**Slide Show Notes**

**Financial Crises**

This course has made two detours, so far.

* The first was for Comparative Advantage. Its purpose was to help you get to know the mentality behind the GATT and the WTO.
* The second was for Income Distribution. Its purpose was to put the impacts of cross-border commerce into the context of the larger forces that govern income distribution.

Now we're going to make the course's third and last detour: Financial Crises. It's not entirely a detour, as it illustrates the operation of some international institutions. Part of its purpose, however, is to provide background for the Currencies module, which studies the international issues posed by living in a world where there are many currencies.

The cases in this module distinguish international currency crises from debt and liquidity crises.

Finance is buying and selling of financial assets. By "asset" we mean something that endures and holds value. In other words, buying an asset doesn't use it up, the way buying a consumption good or services does: the asset is still there to be re-sold.

One result of this is that asset prices are more variable than the prices of goods and services, especially in the downward direction.

* Goods and services: if demand falls, the good's price will fall but it's unlikely to fall below variable production costs for long, because stocks of the good will be used up and supply will not resume until the remaining buyers are willing to pay the full production cost. (Monopolists are more able to allow price reductions, since their usual prices are above production costs.)
* Assets: if demand falls, the quantity supplied remains nearly the same since the existing assets are still there, and the price has to fall a lot to convince people to buy (or at least not to sell) the existing quantity. Demand for financial assets is also more variable, because it depends on beliefs about the future that are speculative.

The limitation in supply response to a reduction in demand is what gives assets more short-term downside price potential.

This slide shows a supply-demand chart that contrasts the supply response of a perishable good to the lack of downward supply response of a durable asset.

Financial assets have a further source of downside price instability, which is leverage. The leverage that allows you to buy a lot may also force you to sell a lot.

It is common for financial institutions to buy financial assets with borrowed money (leveraging their own capital). To do so, they use the value of the asset they buy as the security (collateral) demanded by the lender (like a car that a lender can repossess).

A price decrease in the security reduces the value of the borrower's and the lender will ask the borrower to put up more money to re-build the full amount of collateral. This "margin call" from lenders is automatic in financial markets.

If the borrower has lots of money, then there's no problem in depositing money to re-build the collateral. But if the borrower had lots of money sitting around, then why borrow in the first place? On the contrary, since the more you borrow the more profit you can make, the borrower may already have borrowed everything possible with the capital available and won't have enough spare cash to re-build collateral when required.

In this case, the borrower must sell some assets to reduce the amount of required collateral down to what the borrower can afford. Selling assets tends to reduce their market price.

To summarize the dynamic described above: when asset prices fall, leveraged investors must sell the assets, which obviously puts pressure on asset prices to fall further. This is instability: change leads to further change in the same direction — downward.

(Stability is when a process is self-correcting. For example, the equilibrium of a perfectly competitive supply-and-demand market is portrayed as being stable because a fall in demand — a downward shift in the demand curve — reduces prices, which partially counteracts the initial reduction in demand.)

How financial assets' depreciation potential can turn into a crisis depends on the type of asset and the institutions that create and manage it. We'll study crisis cases for three types of financial assets.

* Debt assets and their depreciation relative to money. The entity in crisis is a debtor. The case is Europe in 2010 to 2012.
* Privately supplied liquid financial assets and their depreciation relative to officially guaranteed financial assets. The entity in crisis is a private financial institution. The case is the U.S. in 2008.
* Mini-currencies and their depreciation relative to global reserve currencies. The entity in crisis is a mini-currency's central bank, in its role as a monetary authority. The cases are from East Asia in 1997.

The main takeaways from these cases are the following.

* Europe 2010: For those who were around at the time, U.S. rhetoric would have tried to convince you that there was a crisis of the euro currency in 2010. The contrast with an actual currency crisis of East Asia in 1997, illustrated by slides 13 and 14 below, shows that this was not the case. What the case of Europe's debt crisis of 2010 does illustrate is how international currency cooperation needs to be institutionalized through cross-border central banking for the countries participating in a currency arrangement. The course's Currencies module returns to this point.
* U.S. 2008: While this crisis had impacts that crossed borders, it wasn't essentially international and wasn't a currency crisis. It's useful, however, for illustrating the potential instability of financial markets and the importance of adjusting banking regulation to changing market mechanisms.
* East Asia 1997: This was a currency crisis. Its experience is directly relevant background to the Currencies module, which explores the global setup in which currency crises may take place.

**A Debt Crisis: Europe 2010**

First, debt crises: a debtor's income or financial wealth may fall to an extent that the debtor doesn't fulfill the contract with a lender — doesn't pay the interest or repay the principal on the due date.

In addition (as explained above), if the loan contract requires that the borrower maintain a certain amount of collateral in the form of a security, then a technical default by the borrower could occur even without missing a payment if the security's value in the market falls below the required amount. Indeed, it may be sufficient for the risk rating of the security to fall for this to happen.

When a borrower goes into default, even a technical default, there is an additional impact in financial markets, which is that the lender itself could be viewed as having been financially weakened (even though the lender may not have lost any money yet), because one of the lender's assets — the borrower's IOU — has lost value. Since the lender has probably also borrowed money, the lender's weakened financial state could hurt the financial strength of the institutions it borrowed from — a domino effect. This can mean that one financial institution's private debt problems are actually a problem for the whole economy and for public policy.

In a debt crisis, both the borrower and the lender(s) may have to adjust and take some losses.

"Bankruptcy" is a term used to refer to both:

1. A situation where a debtor can't pay.
2. A legal system that defines, ahead of time, how losses from a debt crisis will be assigned.

Legal bankruptcy is still a crisis in the sense that things can't go on as before and must change, but on the other hand it is at least managed according to rules that are known in advance.

Internationally, one of the main issues of financial management is that there is no legal bankruptcy process for sovereigns. This means that the process for figuring out who will do what and who will bear the losses of the crisis may be (and often has been) chaotic.

A type of debt crisis resolution that cuts off potential domino effects is for a wealthier financial institution to absorb the institution in crisis. The wealthy institution promises to perform on all the failing institution's commitments, relieving upstream lenders of their risk. This allows the debt problem to be resolved without panic, which generally means that the failing institution's assets are worth more than they would have been in a panic. The owners of the wealthy institution gain at the expense of the owners of the failing institution, while the system as a whole is protected.

The case of interconnected government and bank debts in southern Europe in 2010 is especially interesting because it took place in an institutional framework that was incomplete, evolving, and contested. The main lesson for policy makers is to fully develop your institutions if you want to avoid crises.

Europe's case is well covered by an analysis titled "Rebooting the Eurozone," published by of a group of economists associated with the London-based Center for Economic Policy Research (CEPR).

Centre for Economic Policy Research, "Rebooting the Eurozone: Step I — agreeing a crisis narrative," CEPR Policy Insight No. 85 (November 2015). <https://cepr.org/sites/default/files/policy_insights/PolicyInsight85.pdf>

The CEPR paper in Canvas is highlighted for ease of reading, and the following slides and notes should be read in conjunction with that analysis.

With the creation of the euro and the elimination of the old currencies' independence from one another in 1999, currency risk went away within the eurozone (EZ). Somehow, this was taken to mean that individual borrowers, and in particular banks and sovereigns, couldn't default if they were in the eurozone.

The CEPR paper's figures 4 and 5 (page 6) show how borrowing in southern Europe expanded.

Assuming there was no default risk was not logical, however.

Eurozone debtors were indeed less risky on account of the elimination of currency risk, where a depreciation of the old Italian lira against the old German mark could ruin perfectly good firms.

But there was also an increase in a type of systemic risk, produced by the incompleteness of two aspects of Europe's economic institutions.

* The lender-of-last-resort (LOLR) function.
* The fiscal framework related to LOLR, in particular the flexibility to finance government outlays monetarily.

In any case, even it was "unthinkable," individuals could obviously still out-borrow and out-spend their incomes.

And indeed, the exuberance of borrowers and the complacency of lenders after 1999 did result in debt-financed spending in southern Europe that got various people in over their heads, financially speaking.

The exuberance reached a macroeconomic scale, in the sense that the sum of all the individual entities' spending affected the overall price level, including wages and production costs, in whole regions — mainly in some countries in southern Europe.

This put the countries into the "structural imbalance" zone where short-term adjustments were not going to be sufficient to restore the ability to meet repayment obligations, and where no local entity — not even the country's government — was left with enough resources to refinance (or bail out) the debt.

This was the case mainly in Greece, where banks borrowed from German banks to finance Greek real estate and to finance the Greek government.

When the economy in Greece turned down, partly as a result of the financial crisis that started in 2008 in the U.S., Greek banks could no longer meet their obligations, and they couldn't turn to the Greek government for aid because the government was dependent on the banks!

The situation burst out into the open in 2009 when the extent of the debt build-up in Greece became public knowledge after having been hidden by Greece's government. Interest rates in Greece and other countries in southern Europe rose above rates of northern Europe, eliminating the equality in interest rates across the eurozone.

Some relief was needed from the German side. This made the crises international.

The euro as a currency was not affected (although it was talked about).

The debt crisis in Europe contrasts with the currency crisis in East Asia, which is one of the other cases that we'll look at. The market dumped the Thai baht in 1997 but held onto the euro in 2010.

What made the situation into a crisis, rather than just a market trend in interest rates, was incomplete institutions. Institutional gaps included:

* Lack of consensus on the role of the monetary authority, the European Central Bank (ECB).
* Lack of a fiscal support mechanism within the EU, which would, if it existed, be implemented by the European executive, the European Commission (the EC).
* Uncertainty about the role of the IMF in EU affairs.
* Absence of a bankruptcy procedure for sovereigns.

As a result, responses to the debt crises of southern European banks were improvised. Besides time pressure, the other reason for which improvisation may not succeed is that questions of principle are confused with particular interests.

* If a procedure is developed before crises arise, then issues of principle may be dealt with objectively, because participants didn't know which role they might be in when an actual crisis arises and the procedures are applied.
* In contrast, if a procedure is developed during a crisis, then all the participants know how each procedural option will affect them and rivalry may override objective principles.

Initially, the response in 2010 was inadequate. The EC, the ECB, and the IMF did try to work together (as the "Troika"), but for lack of a bankruptcy rule for sovereigns they were conducting a political negotiation where German leaders knew that German banks were likely to lose from any concessions to the southern European debtors.

In any case, the Troika did not raise enough financing to end the structural imbalance in 2010. The difference with crisis response in the U.S., where the Fed had been able to take prompt action, was striking.

Despite that fact that industry was suffering from the lack of private spending due to the debt crisis's continuation in 2010, the industrialized countries decided to cut government spending as well. Financial problems spread.

The Troika's second effort, which took place in a worsening situation in 2011, expanded the package of financial support by making private lenders contribute to the solution by accepting some loss on their loans.

Private lenders could see that this approach, once it had gotten over the hurdle of political acceptability, could potentially be applied in other cases as well. They took a second look at other countries in the region, which resulted in credit restraint and higher interest rates in some of those countries also, including in "core" EU economies that hadn't seemed so risky previously.

Those higher interest rates only pushed debtors further into the corner, in a vicious cycle known sometimes as financial "contagion," where a problem market infects a previously healthy market.

In 2012, after the Troika's two previous efforts had failed, the ECB finally took the next step in institutionalization and announced that it would play the traditional lender-of-last-resort role. Where in the U.S. the Fed called its intervention "quantitative easing" (QE), the ECB instituted a capacity for what it called "Outright Monetary Transactions" (OMT).

As is normally the case, the lenders understood that the ECB's new role essentially ended doubt about systemic stability. Commercial financing resumed, without the ECB ever actually having to do any transactions under the OMT. (This is analogous to IMF resources being held as reserves by the borrower, rather than being spent.)

Germany conducted a legal campaign against the ECB's policy, which failed to stop it.

The EU has taken several additional steps to institutionalize powers that, in retrospect, they would like to have had in 2009 when Greece's government and banks both simultaneously fell into debt crises.

Banks traditionally have mostly held their reserves in the form of bonds of their own national government. As a result, a government debt problem weakens the banks also. Since governments in turn have traditionally borrowed from banks, a weakened banking sector puts the government in a weaker position. In a crisis, this feedback between a government and the banks in that country becomes a "doom loop."

To insulate banks from problems with their home governments' debts, several proposals for EU-wide bonds — either private or official — have been made over the last decade. As bank reserves, such bonds would keep banks solid when their home government's bonds depreciate.

Note also that the EZ could have benefited in the crisis if there had been a sovereign bankruptcy procedure, and if the IMF as had had more resources and a clearer role with the EU.

**A Liquiquity Crisis: The U.S. 2008**

Moving on to the subject of liquidity crises, first note that certain financial assets are used as a reserve or as collateral for financial operations.

A shortage of those reserve assets can have an especially strong impact when financial institutions are highly leveraged — working with little capital relative to the size of their borrowing — which magnifies the impact of changes in their ability to raise funding.

So, if a crisis arises in a financial asset that is used as a base for banking operations, the impacts go beyond just the financial institutions who own the asset: the whole banking and financial system can be affected.

Such crises afflicted U.S. banks throughout the 1800s, as well as the European central bank reserve market in the 1930s, the U.S. "shadow banking" system in 2007-2009, and mini-currencies around the world over the past generation.

Since financial institutions rely substantially on confidence for their leverage, prompt and sufficient support from a trusted source can prevent panic and avoid crises.

The source of support and the nature of the asset provided to the financial institution depends on the institution. To prevent panic from closing one particular bank, the banks as a group can support each other, as for example through a jointly established deposit insurance company. If conditions are affecting many banks, they can get support from an official central bank (a lender of last resort) in the form of official reserves. If the country's central bank runs short of external reserves, it can get support from the IMF in the form of global reserve currencies.

As described in the module's main source for this case, Gorton & Metrick (2012), the U.S. in 2007-2009 was slow in dealing with the depreciation of a particular monetary reserve asset — privately created AAA-rated derivatives of various private debt instruments. Policy makers were not aware at the time of how much the financial system had grown to depend on these particular assets. Thus, no one anticipated that the downturn in housing prices, which threatened these derivatives, could end up affecting the financial markets so drastically.

Subprime mortgages had for several years been a successful, if risky, way for people who were not wealthy to benefit from appreciation in housing prices. This technique depended on constantly rising housing prices, and when the price rise ended in 2006 many of the securities based on that method lost value.

It requires a little background to understand how a relatively small corner of the financial world — subprime mortgages — connected to the shadow banking that had come to underlie U.S. corporate finance.

The previous module on international payments pointed out that inflation, commodity prices, and exchange rates became more volatile starting in the 1970s. Part of the financial markets' adaptation to this has been to develop "hedging" devices: artificial financial securities whose value moves in the opposite direction from the risk that your business naturally exposes you to, thus neutralizing your risk.

In a world of increasingly risky financial securities, financial markets also found ways to sequester risk, allowing some investors (bettors) to buy it while others (industrialists) avoided it. These devices are securities that are "derived" from existing financial assets, for the purpose of managing and allocating the risk of those assets. So, they're part of the general world of "derivatives."

The ABS device deserves close attention, as it creates the basic asset for the shadow banking industry.

You start with the original financial assets: say, student loans and people's credit-card balances. These loans are originated by banks who service consumers.

A firm is created that owns a large number of these loans and that repackages them in ways that reduce and isolate their risk. This allows the firms to sell the repackaged portfolios for a higher price than the original securities would sell for, which is a profit.

The repackaged securities the firm sells are called "asset-backed securities" (ABSs) generically, or sometimes "collateralized debt obligations" (CDOs). Their value comes from the repayments of the underlying loans.

The law of large numbers makes the return to the package as a whole less variable than the return to any one individual student loan. So, if you own a $10,000 share of the package, you have reduced your risk relative to making a loan of $10,000 to a single student borrower.

To take as much advantage of market demand for risky securities as possible, the firm will want to segment the market into high-risk and low-risk segments. It does this by dividing the package into slices, or "tranches" (from the French word), ranked according to which ones get paid their interest and principal first, and which ones must wait until the first ones have been paid. Shares in each tranche (CDOs) are sold in the market according to their risk rating.

The relationship of the tranches can be compared with a cascade of water from one pool to a lower pool and on to a yet lower pool. Only if the pool above is full will any water flow over its edge to the pool below. Thus the risk of drying up, when the stream that feeds the pools is affected by drought, is less for higher pools and greater for lower ones.

Similarly, risk of the investors who buy a CDO in the top tranche is lower than the average risk of the whole package (which is already lower than a randomly selected individual student's loan). The buyer of a share of the bottom tranche is getting something that is riskier than the average.

If you privilege the top tranche enough, its risk rating can be a good as a U.S. treasury bond — because the likelihood of all the disparate student loans not paying any interest or principal at all is about zero. A CDO that is that secure has a "AAA" rating.

In one interpretation of history, the slowdown inthe 1990s in the "production" of U.S. Government debt — in other words, reduced U.S. fiscal deficits —contributed to the demand for a private substitute for Treasury bonds in the 2000s. With the private financial sector manufacturing AAA-rated CDOs that seem as safe as U.S. treasury securities, corporations and financial institutions of all kinds began to use them as collateral for a "shadow banking" system of providing and managing liquidity.

In this system, unregulated, uninsured lenders like money-market funds and hedge funds, who had no access to support from the Fed the way banks do, could compete with the traditional banks. Shadow banking grew to match the size of the U.S. traditional banking sector, in terms of assets.

Both financial institutions and industrial firms financed themselves through continuously rolling over 1-day loans that were structured a "repurchase agreements" ("repos"), where the loan consisted of purchasing a AAA-rated security from the borrower and the repayment consisted in the borrower buying the security back the next morning at a higher price. The AAA-rated security provided the lender collateral: if the repurchase didn't occur, the lender could just sell the collateral.

These transactions took place in bulk and automatically because the AAA rating of the securities meant that no evaluation of the borrower or the collateral was needed. Supposedly.

A vulnerability of shadow banking is that the law of large numbers is based on the assumption of how different risks are correlated. If something changes and different risks are realized in combinations different from the past, then you can't depend on the law of large numbers.

Compared to traditional banking, shadow banking was also vulnerable due to high leverage (since shadow banking was not regulated), dependence on reputation, the dependence on a chain of counterparties (each of which can lose market confidence and bring the others down), and lack of automatic support from the Fed.

This slide is a reminder of the role of leverage.

Starting in 2006, a set of credit risks was realized that fell outside the range of likelihoods based on experience. That's explained (in a cinematic way) in the movie, "Margin Call": <https://www.youtube.com/watch?v=QAWtcYOVbWw>

Even before any failure to pay interest and principal occurred, the perception of risk increased. CDOs, whose exact contents had never been known, were touched by doubt.

Doubt about solvency also touched counterparties who the shadow banking system had been willing to finance up to high leverage ratios because they could offer AAA-rated CDOs as collateral. Now, everyone became more cautious.

An adjustment lenders made was to slightly raise the amount of "overcollateralization" asked for in repos. That is, suppose they had been asking for collateral whose market value is $105 for each $100 lent: that's overcollateralization by 5%. In the face of more risk, they might ask for $110 worth of collateral. (These numbers are totally made up, for purposes of illustration.)

Alternatively, one might ask for USG treasury securities as collateral instead of AAA-rated derivatives. But there were only so many treasuries in the market — unless the Fed took action.

Lacking cash or safer securities, financial institutions just had to reduce their portfolios by selling securities.

Financial institutions needed to raise cash by selling financial assets, but the market was in a panic over possible risks of various private assets. It's hard to sell assets whose risk rating and valuation was uncertain, so you sell what you can.

As a result, firms sold all kinds of assets and prices dropped across the board — not just for assets whose underlying industries had problems, like housing.

This slide shows a chart showing financial assets of various kinds falling in value.

So, that's a liquidity crisis.

The solution is, as always in liquidity crises, to provide an asset the public wants. In this case, it was USG securities. The Fed (and the associated USG managers of the financial sector) did so. The panic ended promptly.

What happens when the authorities choose not to respond, to let the financial sector correct itself through the discipline of the marketplace? That's a case like Bear Stearns, or Greece (initially).

While the financial sector righted itself promptly, industry shrank as a result of losing credit, initiating the usual downward "multiplier" process described by Keynesian economics. The USG initially tried to support the economy, but then in 2010 decided to reduce its purchases also, suppressing the recovery for several years. (European governments did the same thing.)

**Currency Crisis: East Asia 2007**

Turning now to currencies, note that the debt crisis of Greece's banks in 2009-2010 did not result in financial markets rushing to sell Greece's currency, the euro. Rather, the euro's exchange rate relative to the U.S. dollar moved in the same range as ever.

Nor did the collapse of confidence in the U.S. shadow banks and the near collapse of the whole U.S. private financial sector cause investors to rush to trade in U.S. dollars for euro or yen.

In other words, neither of these serious financial crises was a "currency crisis," nor did either of them lead to a currency crisis.

And yet currency crises, where the public rushes to sell everything denominated in a currency for assets payable in other currencies, are common, especially since there are globally over 130 mini-currencies that are vulnerable to them.

When a currency crisis does occur, it has impacts much like a liquidity crisis, since the currency is after all the basis of the financial sector's liquidity.

But the solution of a currency crisis is different because the local monetary authority (the central bank) can't resolve it the way the ECB finally did in the European debt crisis, or the Fed did the in the U.S. liquidity crisis. A supplier of outside assets — global reserve currencies — needs to step in.

This course's module on international payments has previewed the dynamic that has frequently led to a currency crisis — the threat of the central bank running out of Official International Reserves (OIR). The international-payments module emphasized the potential loss of market access by the country's banks and the disruption to international payments, imports, and the economy. Fuel imports and electricity generation in Pakistan was a particular case.

Now, rather than focusing on the quantity dimension of FX reserves as in the previous module, the discussion will focus on the price dimension, the exchange rate.

The case of the Thai currency crisis of 1997 is chronicled in a superb essay by Radelet & Sachs. It is also described in parts of Hinds's book on currency crises, which we will use again in the course's module on currencies.

Thailand in 1997 had been an economic success story for several years — it was spoken of as one of the new generation of "Asian Tigers," following the success of South Korea, Taiwan, Hong Kong, and Singapore in the first generation of Asian Tigers in the 1960s and 1970s.

That success gave Thai businesses access to global financial markets, which they used in part to borrow money they used to buy Thai real estate and stocks, driving prices up in both those markets.

Higher housing and stock prices did not, of course, help Thai industry. On the contrary, industry in Japan, China, and Mexico was competing more sharply with Thai producers, partly because of changes in their currencies' exchange rates. So, Thailand's BOP was at risk from the side of exports.

The prices of Thailand's speculative assets like real estate and stocks peaked in late 1996, in typical "business cycle" style, and then turned down. Thai investors, aware of assets' downside price risk and wanting to put their winnings in safe places, converted their funds into global reserve currencies, drawing down the central bank's OIR.

This, by itself, did not harm industry in Thailand.

But by June 1997, international banks became concerned about the Thai central bank's reserves and joined the trend towards minimizing holdings of Thai currency, the baht. A crisis followed quickly. Thailand's central bank could not attract OIR without paying a higher price for FX, which constituted a depreciation of the baht's exchange rate.

The exchange rate's depreciation only made things worse, because it removed the complacency that a long period of a constant exchange rates had created and made the prospect of further depreciation an additional risk factor. This provoked even stronger efforts to shift assets to global reserve currencies.

Fund managers in global financial centers scarcely wanted to risk having to explain to their investors why, having suffered losses on the baht, they sat around until losses in the other new Tigers hit them too, so they sold the currencies of Indonesia, Malaysia, and the Philippines equally. It was no use pointing out that giving the Philippines the title of a new "Tiger" was mainly wishful thinking and that the country had in fact scarcely attracted any investors (or debt): its currency dropped in line with the others.

This slide repeats the chart showing the precipitous drop in the values of various East Asian currencies, all at the same time.

The essential, underlying fact driving the currency crisis was that the Thai baht is only used in Thailand and the immediate region. It's not a global currency, and certainly not a global reserve currency. The international banks will quickly sell it if it seems to be a risk and it will depreciate. For internationally mobile financiers, it's not a store of value.

Radelet & Sachs also see the Thai case as one involving the relations between global and local capital centers, rather than being just an event internal to Thailand.

The IMF's proposed solution to the currency run was for the local central banks to raise interest rates. This would perhaps encourage people to hold baht in Thai banks, although it also created debt crises for many Thai banks and businesses.

The results of the tight credit policy, especially in Indonesia, were poor and did substantial damage to the Fund's global reputation. (It also gave rise, over the years, to a lot of self-criticism within the IMF itself.)

This slide repeats the famous image that we have already seen in the module on International Payments, of the IMF Managing Director and Indonesian President Suharto as the president signs economic plan in January 1998. The body language counted for more than the terms of the plan did.

Currency depreciation in Southeast Asia ballooned the cost of existing foreign debts. Many financial institutions, already weakened by the business-cycle losses in real estate and stocks, were bankrupted by the debt burden. Attracting financing by offering higher interest rates was neither profitable nor likely to succeed, as the price incentive of higher interest rates was inadequate to overcome the likelihood of capital loss in failing financial institutions.

In each of the most affected countries, the solution turned out to be provision of FX financing in the form of global reserve currencies, which gave the economies the wherewithal to prop up local financial institutions and stop the flight from the institutions and from the currencies, both globally and locally.

Radelet and Sachs describe the "different approach" that successfully stemmed the countries' crises.

This slide refers to the case of Thailand.

This slide refers to the case of South Korea.

This slide refers to the case of Indonesia.

The case of the East Asian currency crisis allows us to see the weakness of that era's policy analysis in the face of extreme fluidity of financial flows between different currencies.

The following module takes a closer look at the currency issue.

**References**

"Margin Call."

* A risk event has happened: <https://www.youtube.com/watch?v=QAWtcYOVbWw>.
* "I don't think that would be a good idea." <https://www.youtube.com/watch?v=W7Jqwpnw9Lo>.
	+ Law requires the firm to preserve email messages, which the SEC might study to see if the firm met its responsibilities to its clients, based on the firm's knowledge of the state of its portfolio.