestic and foreign goods -- the terms of trade. An improvement in the

U.S. terms of trade signals an incipient excess demand for domestic goods.

The improvement in the American terms of trade between 1929 and 1930, while

obviously influenced by factors other than Smoot-Hawley, is at least

consistent with the notion that the demand for U.S. goods was stimulated

relative to the demand for foreign goods.

The argument that Smoot-Hawley was contractionary hinges, therefore,

on the effects of retaliation. For reasons already described, notably

expenditure switching, a foreign tariff has a contractionary impact on the

domestic economy for much the same reason that a domestic tariff is

expansionary. If retaliation was sufficiently severe, the

expenditure-switching effects of foreign tariffs could have swamped those of

the U.S. initiative. There are two ways to approach the question empirically.

One is to look as before at the terms of trade, for the same argument applies:

if retaliation more than offsets the effects of domestic commercial

initiatives, expenditure will be switched on balance toward foreign goods,

whose relative prices must rise to clear world markets. As already noted, the U.S. terms of trade improved substantially between 1929 and 1930.

This evidence is limited in two respects. First, other factors affecting the terms of trade could have swamped the effects of Smoot-Hawley and retaliation. Second, even in the absence of terms-of-trade effects, the imposition of tariffs cum retaliation can affect output and employment via monetary channels. By pushing up consumer prices worldwide, tariffs cum retaliation may alter the division between prices and output worldwide. This is Gordon and Wilcox's quantity-equation argument on a global scale. Holding constant global money supplies and fixing the velocity of circulation, the worldwide rise in consumer prices due to import taxation must be offset by some combination of lower net-of-tariff prices and lower outputs. This strong result holds only when velocity is fixed, however. Once a nonzero interest elasticity of money demand is introduced, tariffs cum retaliation unaccompanied by terms of trade changes can either stimulate or depress activity. The more interest elastic money demand, the more likely that the fall in the demand for real balances will exceed the fall in the supply, permitting output to expand both at home and abroad.

Which case is relevant to 1930? Table 1, from Eichengreen (1986a), summarizes simulations of a Mundell-Fleming-style model of two symmetrical countries. Imposing standard values for the parameters, output rises with the imposition of a tariff even in the event of symmetrical retaliation (domestic and foreign tariff increases of equal magnitude).[3] While these simulation results obviously hinge on model specification and calibration, they lend no support to the hypothesis that Smoot-Hawley worsened the Depression through standard aggregate-supply and aggregate-demand channels.

A more general conclusion to which this analysis points is that the macroeconomic effects of Smoot-Hawley and Smoot-Hawley-cum-retaliation were decidedly small compared to the decline in output that was the Great Depression. One need not accept the precise elasticities upon which the simulations are based to arrive at this general position. Although Smoot-Hawley and the foreign tariff increases that followed clearly restricted trade in ways that gave rise to a variety of allocative distortions, under any plausible assumptions about parameter values, the macroeconomic effects of the tariff were dwarfed by the Depression.

If the tariff was responsible for the severity of the Depression, then, its deflationary effects must have operated through other channels. It might be argued that Smoot-Hawley was the catalyst for default by U.S. banks and foreign borrowers. One possibility is that the tariff was responsible for the widespread U.S. bank failures that broke out starting in November 1930. The mechanism would be foreign tariff retaliation targeted at American agricultural exports, since U.S. bank failures were disproportionately concentrated in agricultural areas. Smoot-Hawley could have contributed thereby to the monetary contraction which exacerbated the severity of the slump. Another possibility is that Smoot-Hawley's beggar-thy-neighbor effects, by drawing reserves from abroad, undermined the stability of foreign gold parities, driving America's trading partners from the gold standard. This hypothesis will be taken up (but largely dismissed) when considering below the possibility that currency devaluations contributed to the severity of the Depression. A final possibility is that U.S. trade restrictions forced LDC debtors into default, disrupting the operation of international financial

markets and undermining the stability of domestic financial institutions. The magnitude of the terms-of-trade deterioration suffered by borrowing countries was an important determinant of the incidence and extent of default (Eichengreen and Portes, 1986). The U.S. was a large player in the international markets on which the commodity exports of these countries were traded, accounting for more than 40 per cent of the primary product consumption of the 15 leading industrial economies. Through the adoption of import levies it thereby was capable of improving its terms of trade and of worsening those of developing country exporters. The relative prices of two commodities, wheat and sugar, that received exceptionally generous protection under Smoot-Hawley declined by over 20 and 30 per cent respectively between 1929 and 1932, for example. But even if Smoot-Hawley helped push foreign debtors into default, it is not clear that the sovereign defaults of the 'thirties significantly worsened the Depression in the creditor countries, specifically the United States. U.S. banks, which held only a small share of their portfolios in foreign bonds and only a fraction of that share in foreign bonds subject to default, were unlikely to fail due to an interruption of debt service by foreign governments.[4] And the debt defaults of 1931-34 come too late to explain the events of 1929-1930.

In summary, the notion that Smoot-Hawley exacerbated the Depression through its indirect effects, operating on the stability of the domestic banking system, the international monetary system and the foreign capital market, while suggestive remains difficult to document. The notion that it exacerbated the Depression through its direct effects on aggregate demand and supply seems wide of the mark.

Table 1
Elasticity of Output with Respect to the Tariff:
The Central Case and Sensitivity Analysis

Case I: No Retaliation

		σ		
		0.7	0.8	0.9
	0.9	.360	.337	.317
$\underline{\delta}$	1.0	.398	.374	.352
	1.1	.435	.409	.386

Case II: Symmetric Retaliation

		σ		
		0.7	0.8	0.9
	0.9	.227	.217	.211
$\underline{\delta}$	1.0	.240	.229	.221
	1.1	.252	.240	.231

Notes: Simulations based on the following model:

Home Country	Foreign Country
Money demand: $m - \bar{p} = \phi y - \beta i$	$m* - \bar{p}* = \phi y* - \beta i*$
Money supply: $m = \lambda + r - g$	$m* = \lambda + r - g*$
Price index: $\bar{p} = \epsilon p + (1-\epsilon)sp* + (1-\epsilon)t$	$\bar{p}* = \epsilon p* + (1-\epsilon)p/s + (1-\epsilon)t*$
Aggregate supply: $y = -\alpha(w-p)$	$y* = -\alpha(w*-p*)$
Aggregate demand: $y = -\delta(p-s-p*-t) - \sigma i$	$y* = \delta(p-s-p*-t*) - \sigma i*$

Interest arbitrage: $\qquad I = I* + \dot{S}/S$

Balance of payments identity: $\qquad \gamma dr + (1-\gamma)dr* = 0$

Definition of the exchange rate: $\quad s = g - g*$

Variables (lower case letters denote logs, asterisks the foreign country):

- m money supply
- p price of domestically-produced good
- y output of domestically-produced good
- i nominal interest rate
- r quantity of domestic gold reserves
- g ounces of gold per unit of domestic currency
- t one plus ad valorem tariff rate
- w nominal wage (assumed fixed)
- λ backing ratio (ratio of money supply to gold)
- γ initial share of global gold reserves

$\dot{S}/S$ expected rate of change of exchange rate S (domestic price of foreign currency)

Parameter values: $S=1$, $\dot{S}/S=0$, $\alpha=3$, $\phi=1$, $\beta=0.5$, $\delta=1$, $\sigma=0.8$, $\epsilon=0.85$, $t=0$
Source: Eichengreen (1986a)

III. Competitive Depreciation and the Depression

Traditionally, the most favorable assessments of the competitive depreciations of the 1930s simply dismiss them as ineffectual. In isolation a single exchange-rate devaluation might have improved the competitive position of the initiating country relative its trading partners; devaluation might have promoted British economic recovery, for example, had other countries not responded to sterling's devaluation with devaluations of their own. But by 1936 the world economy had experienced a round of currency devaluation which more or less restored bilateral rates to intial levels. In this view, since no country succeeded in engineering a sustained improvement in competitiveness relative to its trading partners, the competitive depreciations of the 1930s had negligible economic effects.

If the devaluations of the 1930s had negligible effects, it would be hard to blame them for exacerbating the post-1929 slump. Yet the argument that competitive depreciation was a significant impediment to recovery has gained considerable currency. The theoretical basis for the argument is not transparent. Recognizing that exchange-rate depreciation can be beggar-thy-neighbor, many authors argue by way of analogy with tariffs. The imposition of a tariff by Country A may increase its welfare only by beggaring Country B; if Country B retaliates, beggaring country A, both may be left worse off. Yet this standard conclusion from the theory of tariffs necessarily holds only in a first-best world, as illustrated by the simulations of Section II. If other distortions are present, the theory of the second best suggests that adding another distortion, through the imposition of tariffs, does not always reduce welfare. In the model of

Table 1 above, one of the distortions takes the form of nominal wages that are too high relative to prices and other nominal variables. Tariffs at home and abroad can raise prices relative to wages, offsetting rather than reinforcing the existing distortion and perhaps increasing welfare. The same proposition applies to currency devaluation. Moreover, the analogy between tariffs and exchange rate policy can be pushed too far. While tariffs create output price distortions, a series of devaluations in many countries can leave relative output prices unchanged. While an isolated tariff increase by Country A necessarily reduces output in Country B, a devaluation by Country A can, depending on its form, also increase output in Country B.

To see this, consider the effects of a change in the exchange rate in the model of Table 1.[5] By raising the domestic-currency price of imports and domestic prices generally, devaluation will create an excess demand for money at home, ceteris paribus. It becomes critical, therefore, to distinguish the different domestic monetary policies that might accompany devaluation.[6] If there is no change in the domestic monetary base, this excess demand can only be satisfied by an inflow of reserves. As foreign countries lose reserves, they are forced to contract their money supplies, putting upward pressure on world interest rates. Activity in other countries is depressed both by devaluation's competitiveness effect and by the impact of their reserve losses on interest rates and real balances. Alternatively, if devaluation occasions an expansion of the devaluing country's money supply, reserves may flow out, permitting its trading partners to expand their money supplies and putting downward pressure on world interest rates. If the reserve outflow is sufficient, the impact on foreign output of the expansionary real

balance-interest rate effect conceivably may swamp that of the contractionary competitiveness effect, leaving both countries better off.

Table 2 summarizes the evidence on the single-country effects of devaluation.[7] The sample is a cross section of ten European countries and, in the second and third equations, the United States. The results suggest that devaluation was a powerful instrument of economic recovery, working through both supply- and demand-side channels. On the supply side, it raised product prices relative to wages, increasing profitability and thereby stimulating employment and production. On the demand side, it switched expenditure toward domestic goods, increasing the exports of devaluing countries relative to those of their competitors. Moreover, devaluation relaxed the exchange-rate constraint on monetary policy: countries which devalued were able to reduce interest rates, further stimulating domestic demand.[8] The increase in activity, decline in costs and reduction of interest rates increased the profitability of investment, as reflected in Tobin's q. For all of these reasons devaluation appears to have stimulated rather than impeded recovery from the Depression in the initiating countries.

What of their trading partners? While there remains no theoretical presumption that devaluation was beggar thy neighbor once real balance and interest rate channels are introduced, as practiced in the 1930s it appears to have transmitted deflationary impulses abroad. Devaluing countries, rather than expanding the domestic credit component of their monetary bases sufficiently to prevent an inflow of reserves, acquired reserves from other countries. Both the competitiveness effect and the real balance-interest rate effect penalized their trading partners. But this does not change the fact

that devaluation benefited the initiating countries. Nor does it suggest that a global round of currency devaluation would have been without effect or left the countries involved worse off. Had a global round of depreciation been accompanied by no domestic monetary expansion, it would have had no real effects. But had it been accompanied by some expansion of the domestic credit component of the monetary base, it could have been expansionary all around. While the uncoordinated fashion in which devaluation was implemented may have given rise to exchange-rate uncertainty which disrupted trade and through that channel exercised deleterious macroeconomic effects, the effects of exchange-rate uncertainty on trade are generally found to be small relative to other macroeconomic effects of exchange rate changes.

These conclusions are strikingly at variance with those of Kindleberger (1986, pp. 226-7). Kindleberger argues that devaluation exacerbated the Depression through the operation of a deflationary "ratchet." His argument runs as follows. In comparison with the 1970s, when devaluation raised prices in the initiating country while leaving them unchanged abroad, in the 1930s devaluation left prices unchanged in the initiating country and lowered them abroad, reinforcing the global deflationary crisis. "In the 1930s the successive depreciations by Britain and the sterling area, Japan, Canada, and so on, operated like a ratchet to lower world prices on balance..." The difference between eras, Kindleberger suggests, had to do with the difference in inflationary climates. "In a world of deflation, as in the 1930s, flexible exchange rates with overshooting are deflationary. Depreciation leaves domestic prices unchanged and reduces prices in countries where exchange rates have appreciated."[9]

Table 2
Reduced Form Regression Results

Dependent Variable: Change in	Period	Constant Term	Change in Exchange Rate	Dummy Variable for Germany	R^2
1. Industrial production	1929-1935	153.9 (10.06)	-0.69 (3.51)		.56
2. Industrial production (including U.S.)	1929-1935	142.9 (7.61)	-0.59 (2.32)		.32
3. Industrial production (including U.S.)	1932-1935	2.04 (7.40)	-0.97 (2.96)	0.58 (4.10)	.62
4. Real wage	1929-1935	0.73 (3.00)	0.0065 (2.07)		.27
5. Export volume	1929-1935	1.39 (8.30)	-0.0075 (3.46)		.55
6. Discount rate	1929-1935	-4.29 (4.26)	0.031 (2.25)	-1.861 (1.95)	.47
7. Tobin's q	1929-1935	136.8 (5.62)	-0.933 (2.96)		.46
8. Gold reserves	1931-1935	2.40 (4.84)	-0.018 (2.79)		.43

Notes and Sources: t-statistics in parentheses. All variables are normalized to 100 in 1929 and defined as follows:
1. Industrial production: National indices of industrial production, from B.R. Mitchell, European Historical Statistics (London, 1975); and H.W. Methorst, Recueil international de statistiques economiques 1931-1936 (La Haye, 1938).
2. Exchange rate: Gold value of currencies as a percentage of 1929 gold parity, from League of Nations Economic Intelligence Service, Monetary Review (Geneva, 1938). A devaluation means a fall in this variable.
3. Real wage: Nominal wage deflated by wholesale price index. Wages, from Mitchell, European Historical Statistics, measure hourly, daily, or weekly wages, depending on country. Note that wages for Belgium are for males in transport and industry only, that wages in France are for men only. Wholesale price indices are from Mitchell, European Historical Statistics.
4. Export volume: Special trade, merchandise only, measured in metric tons, from League of Nations, Monthly Bulletin of Statistics (Geneva, July 1936); League of Nations, Review of World Trade, 1936 (Geneva, 1937).
5. Discount rate: From League of Nations, Review of World Trade, 1936.
6. Gold reserve: Gold stock valued in constant dollars of 1929 gold content, as of December of the year. From C.D. Hardy, Is There Enough Gold? (Washington, D.C., 1936); and Federal Reserve Bulletin (various issues).
7. Security prices: Indices of industrial share prices. From League of Nations, Monthly Bulletin of Statistics, and Methorst, Recueil.

Source: Eichengreen and Sachs (1985).

While the mirror-image symmetry with the 1970s is appealing, it is not clear that the ratchet-effect argument of recent years applies in reverse to the 1930s. As applied to the 1970s, the argument is that devaluation might raise prices in the initiating country without lowering prices abroad because prices were rigid downward. While permitting prices to rise in the countries whose currencies depreciated, this downward rigidity prevented them from falling abroad, causing deflationary pressure in the countries whose currencies appreciated to be translated into lower output instead. For the argument to work in reverse, one would have to believe, implausibly, that prices were rigid upwards in the 1930s.

In the class of models discussed above, Kindleberger's result, that devaluation lowers prices abroad while leaving domestic prices unchanged, obtains only if domestic supply curves are perfectly elastic at prevailing prices while foreign supply slope upward. Then the expenditure-switching effects of devaluation move domestic producers out their supply curves, increasing domestic output without changing domestic prices, while moving foreign producers back down their supply curves, reducing both prices and production abroad. Even so, just as in the general case where both countries' aggregate supply curves are upward sloping and devaluation raises domestic prices while reducing prices abroad, in this special case an isolated devaluation still expands output and employment in the initiating country, and a round of devaluation cum monetary expansion expands output in all countries involved. If the precise impact on prices is debatable, the impact on output is not. The only circumstance in which devaluation could leave output unchanged in the initiating country while lowering output and prices abroad is

when the act of depreciating the currency reduces, rather than increasing or merely leaving unchanged, global money supplies. This possibility is discussed in Section IV below.

What conclusions can be drawn about the role of competitive depreciation in the propagation of the Great Depression? First, currency devaluation had, rather than negligible consequences, significant and sustained economic effects. Second, rather than ascribing the severity of the Depression to the propensity of policymakers to utilize this instrument, one can more easily sustain the opposite argument -- that the Depression might have been ameliorated had devaluation cum monetary expansion been utilized more extensively. Third, the uncertainty created by a round of haphazard devaluations might have been minimized and any consequent disruptions to international trade reduced had currency devaluation been conducted in a more internationally-coordinated fashion. Fourth, if devaluation had deleterious consequences, these would have had to operate primarily through the impact of exchange-rate uncertainty on the portfolio preferences of central banks and the impact of portfolio shifts on the global money supply. This brings us to hypotheses concerned with the supply of reserves and the determinants of global money supply under the interwar gold-exchange standard.

IV. The International Monetary System and the Depression

As a fixed-exchange-rate system, the international monetary system of the early .330s linked national money supplies to the availability of international reserves. Either the characteristics of the system or the way it was managed could have created a reserve shortage, putting downward

pressure on money supplies. There are at least three variants of this thesis, one which posits a global gold shortage, one which emphasizes the concentration of gold in the United States and France, and one which emphasizes the liquidation of foreign exchange reserves once key currencies came under attack.

The leading exponent of the gold shortage theory was Gustav Cassel.[10] As emphasized by Cassel and others, prices had risen worldwide between 1915 and 1925 due to the inflation associated with wartime finance and postwar reconstruction. Higher prices combined with economic growth to increase the transactions demand for money. Yet world money supply was constrained by the availability of reserves. Statutory regulations prevented central banks from reducing the reserve backing of their money supplies, while recent experience with inflation deterred politicians from moving to revise those statutory regulations. The output of newly-mined gold had been depressed since the beginning of World War I, and experts offered pessimistic forecasts of future supplies. While concerted efforts were made, notably at the Genoa Conference in 1922, to officially supplement the supply of gold with foreign exchange reserves, this practice, according to advocates of the gold shortage theory, was never systematized sufficiently nor carried far enough. When deflation set in starting in 1929, by their interpretation the gold shortage had come home to roost.

There are severe analytical difficulties with the argument. The anger of a shortage of gold constraining the volume of transactions was alleviated by the all but complete removal of gold coin from circulation. Hence the supply of monetary gold backed a considerably increased volume of

central bank liabilities and supported a relatively stable price level through 1928. The percentage gold cover of the short-term liabilities of all central banks was little different in 1928 than it had been in 1913. It is unclear why a gold shortage, after having exhibited only weak effects in previous years, should have had such a dramatic impact on world prices and money supplies starting in 1929.

Alternative characterizations of the monetary problem associated with the operation of the gold-exchange standard emphasize mismanagement of gold and foreign-exchange reserves rather than their overall insufficiency. Between the ends of 1928 and 1932, French gold reserves rose from $1247 million to $3257 million of constant gold content, or from 13 to 28 per cent of the world total. The gold backing of the notes and public deposits of the Bank of France rose over the period from 47 to 78 per cent. In the U.S. case, critics decried not the rate of increase of gold reserves, which was eight per cent over the period, but their high level. In contrast to 1925-28, when the Federal Reserve had facilitated reconstruction of the international gold standard by releasing a significant fraction of the sizeable reserve it had acquired during World War I, after 1928 the U.S. persistently maintained 35 to 40 per cent of global gold reserves. By the end of 1932 France and the U.S. together possessed nearly 63 per cent of the world's monetary gold. By draining reserves from the coffers of other central banks, downward pressure was placed on money supplies in other countries.

What accounts for this inordinate accumulation of gold by the Federal Reserve and the Bank of France? The question can be approached from two directions: national policies and international interactions. Under the

national-policies approach, both central banks are indicted for sterilizing the impact of gold inflows on domestic money supplies through some combination of open market sales of assets and increases in their discount rates. There is considerable evidence that sterilization by the Fed contributed to the sustained strength of the American balance of payments during the boom and slump alike. Before the Wall Street Crash, Federal Reserve policy was dominated by domestic considerations -- specifically, by a marked tendency to tighten domestic credit in order to rein in the stock market boom. In the first half of 1928, for example, the Fed conducted massive open market sales. Over the next year this antispeculative stance was maintained despite ongoing dispute between the New York Reserve Bank and the Board in Washington, D.C. over the proper means of implementation. Open market purchases and relatively high discount rates attracted a steady stream of gold from abroad and prevented it from flowing out. Even after interest rates and the level of economic activity declined precipitously in the final quarter of 1929, the Fed hesitated to expand domestic credit: gold imports exceeded $175 million in 1929, $280 million in 1930, $145 million in 1931. As late as 1932 tentative efforts to initiate expansionary open market operations were aborted due to fears that gold outflows might undermine confidence in the dollar and due to the impact of lower interest rates on commercial bank earnings (Epstein and Ferguson, 1984). The unifying theme running through criticisms of Fed policy is the exaggerated importance the Fed attached to gold outflows and it. neglect of both the impact of monetary contraction on the domestic economy and the implications of gold inflows for the rest of the world.

There is less agreement concerning the motives and actions of the Bank of France. Like their American counterparts, the Governors of the Bank of

France, not to mention French politicians, attached great importance to the national gold reserve. Relative to national income, population and money supply, France had always held exceptionally large gold reserves. Those reserves had been considerably depleted in the course of World War I and postwar bouts with inflation, and rebuilding them came to be seen as crucial for restoring confidence in the currency and France's position in the world economy. But before attributing France's massive accumulation of gold after 1926 to active sterilization motivated by simple mercantilism, it is important to recognize that the Bank of France operated under newly-imposed statutory restrictions which constrained its ability to engage in expansionary open-market operations. The engine for French inflation in the period 1921-26 had been money finance of central government budget deficits. The stabilization law of June 25, 1928, which officially restored France to the gold standard, included new restrictions designed to tie the hands of the central bank so that governments could not pressure it into monetizing deficits. The Bank of France was prohibited, except under special, limited conditions, from purchasing securities on the open market. Purchases of foreign exchange on the open market were uniformly prohibited, while purchases of securities were precluded (except for bills and short-term securities purchased on behalf of foreign banks of issue which maintained current accounts with the Bank of France and 3-month bonds of the Caise d'Amortissement which the Bank had previously assisted in placing on the market).

Thus, when the French stabilization took hold after 1926, interest rates declined, and the demand for francs recovered, the Bank of France was

precluded from initiating expansionary open market operations to increase
money supply to the level of money demand. Since the exchange rate was
pegged, the only way Frenchmen could acquire their desired money balances was
to reduce their spending, moving the balance of payments into surplus, and to
convert the gold they thereby obtained at the Bank of France. Although in the
second half of 1928 the Bank of France held only a 40 per cent backing ratio
and despite the fact that the Bank was only obligated to hold gold in the
amount of 35 per cent of eligible liabilities, due to the prohibition on open
market purchases it had no choice on the margin but to acquire a franc's worth
of gold for every franc it issued.

The only alternative was to rely on the commercial banking system to
expand the money supply. By lowering its discount rate, the Bank of France
might encourage commercial banks to hold fewer cash reserves and extend more
loans, thereby increasing the money multiplier. But compared to other
advanced countries, the discount market in France remained narrow and
underdeveloped. Estimates in Eichengreen (1986b) indicate that the level of
discounts and their elasticity with respect to the discount rate were too
small for discount-rate changes to much influence gold movements. Thus,
given the statutory restrictions under which it operated, the Bank of France
could do little to stem the gold avalanche.

The view which explains the concentration of gold as a result of systemic
interactions complements rather than competes with that which emphasizes
domestic determinants of central bank policies. Rather than an automatic,
self-equilibrating system comprised of a large number of atomistic countries,
it characterizes the gold standard as a noncooperative game in which rival

countries engaged in a competitive struggle for limited gold reserves. The argument proceeds by way of contrast with the prewar situation. The distinguishing characteristic of the prewar international monetary system was that it was dominated by one exceptionally powerful country, Great Britain, and its agent, the Bank of England. The Bank of England, in Keynes's famous phrase, was "the conductor of the international orchestra." By virtue of Britain's unparalleled foreign asset position, sterling's role as key currency, and London's importance as an entrepot center and source of trade credit, the Bank of England possessed powerful leverage over international flows of commodities, capital and gold -- leverage she could employ to manipulate the process of adjustment by which external balance was restored. Since no other country could match the Bank of England's influence in international financial markets, an increase in her Bank Rate was virtually guaranteed to attract gold from abroad. Foreign authorities had no alternative but to respond to Bank of England initiatives in kind, as the British understood. As Keynes framed the argument when helping to draft the report of the Macmillan Committee, Britain could "by the operation of her Bank Rate almost immediately adjust her reserve position. Other countries had, therefore, in the main, to adjust their conditions to hers."[11] In effect, the Old Lady of Theadneedle Street was the Stackelberg leader of a noncooperative gold standard game, formulating its policy with the anticipated reaction of foreign central banks in mind. As leader, the Bank of England was in a position to hold relatively slim gold reserves (Eichengreen, 1987b). Hence the competitive struggle for gold which otherwise might have arisen was resolved by the Bank of England's willingness to manage the system, in the words of Richard Sayers, protected only by a "thin film of gold."

Between the wars, this noncooperative struggle erupted in full force.[12] Britain no longer possessed unrivaled influence over the international adjustment mechanism. Rapid growth outside of Northeast Europe reduced Britain's preeminence in international commercial transactions. Moreover, the war and its aftermath had transformed the United States from net debtor to net creditor and into the repository of a large share of the world's monetary gold. Washington was newly equipped with a Federal Reserve Board and New York with a Federal Reserve Bank to direct and carry out financial market intervention. New York and Paris having attained or approached parity with London in international transactions, no one center had the capacity or incentive to conduct the international orchestra -- to adopt the leadership role. Britain, according to Kindleberger (1986), was no longer capable of shouldering the burdens of leadership, while the United States was unwilling to acknowledge its new responsibilities. With no leader to facilitate the harmonization of policies, London, Paris and New York worked at cross-purposes. Possessing incompatably large desires for a limited global supply of gold, the three central banks engaged in a self-defeating struggle to acquire gold from one another through the adoption of increasingly stringent monetary policies. As Keynes described the situation, " What helps each central bank is not a high Bank rate but a higher rate than the others. So that a raising of rates all round helps no one until, after an interregnum during which the economic activity of the whole world has been retarded, prices and wages have been forced to a lower level."[13] This retardation of economic activity due to the failure of central banks to coordinate their policies was international economic management's contribution to the severity of the Depression.

The final version of the hypothesis that the international monetary
system was responsible for the Depression blames not national economic
policies but instabilities inherent in the system.[14] Because two reserve
assets -- gold and foreign exchange -- circulated side by side, the interwar
gold-exchange standard was subject to destabilization through a mechanism
analogous to Gresham's Law. As soon as questions were raised about the
stability of the reserve currencies, central banks scrambled to shift out of
foreign exchange and into gold. Between 1928 and 1932 the share of foreign
exchange in the reserves of 24 European countries fell from 42 to 8 per cent.
While a large part of this liquidation was due to the Bank of France's
long-standing effort to convert its foreign assets into gold, even after
excluding France the share of foreign exchange in the reserves of the
remaining 23 countries declined from 36 per cent in 1928 to 11 per cent in
1931. In levels, the value of foreign exchange reserves of the 24 European
countries fell from $2520 million in 1928 to $505 million in 1932. The major
part of this decline took place between the ends of 1930 and 1931, when the
1931 financial crisis, the imposition of exchange control by Germany and
Austria, and the devaluation of sterling combined to undermine faith in the
stability of reserve currencies and induced central banks to substitute gold
for foreign assets in order to avoid capital losses on their reserves.
Through this liquidation of foreign exchange, the global reserve base was
reduced. Since even central banks that devalued their currencies were obliged
to back their notes and (in many cases) sight liabilities, the reduction of
reserves ostensibly placed downward pressure on money supplies worldwide.
Foreign exchange reserve liquidation is thus another possible channel through

which the uncoordinated exchange-rate changes of the early 1930s could have worsened the Depression.

The decline in global reserves after 1930 is indisputable. The question is whether that decline in reserves had deflationary monetary consequences, and whether those consequences were of a magnitude that helps to explain the severity of the Depression. In answering this question, it is critical to distinguish two scenarios: under one, what occurred starting in 1931 was simply a liquidation of foreign exchange reserves; under the other, what happened was not just a liquidation of exchange but at the same time a shift into gold. Countries held exchange reserves in excess of statutory minima not only to back central bank liabilities but to smooth fluctuations in the balance of payments. Even after adjusting for any relationship between central bank liabilities and reserves, larger reserves were held by rich countries, by open economies, and by nations whose export receipts were highly variable. If central banks simply chose to reduce the excess foreign exchange reserves they held for balance-of-payments-smoothing purposes once they recognized that the costs of holding them (in the form of potential capital losses due to devaluations of reserve currencies) had increased, it need not have followed that their actions had deflationary monetary consequences. But if they at the same time attempted to substitute gold for foreign exchange, the scramble to do so might unleash serious deflationary consequences. The quote from Keynes cited above applies in this context as well: when all countries adopt deflationary monetary policies in an effort to acquire gold from abroad, none succeeds and together their actions only depress money supplies and economic activity worldwide.

In Eichengreen (1987a) I estimate demands for gold and foreign exchange reserves on cross sections of some two dozen countries for 1929-1935, a period bracketing the years during which the decline in foreign exchange reserves occurred. As in modern studies of optimal international reserves, demands are assumed to depend on country size, the share of imports in GNP, and balance-of-payments instability (proxied by the standard deviation of exports over three years). In addition, demands are assumed to depend on central bank liabilities (the proxy used is note circulation). Finally, dummy variables for the U.S. and France are included to test whether the reserve-holding behavior of these countries remains anomalous even after adjusting for their openness, their incomes, their note circulations and the variability of their exports, while dummy variables for the years 1930-35 are included to test for shifts in the demand for reserves after 1929.

Table 3 summarizes the results. As anticipated, demands for both gold and foreign exchange reserves depend positively on GNP, openness, export variability and monetary liabilities, although the coefficient on export variability is far from robust and the link from note circulation to foreign exchange holdings is weak. But the gold holdings of both the Bank of France and the Federal Reserve remain exceptional even after adjusting for these characteristics; both central banks hold more than twice the gold predicted by their characteristics and the average behavior of other countries. This finding reinforces the economic importance of the noncooperative behavior emphasized above. Recall that as of 1932 France and the U.S. together possessed some two thirds of the world's monetary gold. Had they behaved in the manner typical of other central banks, their share would have fallen by

roughly half to a third of the world total, doubling at a stroke the gold reserves available to other countries.

The liquidation of foreign exchange reserves after 1930 is equally evident in the results. But conclusions concerning the question of whether this liquidation was at the same time a shift into gold are not clearcut. While in the equations for gold the coefficients on 1930 and subsequent years are uniformly positive, they tend to differ insignificantly from zero. On the basis of these estimates one cannot reject the null hypothesis that the demand for gold rose insignificantly at the same time the demand for exchange reserves fell. Unfortunately, neither can one reject a range of other null hypotheses, for example that the demand for gold rose by a third. In any case, the coefficients on years after 1929 are small compared to the coefficients for the U.S. and France. On the basis of point estimates the exceptional demands for gold by the U.S. and France contributed more to the global reserve stringency than did the liquidation of the gold-exchange standard.

Attempts to decompose money supply fluctuations worldwide, as in Nagaoka (1987), show that the decline in money supplies after 1928 vastly exceeded the simultaneous decline in gold and foreign exchange reserves. Most of the monetary contraction was due not to the decline in reserves, in other words, but to the decline in money multipliers in a number of important countries. Between 1928 and 1932, money multipliers declined dramatically not just in France and the United States but in Belgium, the Netherlands, Sweden and the United Kingdom. One cannot exonerate policy on the grounds that this decline in money multipliers was a consequence of the Depression rather than

Neither is it possible to explain the severity of the Depression through the gold-exchange standard's collapse. To be sure, that collapse was the occasion for competitive depreciation. Countries devalued their currencies in a manner that transmitted beggar-thy-neighbor impulses to their trading partners. But it does not follow that competitive depreciation was responsible for the severity of the slump. Had depreciation been unaccompanied by any change in global reserves or any domestic credit creation, it would have been purely redistributive, transferring output and employment to devaluing countries from those remaining on gold. It simply would have worsened the Depression in countries whose currencies appreciated, improving the situation of their trading partners. Unless specific countries are assigned a pivotal role through linkages yet to be specified, it is hard to see how mere redistribution could have worsened the Depression overall. Moreover, insofar as devaluation loosened the gold standard constraints on monetary policy and provided scope for domestic credit creation, it could improve the situation in depreciating countries by more than it immiserized their trading partners. While such credit creation took place only in certain instances (Japan, Italy and Canada are three examples for the period through 1932), the salient criticism is not that countries depreciated their currencies but that more did not adopt this policy and that they did not push it far enough.

Another criticism of exchange rate devaluations is that the uncoordinated fashion in which they were implemented created uncertainty which led to a liquidation of foreign exchange reserves, placing deflationary pressure on domestic monetary systems. While there is some evidence that the liquidation

an initiating factor; while this is plausible enough, central banks can still be indicted for failing to counter these effects. Like the evidence presented above, this suggests that it was not the liquidation of foreign exchange reserves so much as the overall policy stances of major central banks -- whether adopted for purely domestic reasons or as a result of their inability to harmonize policies -- that were mainly responsible for the decline in money supplies worldwide that reinforced the severity of the Depression.

V.   Concluding Remarks

In the course of analyzing explanations for the Great Depression that focus on international factors, I have emphasized the limitations of nearly every variant of the argument previously advanced. None of these criticisms challenges the central insight that the Depression was an international phenomenon. The onset of depression was rapidly transmitted across national borders. So were the effects of the policies adopted by governments in response. In no instance is it particularly useful to analyze the Depression in an individual country in isolation from events in the rest of the world.

Yet many of the international factors invoked as explanations for the onset of the Depression and for its singular depth and long duration go only part way toward accounting for the origins or the severity of the slump. For example, the trade warfare which followed on the heels of the Smoot-Hawley Tariff imposed in 1930 comes too late to explain the 1929 downturn and does nothing to illuminate the severity of the contraction in the United States. As an expenditure-switching policy, there is little doubt that the tariff ameliorated rather than exacerbating the initial slump.

Table 3
Demand for Reserves: U.S., French and Year Effects

Independent Variables	Dependent Variable					
	Log Reserves		Log Gold		Log Foreign Asset	
Constant	-4.209	-3.845	-4.343	-3.962	-4.455	-4.484
	(10.08)	(9.48)	(9.30)	(8.80)	(5.81)	(5.69)
Log GNP	0.885	0.848	0.803	0.766	0.935	0.937
	(17.80)	(17.34)	(14.26)	(14.24)	(10.28)	(10.18)
Import Share	3.956	3.919	3.969	2.920	4.042	4.073
	(6.89)	(6.97)	(4.50)	(4.56)	(3.80)	(3.76)
Export Variability	1.087	0.483	1.537	-0.239	3.332	3.488
	(2.80)	(0.62)	(1.90)	(0.25)	(2.73)	(2.31)
Log High Powered Money	0.209	0.194	0.300	0.280	0.014	0.245
	(6.33)	(6.19)	(7.50)	(7.39)	(0.22)	(0.25)
France		1.246		1.573		-0.123
		(3.44)		(3.59)		(0.18)
U.S.		0.775		1.044		
		(2.79)		(3.12)		
1930	0.128	0.161	0.153	0.193	-0.065	-0.069
	(0.59)	(0.78)	(0.60)	(0.80)	(0.16)	(0.16)
1931	-0.030	0.020	0.192	0.253	-0.700	-0.705
	(0.14)	(0.10)	(0.74)	(1.03)	(1.67)	(1.67)
1932	0.258	0.263	0.411	0.417	-0.479	-0.477
	(1.16)	(1.24)	(1.57)	(1.69)	(1.13)	(1.12)
1933	0.328	0.304	0.326	0.298	-0.821	-0.816
	(1.48)	(1.44)	(1.25)	(1.21)	(1.94)	(1.92)
1934	0.248	0.227	0.237	0.210	-1.019	-1.014
	(1.10)	(1.05)	(0.91)	(0.85)	(2.38)	(2.35)
1935	0.312	0.293	0.361	0.338	-0.679	-0.674
	(1.39)	(1.37)	(1.38)	(1.37)	(1.59)	(1.57)
R^2	.91	.92	.88	.89	.72	.72
n	154	154	168	168	140	140

Note: Pooled time-series cross-sections. Two-stage least squares estimates with t-statistics in parentheses. Instruments for money are arguments of the money demand function: lagged money and the inflation rate. For the list of countries included, data sources and other details, see Eichengreen (1987a).

of foreign reserves was at the same time a shift into gold with deflationary consequences, that evidence is less than conclusive. And the deflationary consequences of any such shift were small in comparison with the effects of other central bank policies.

Those other policies -- specifically, the noncooperative policies of the major central banks and the priority they attached to preservation of the traditional gold parities relative to internal balance -- must loom large in any explanation for the depth and duration of the slump, if not for the initial downturn as well. The failure of central banks, notably those of France and the U.S., to coordinate their policies drained reserves from the coffers of other central banks, who found themselves between the Scylla of deflation and the Charybdis of balance-of-payments crisis. Ultimately, they chose to pursue the first course with such a vengeance that they suffered both.

Footnotes

1.   A recurrent theme of The General Theory was the unpredictable volatility of investment spending. Even earlier, in the Treatise on Money (1930, vol. II, p. 194), Keynes wrote "The boom of 1928-29 and the slump of 1929-30 in the United States correspond respectively to an excess and deficiency of investment."

2.   This may be what Meltzer had in mind when he suggested that the Smoot-Hawley Tariff influenced the operation of the price-specie-flow mechanism and observed that in 1930 the U.S. balance of payments moved strongly into surplus while the monetary gold stock increased.

3.   The assumption of fixed nominal wages permits the tariff to have output and employment effects. Clearly, the assumption of complete wage rigidity is too strong; all that is needed, however, is the assumption that wages respond with an elasticity of less than unity to chances in domestic prices, which is in line with early-1930s experience.

4.   This conclusion is based on evidence for Vermont, the one state for which sufficiently disaggregated balance sheet data is available. See Eichengreen and Portes (1987).

5.   The effects of depreciation in such a model are formally analyzed in Eichengreen and Sachs (1986).

6.   There is some precedent for this distinction in the literature; see Haberler (1937) and Jacobsson (1958).

7.   This paragraph summarizes evidence presented in Eichengreen and Sachs (1985).

8.   The dummy variable for Germany is designed to capture the extent of exchange control, which allowed Germany to pursue macroeconomic policies similar to those of devaluing countries.

9.   Kindleberger (1986), p. 293.

10. A clear statement of his views, albeit at a later date, is Cassel (1932). The remainder of this section draws on Eichengreen (1987a).

11. Committee on Finance and Industry (1931), p. 125.

12. The points made in this paragraph are elaborated in Eichengreen (1985).

13. Keynes (1929), in Moggridge, ed. (1981), pp. 778-779.

14. Arguments similar to those about to follow are also advanced by Hamilton (1987b).

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