14. Money and the State, International

Mundell puts forward a fascinating and provocative way of understanding the 20^{th} century as one long excursion away from the gold standard and back again, or at least moving in that direction. For our purposes, the interesting thing about Mundell is the way his perspective expands the money view in the direction of international money.

Most important, the discipline that is imposed by the gold standard is a payments discipline; countries settle payments ultimately in gold, although there are myriad opportunities (using money markets) to delay net settlement for a while in anticipation that some offsetting payment will arrive meanwhile. This discipline not only polices the behavior of individual nations, but also knits the entire collection of nations into a more or less unified, integrated, and stable moneyflow system.

The problem is that individual states, and their central banks, may not be willing to submit to the discipline. If they could coordinate with other states, either to revalue gold (increase its price) or to create accepted substitutes for gold (such as the SDR), they could relax the discipline somewhat (more gold in circulation relative to a given quantity of credit). But in practice they have not been able to coordinate because individual states, and their central banks, are also generally not satisfied with the place assigned to them in the system, and so always looking to improve their position.

As a consequence, the 20^{th} century monetary experience has had not much to do with gold and much more to do with the behavior of the dominant nation (the US) and its central bank (the Fed.) Mundell blames monetary mistakes for most of the travails of the twentieth century, not only deflation and inflation but also wars, social unrest, communism and Naziism.

I proceed by recasting Mundell's account of the 20^{th} century in the analytical framework of this course, namely the natural hierarchy of money.

Act 1 (1900-1933): "Confrontation of the FRS with the Gold Standard"

The Federal Reserve System was established in 1913 on the eve of WWI. Only the US remained on gold during the war, but that was no great feat because throughout the war gold flowed in to pay for war material. At the end of the war, most of the world's gold was in the US, and the international monetary system was comprised of national currencies, none of which was properly convertible into a higher level international money. Nevertheless, the decision was made to move in the direction of a return to the international gold standard which had been the system before the war.

The problem was that almost no one realized, and certainly no one prepared for, the deflationary consequences of doing so without revaluing gold. Over the next decade, the value of gold would increase with every country that returned to gold, simply because of the increased monetary demand for gold, and the consequence would be downward pressure on other prices (quoted in gold) throughout the world. (France was a partial exception because France devalued its own currency against gold, and so got a fresh start.)

International Money	Gold			
	|			
National Money	Dollar	Pound	DM	Franc
	|			
Credit	Deposits	Deposits	Deposits	Deposits

Add to this structural deflationary tendency some mismanagement by the Fed, and you got the ingredients for a real disaster. Mundell identifies the key mistake in 1931: "Instead of pumping liquidity into the system, it chose to defend the gold standard" (p. 330) by raising the rediscount rate from 1 ½ to 3 ½ percent. Thus the Fed compounded the secular deflationary tendency with explicitly deflationary policy.

In terms of our hierarchy, we can think of the Fed as defending the position of the dollar relative to the better international money gold. This was the wrong thing to do on two accounts. First, the whole point of raising the rediscount rate was to attract gold, but that just increased the upward pressure on the price of gold, which means the downward pressure on prices generally, and on other currencies. In the event the pressure was too much for the weaker currencies to stand, and they simply abandoned gold, as did the United States itself eventually, and the end result was the collapse of the international monetary system, and along with it much of international commerce.

Second, by defending the dollar against gold, the Fed was in effect leaving domestic banks on their own to defend the par value of bank deposits against the national dollar. Falling agricultural prices meant widespread loan default, and tight central bank policy added liquidity pressure. The result was widespread domestic bank failure, which added a further impulse to domestic deflation.[1] On both accounts, Mundell suggests that the right policy would have been instead to engineer a worldwide revaluation of gold, which means a worldwide depreciation of currencies against gold. "Had the price of gold been raised in the late 1920s, or, alternatively, had the major central banks pursued policies of price stability instead of adhering to the gold standard, there would have been no Great Depression, no Nazi revolution, and no World War II."

Act 2 (1934-1971): "Contradiction between Keynesian national management and the Bretton Woods fixed rate system"

At the end of WWII, at the famous Bretton Woods conference, gold was once again in the US, and the international system once again involved a collection of national currencies that were not convertible into any higher international money. This time, unlike WWI, there was no thought of trying to return to the gold standard. Instead there were several proposals for fundamental reform, most notably Keynes' bancor plan which would have created an elastic international money.[2]

Keynes Bancor Plan

[1] See Irving Fisher, "The Debt Deflation Theory of great depressions" (1933)

[2] Also noteworthy, the proposal for replacing gold with a basket of commodities. See Benjamin Graham, World Commodities and World Currencies, 1944.

Deficit countries		International Bank		Surplus Countries	
Assets	Liabilities	Assets	Liabilities	Assets	Liabilities
	Bancor loans	Bancor loans	Bancor deposits	Bancor deposits	

A key feature of this plan was an attempt to create symmetry between the deficit and surplus countries, which means weakening the discipline of the survival constraint which binds on the deficit countries but not the surplus countries. Countries with large and persistent surpluses were to be penalized, and so provided with incentives for spending the surpluses (on goods or capital from the deficit countries) rather than save them. At the time, the US was obviously going to be the only surplus country, as everyone else rebuilt from wartime damage, so the US did not like this feature and instead put forward a plan that fixed the quantity of international money once and for all.

International Monetary Fund		Member Country Central Bank	
Assets	Liabilities	Assets	Liabilities
+Gold +National Currencies	 +SDR	-Gold +SDR	 +Currency

This rather harsh <u>discipline</u> at the international level might have caused problems (similar to those caused by the inelasticity of money under the National Banking System in the US, see Lec 3) but in fact there was an element of elasticity added lower down. The dollar was convertible into gold, and all other currencies were convertible into the dollar, the so-called "anchored dollar" system, and the quantity of dollars was, in principle, elastic because in effect the US (the entire US, not just the Fed) was the world's bank. This point is not so much emphasized by Mundell, but was a constant theme in the work of his teacher, Charles Kindleberger.[3]

United States		Rest of World	
Assets	Liabilities	Assets	Liabilities
Long term bonds Gold reserves	Short term $ deposits	Short term $ deposits	Long term Bonds

In these balance sheets we see an expansion of dollar reserves for the rest of the world that does NOT require the US to be running a trade deficit. Instead they are just the liability counterparts of gross capital outflows to finance the redevelopment of the rest of the world. So long as the rest of the world accepts dollar deposits as if they were gold, the system works fine. But it comes under unsustainable pressure if gold comes to be undervalued, so that holders of dollars ask for the promised convertibility. Over time, in the 1960s, this started to happen with increased frequency.

Gold Anchor Gold

[3] Depres, Emile, Charles P. Kindleberger, and Walter S. Salant. "The dollar and world liquidity" The Economist (Feburary 5, 1966): 526-29.

International Money	Dollar ($35/oz.)
National Money	Dollar Pound DM Franc

One way we might have fixed the problem would have been to revalue gold; Mundell says that Arthur Burns was trying to get Nixon to do that. Another way was to increase the supply of gold, or rather of SDR (Special Drawing Rights) fiduciary issue of "paper gold" by the IMF. This was attempted in 1967 but it was too little too late. Mundell suggests that if more had been issued, so that central banks could have substituted SDRs for gold reserves, that would have reduced worldwide demand for gold, so lowering its price relative to the dollar, and taking the pressure off. Instead, the pressure continued and in 1971 the US simply went off gold. (Recall that one response to the present global financial crisis was to have the IMF issue additional SDRs.)

Act 3 (1972-1999): Flexible exchange, learning from experience

When the US unilaterally broke the connection with gold, even the weak discipline of the gold anchor was lost. The rationale for other currencies to peg to the dollar was therefore lost, and they broke away. Instead of a hierarchical system, we got a system of national currencies and floating exchange rates. A system of national currencies is typical in war time, when commerce is typically severely restricted, but quite anomalous in peace time.

International Money	???
National Money	Dollar Pound DM FF

Some economists (most notably Milton Friedman) persuaded themselves that flexible rates would actually work better, on the grounds that market prices tend to work better than administered prices.[4] Perhaps he thought that price stability domestically would inevitably result in exchange rate stability internationally, through the mechanism of Purchasing Power Parity. The result however did not bear out these hopes.

The result was inflation and stagnation simultaneously until the 1980s when we began to get some discipline into the system again, and ordering around a few key currencies. The discipline came from commitment by central banks to a regime of inflation targeting domestically, even absent any international disciplining device (such as gold convertibility). Such regimes were very successful in producing price stability. But internal price stability did not translate into international exchange stability, not at all. Volatility of major rates—dollar, euro, yen—continued even after reduced inflation in each area.

One important legacy of the period of disorder was the rise of currency futures markets for hedging exchange rate risk, and these markets remain to this day extremely important. We will be talking at length about these markets next week. Notwithstanding these markets, the

[4] It is clear that Mundell does not agree with Friedman on this point. Mundell talks in a number of places about the advantages of fixed exchange rates. Just as par clearing is an important institution for knitting together the farflung states of the United States, so too fixed exchange is an important institution for knitting together the farflung countries of the world.

continuing problem was persistent volatility of exchange rates as well as continuing lack of any truly global currency.

Mundell doesn't talk much about speculative currency markets, maybe because he sees them as eventually being replaced by a fixed exchange system. For him, the great example of success, in this regard, is the emergence of the Euro in 1999, which eliminated exchange rate volatility in a large portion of the system, leaving the system organized around three main currencies: dollar, Euro, yen. Volatility however remained between these currencies.

International Money		???	
Key Currencies	Dollar	Euro	Yen
National Currencies			

Ten years later, we see that his optimism seems misplaced. One of the things he misses is that the three-currency picture he paints is not so symmetric. The world funding market is basically a dollar funding market, not euro or yen. The dollar is very much the dominant player, as we saw in the recent global financial crisis.

Act IV: Global Financial Crisis

During the financial crisis, one of the big problems was a shortage of dollar funding for dollar assets held outside the US. When the system was working, there was a kind of unregulated international dollar market that worked like this:

Global Shadow Bank		MMMF	
Assets	Liabilities	Assets	Liabilities
RMBS	MM Funding	MM Funding	"deposits"

When the crisis happened, the Money Market funding all dried up as MMMF refused to roll their loans to the shadow banks, and demanded instead high quality money market assets such as Treasury bills. In the aftermath of Lehman and AIG, the funding problem was fixed temporarily by means of a liquidity swap between central banks: the Fed lent dollars to foreign central banks, which then lent them on to the shadow banks located in their countries. Thus the central bank network substituted for the collapsing money markets.

Here is a stylized picture of the operation in its full glory, using the European Central Bank as my example:

Shadow Bank		ECB		Fed		Treasury		MMMF	
A	L	A	L	A	L	A	L	A	L
MBS		+$ dep.	+€ dep.	+€ dep.	+$ dep.				"dep"

	+$loan	-$dep. +$loan				+$ dep.	+Tbill	+Tbill	

So you can see how ultimately it is still "deposits" at the MMMF that fund the Shadow Bank holding of Mortgage Backed Securities. But now there is no direct lending from MMMF to the Shadow Bank. Rather the MMMF lends to Treasury, which lends to Fed, which lends to ECB, which lends to the Shadow Bank.

That was how we managed lender of last resort internationally in the heat of the crisis. In the aftermath, all this temporary construction got dismantled, essentially by taking MBS back to the US where it was easier to cobble together dollar funding directly. It is no accident that there is now over a trillion MBS on the balance sheet of the Fed.

Fed		Banks		MMMF	
A	L	A	L	A	L
MBS	Reserves	Reserves	Deposits or other funding	Deposits or other funding	"deposits"