Questioning Carlo Cipolla

Thomas J. Sargent
New York University and Hoover Institution

Robert Townsend
Massachusetts Institute of Technology

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Preface

We were intrigued by Carlo Cipolla's fascinating books on monetary events in 13th, 14th, and 15th century Florence and wanted to know more. So in the fall of 1985, we spend two days at the University of California Berkeley asking Carlo Cipolla about topics in economic history. This transcript records Carlo Cipolla's answers to our questions.

Carlo Cipolla passed away in September 2000 and has not edited or ratified this document. We suspect that he might be reluctant to have us make it public because of the number of times he begins his answer by asserting that he is not an expert and that we should ask someone else. But we think it would be a shame not to share some of the teachings that Carlo Cipolla gave us those two days long ago in Berkeley.

Acknowledgements

The authors wish to thank

Chapter 1

Coins

SARGENT: This is an interview that Rob Townsend, and myself (Tom Sargent), are conducting with Professor Carlo Cipolla. We are curious about a number of things to do with credit markets, and money and banking and have some questions we want to ask you.

CIPOLLA: Very good.

SARGENT: So we're going to just interrupt each other and see where things go.

CIPOLLA: And I can also interrupt you or move aside from the questions if I feel that there is some historical material which might be of interest to you?

SARGENT: Yes, please! I'd like to start by asking you when the first coins were introduced.

CIPOLLA: The first coins were introduced in Asia Minor in the 6th, 7th century B.C. And they were metals. And it's not very clear whether they were used for commercial purposes. One of the theories of the archeologists and anthropologists is that the first coins were actually used to pay mercenaries. Instead of dealing in a piece of gold, they started dealing with a piece of gold with a certain mark, that assured the weight of the coin. The area where they first came, as I say, was Asia Minor, in an area we call Lydia. One of the interesting things is that the first coins were made of silver and then of a mixture of silver and gold called electrum, which is a natural mixture of gold and silver.

Sargent: Is it a fixed proportion?

Cipolla: No, the interesting thing is that they come out in different proportions! And the first coins of electrum had the same value independently of the proportion of gold to silver. Apparently, they were unable to distinguish coins with different proportions, because they had not yet developed the technique of assessing the alloy.

Sargent: So, you said these were used by Lydian kings?

Cipolla: Lydian kings, to pay the mercenaries.

Sargent: Were the mercenaries from distinct countries?

Cipolla: I don't know exactly which country the mercenary would come from. I suppose there were mercenaries coming from inner Asia. And the mercenaries spent their coins, obviously. And this is how probably the coins started to be used in trade, in common trade, as means of payment. Then the coin became also a unit of account and from the very beginning they must have been used as store of value. Then you have the great flourishing of coinage at the time of Greece. And the "dollar" of Athens was the beautiful drachma. It was a beautiful silver coin which had very large circulation in the Mediterranean. And incidentally...

Sargent: The coins of Greece were produced by which city states, all of them or...?

Cipolla: By the city states, practically all of the city states. And also by some of the kings of Asia Minor.

Sargent: So each...

Cipolla: Each city would have its own coin.

SARGENT: Ephesus would have its coins?

CIPOLLA: I don't know if Ephesus would have its own coin. But the island of Egina, for instance, had beautiful coins. I have some in my collection, beautiful coins. They were actually works of art, these coins.

SARGENT: The Lydian were more or less full-bodied?

CIPOLLA: Yes, as far as we know they were full-bodied. That is, their nominal value was their intrinsic value.

SARGENT: What about the Greek coins? Were they full-bodied?

CIPOLLA: As far as we know they were full-bodied.

TOWNSEND: You mentioned earlier that Lydian coins that consisted of different combinations of gold and silver nevertheless had the same value, or so it might have seemed?

CIPOLLA: I don't know what we assumed to be the intrinsic value. But that would be the price they would pay for the metal, if it were not the coin. We don't know exactly what was the situation. We start to know the situation well in the European Middle Ages. Even for Rome we have no idea whatsoever of what determined the volume of issue of coinage. In the Middle Ages we know the mechanism. People brought metal to the mint. The mint would determine the cost of production and seignorage, and the person who brought the metal would return with the coin. How the Greeks operated, and how the Romans operated, and how the Parthians (the great enemies of Rome, which would be the Persians of today) how they operated we don't know. For instance, for Rome the prevailing theory is that the coins were issued only by the state for the state. That is, when the state needed currency, to pay debts, it issued coins, getting the metal from the mines that it owned. While in the Middle Ages it was so to speak the market, those people bringing bullion to the mint. . . .

SARGENT: You say the prevailing theory. One doesn't know for a fact?

CIPOLLA: We don't know for a fact. We don't have documents to tell us what regulated the currency system, the issuance of currency in Rome.

SARGENT: One doesn't know who operated the mints?

CIPOLLA: We know that the mints were operated by the state in Rome.

SARGENT: What about in Greece?

CIPOLLA: By the city states.

SARGENT: Were the Greek coins all of one metal, like gold or silver, were they both or ...?

CIPOLLA: Mostly silver, not necessarily all of them. There were gold coins, but Athens had mostly silver coins. But my expertise of Greek coinage is very limited. You mention the city state but don't forget there were also the Persians with their monetary system. Then the monetary system was brought into India by the conquests of Alexander the Great. . .

SARGENT: So the Persians issued coins?

CIPOLLA: The Parthians issued coins, and the Persians to some degree before the Parthians. There were no coins in ancient Egypt, classical Egypt; the Ptolemies, the general Alexander the Great, brought the coins into Egypt. But the Egyptian economy before that functioned on barter, and probably on exchange of pieces of metal. We don't know. But there was no coinage. The Pharaohs did not have coinage.

Chapter 2

Before coins

Sargent: So how were exchanges effected and kept track of in Egypt?

Cipolla: I am not an expert. You have to ask an Egyptologist. I think they had some kind of exchange rate, among goods; it was mostly barter and probably exchange with some pieces of metal, but not coin. It was not coin in the sense that we mean coin. But the whole thing is mysterious, very mysterious. Most of the studies that have been done on the coinage up to the Middle Ages are numismatic. The only evidence you have are the coins themselves. We don't know anything about what determined how the mints were operated or what determined the quantity of issue, what determined the recoinages, or what determined the withdrawal of worn out coins from circulation. We don't know. So it is a big mystery. And unfortunately now, the sources are such that even if you were to ask these kinds of questions of a Roman numismatist or a Greek numismatist, he would not be able to answer; it is ahistorical, because the sources (the physical coins themselves) don't contain any answer. There is no point in asking a question for which there is no answer.

Townsend: Are there nevertheless theories about why some of these economies were using coins and others not?

CIPOLLA: No. The ancient Egyptians simply had not invented them. They went on for a while not using them, doing things in their own traditional way, without coins, because that was a Greek tradition. Then there is the question of China for which I don't know anything, except for medieval China.

SARGENT: But you say there are some people who think that pieces of metal were actually exchanged in Egypt.

CIPOLLA: Probably gold, or pieces of gold. I remember seeing various agreements with gold in exchange. But you don't know if it was used as a means of payment or if it was just a transaction form, to use gold for industrial purposes.

SARGENT: Was it similar in Sumeria?

CIPOLLA: I don't think Sumerians had coins. That was before the invention of coins.

TOWNSEND: I guess we're interested in what kinds of exchanges might have taken place in either Egypt or Sumeria or other places in the absence of coins. What kind of primary documents, you were mentioning Egypt, for example, what documents are available to historians that indicate the nature of an exchange relationship?

CIPOLLA: Well, there are lots of hieroglyphs on the coins, and on the papyrus leaves, mostly contracts of agreement or revenues of government taxes. Most of the taxes were paid in kind.

TOWNSEND: So if one were just looking at government tax receipts, I suppose one would conjure up a picture of a centralized and directed economy.

CIPOLLA: Oh, yes. It was a centrally planned, very centralized economy. Also in theory all the land was owned by the central authority. You had this hierarchical structure in which you had the Pharaoh and then you had the priests, who represented a great bureaucracy of the old Empire. But for these questions you have to ask an Egyptologist. My expertise starts with the fall of the Roman Empire.

Sargent: You said the taxes were paid in kind. Were there many kinds of goods in which taxes were acceptable, or just a few?

Cipolla: I don't know. I know that they were paid in kind. You really must be an Egyptologist. You can inquire with an Egyptologist about this.

Chapter 3

Price levels

Townsend: I should ask about coins in the beginning of the Medieval era.

Sargent: I'd like to ask a couple more questions about Greece and Rome. We do want to ask most of our questions about Medieval times. But first could you tell us a little about the history of price levels in Rome.

Cipolla: Oh yes. The one thing that, for instance, numismatists looking at the coins have noted is the progressive debasement of the denarios, the silver coin of Rome between the last few centuries of the republic and 3rd/4th century A.D. But for all practical purposes we can say that the monetary history of the Roman Empire in the first two centuries between, say, the time of Augustus, year one, and the death of Marcus Aurelius, which was about 150-60 years A.D., was an age of remarkable stability.

Sargent: We know this from studies of the metal content of the coin?

Cipolla: Yes, the metal content in terms both of the fineness of the silver and the weight of the silver coin hardly diminished. The numismatists point out that there was a diminution of a few milligrams or a few centigrams, but for all practical purposes it was a stable currency for the first 150 years of the Christian era.

SARGENT: Are there any direct quotations of prices that substantiate the numismatic evidence?

CIPOLLA: Practically not. The quotations of prices come mostly from Egypt, because the papyrus documents survive. So all our knowledge about the movement of prices in the Roman Empire goes back to the Egyptian prices, which is a very biased type of information, because it was one region only in the Empire, and it was one region with some specific and quite unique characteristics. For instance, they had a tremendous supply, oversupply, of wheat. Eqypt was an exporter of wheat. It had a very favorable balance of payment with the rest of the Empire. Then it had sources of gold in the Sudan. So although some historians take the prices of Egypt as indicative of those of the entire empire, I would be very cautious.

TOWNSEND: Was there anything on the coin itself that indicated the amount of metal that was supposed to be in it?

CIPOLLA: No.

TOWNSEND: So when you say there was only a slight variation and later there was a deterioration, which means that a given size coin would either have the same amount of silver or, in the case of later, less and less.

CIPOLLA: Yes. But this has been determined by the numismatists, just by weighing the coins. Until about twenty years ago you would melt the coin and determine the fineness. Today you can do it with x-rays. You can determine the fineness of the coin without destroying the coin.

TOWNSEND: You're saying that in the later part of the empire ...?

CIPOLLA: Yes, with the end of the 2nd century, during the third century, there was a remarkable inflation. The coins deteriorated very much. The deterioration continued until the end of the Empire.

Chapter 4

Fiscal causes of inflation

TOWNSEND: Is it obvious why this happened?

CIPOLLA: No. One guess is the growing expenditure of the Roman government administration in relation to its revenues. The rising expenditures were essentially due to three things: increasing the army and the cost of the army; increasing the bureaucracy; and what we would call today the growth of the welfare state. These were welfare expenditures. We wouldn't call them today exactly welfare. For instance, there was the distribution of free food – the equivalent of free food stamps in cities like Rome, especially in the City of Rome. So there was what we would call social welfare.

SARGENT: Were there programs like that in other cities, outside of Italy?

CIPOLLA: Mostly it was Rome. In Rome and some other cities – Marseilles, Lyon, Milan, even outside Italy in Gallia, there was the development of a rudimentary public school system and medical service system. There were some teachers and doctors who were paid by the state. These are put in the category of social welfare.

SARGENT: And they came into being later in the Empire?

CIPOLLA: Yes. At the time of the late Empire. Before schools. Children were typically educated in the family by private teachers, who often were slaves – Greek slaves. But in the late Empire you had a rudimentary school system. You had, in the city, two or three teachers paid at public expense, who would teach the people who were incapable of affording a private teacher. Similarly for doctors. Then there were expenditures that we today wouldn't even call social welfare, but in the culture of the time they were; for instance, the building of circuses, which would be the equivalent of our parks, and the building of Thermes which were the public baths.

Sargent: Do you know who had access to those baths?

Cipolla: That's a very good question. I suppose only the middle-upper class and the upper class. I don't think the lower part of the population had access to those baths. But then there was the embellishment of the cities, public arenas. The circuses were obviously frequented mostly by the lower classes. So all these expenditures, the bureaucracy, public health services so-to-speak, the school teachers that were paid at public expense, the buildings at public expense, these created expenditures that the state couldn't cover with taxes, and so they devalued the currency.

Townsend: What was the mechanism?

Cipolla: That is not clear, how they . . .

Townsend: In effect it's another tax?

Cipolla: What they had. Probably the government had a given amount of product from the mines, and from that product of the mines they derived a greater quantity of coin.

Townsend: They just made coins with less metal?

Cipolla: If it worked in this way, it is very simple. It is much more simply than the medieval way in which things became much more complicated.

Townsend: So they may have just set the price at the mint for the exchange rate of . . .

Cipolla: We don't know. The monetary history starts to be clarified in the Middle Ages. We know that there was an increase in prices, so much so that Diocletian, at the beginning of the fourth century, published an edict in which he tried to fix all prices of all commodities throughout the Empire. This seems to have ended, as all fixed price schemes have, without success. But then he made a monetary reform which seemed to have some success.

Townsend: I never understand very well how these things work. If they were just getting back more coins with less metal in exchange for ore, and the tax fell entirely on people who brought metal into the mint....

Cipolla: They got less metal.

Townsend: They got less metal?

Cipolla: Yes, but there is a time lag. They pay the mercenaries with more coins that contain the same amount of metal. Then prices will increase. They will receive back worse coin. In the meantime they have satisfied the mercenary, the soldier...

Townsend: So in a way there might have been a little bit of deception. That is to say, would people be conscious all of the time of the metallic content of the coin, or would they be led into thinking that they had more metal than they did?

Cipolla: When they issued the worse coinage in copper they took pains to wash it in good silver, so the appearance would be silver. It seems that there was an element of deception. Otherwise they would not have made the point of washing it in good silver.

Sargent: Did the Romans monopolize the issuing of coins or did they permit client states to issue coins?

Cipolla: No, they practically monopolized. They had imperial mints.

Sargent: So Greek coins stopped being minted when Rome conquered.

CIPOLLA: There were colonial issues. There were colonial coins in which they respected the local tradition. For instance, the Roman coins minted in Greece were always on the standard of the Drachma. They had the face of the Roman Emperor, they had the symbol of the Roman Empire, but they were larger than the coins minted in Rome. There was obviously a rate of exchange.

SARGENT: In terms of denomination . . .

CIPOLLA: In terms of denomination. So they practically followed the local tradition as far as the size of the coin.

SARGENT: What about when they started depreciating during this later period?

CIPOLLA: They depreciated the whole thing.

SARGENT: So the Romans....

CIPOLLA: So the depreciation went.

Chapter 5

The Parthians

SARGENT: Were there Parthian coins?

CIPOLLA: The Parthian coins are very interesting because the first Parthian coins were made by craftsmen, developed in the Greek tradition. So the first Parthian coins are actually very beautiful.

SARGENT: So what year are we talking about?

CIPOLLA: This would be the about 100 A.D., 120 A.D. But the Parthian coins were soon debased much more rapidly than the Roman Coins. There is a very interesting dichotomy between the Roman monetary tradition and the Parthian tradition. Incidentally, you have to remember that the Parthians were the great enemies of Rome and great enemies in the sense that one couldn't conquer the other. It was a stalemate, like between Russia and the United States today. And the reason is that the Roman technique of fighting war was fighting with the legion at a short distance. The legion would march very ordinately against the enemy, like a mass of people, throw the piles against the enemy, and then attack with the short sword. And attack in an orderly fashion. So it was a mass of energy that would move like the bayonet. Now, the Parthians attacked instead with the cavalry. The Romans never used it. They used the cavalry only on the wings, as auxiliaries. The main strength of the Roman army was the legion, the foot soldier. The strength of the Parthian was the cavalry. They would fight at a distance, and then come close to the enemy, turn there, shoot the arrows, and fly away, run away like the *. Then reach out the arch, go again, etc. Now, in the open field, the Roman would always lose. So when the Romans tried to attack Parthia, and entered into the field, the Roman legion was destroyed. So, the Roman legions would retreat into the cities. And against the cities the cavalry of the Parthian was totally incapable of doing anything. The Romans with their foot army would beseige a city and conquer it. The Parthian cavalry was mostly a feudal cavalry. They wouldn't have been able to stand long sieges, especially in that time.

Sargent: So, mostly it was a feudal regime?

Cipolla: Yes, it was a feudal reign. And, so when the Romans were retreating to the territories where there were cities, the Parthians were totally at a loss. If the Romans were going to the territories of the Parthians, where there were mostly open fields, they would be destroyed. So a stalemate between two different techniques of war technology was created, and no one would win over the other.

Sargent: Is that technological distinction similar to reasons that Rome didn't conquer more of Germany? Or is it different?

Cipolla: The Germans didn't have much cavalry. But in Germany there were the forest and the swamps. And also the Romans tried to conquer the Germans but they were defeated at the battle of Tetabel. But they were not very interesting territories. The rich territories were the territories of the Middle East. German territories were very poor.

Sargent: Was the feudal society of Parthia related to the expense of maintaining cavalry?

Cipolla: Yes. And the monetary system was distinguished in this respect. Rome had a monetary system which during the empire was gold, silver and copper. But in Parthia there was only silver and copper. Parthia never issued gold. And we don't know what the reason was. In Rome, the Roman Empire was able to keep the stability of the currency for about 150 years. The Parthian currency declined very rapidly. Why this was, is one of the things I would like to see some student do, make a comparison. Studies have been done very often of the history of these two giants who were not able to conquer one another. And it's very interesting to see that one was able to keep a stable currency and a sound monetary system much longer than the other.

SARGENT: But, in the end they both started inflating?

CIPOLLA: Yes.

SARGENT: Was there much trade between the two or was . . .?

CIPOLLA: We don't know much around that period. There was trade with the East.

SARGENT: Was Parthia dominating areas to the east or was it a . . .?

CIPOLLA: It was just Persia. Roman trade was very much also with India. Because in India at archaeological sites, we find many Roman coins.

SARGENT: Do you find Parthian coins too?

CIPOLLA: I don't know. But we find Roman gold coin. That is also another interesting thing. This is something that was repeated in the Middle Ages; why was it of tremendous importance in the Medieval economic system, that gold was maintained stable for so long when the silver was devalued? You tend to have two currencies, two systems. Gold stable and silver being devalued, or the silver and copper being devalued.

SARGENT: Did you observe that in the ancient times? Or not?

CIPOLLA: No, not that I know.

SARGENT: Did you observe both of them being depreciated?

CIPOLLA: I really don't know. I have not observed the dichotomy. But the Roman time is very clear. They debased the silver currency, they didn't debase the gold currency. And whether this was because they used more gold currency for international trade or whether it was because they attached to the gold currency a particular meaning of being the representative of the Empire, that is not very clear. I think probably both reasons.

Chapter 6

Exchange rates and banks

Sargent: But you say there is evidence that the silver coins were being debased, but not the gold?

Cipolla: Not the gold. The gold currency was maintained stable.

Sargent: Even in this later period?

Cipolla: Yes. It only changed at the time of Constantine the Great, when he substituted the alloys with the solidus. There had been in the very late times, before Constantine, the alloys, that had been tested, but, on the whole you can say the gold coins kept stable while the silver ones were debased, which you find also in the Middle Ages.

Sargent: Was copper a full bodied coin, or was it a token? Do you know?

Cipolla: We don't know. We have no way of checking. I don't know. It is not very clear.

Sargent: What about banks?

Cipolla: Well, there were banks in Greece, in the Greek states, that is, there were bankers at least, not banks, bankers. . . and money changers. Then there were the temples, which functioned also as banks and made loans. As far as I understand (it is very vague in my memory because I am afraid I am not an historian of antiquity) there was a case of a temple that made loans always at the same rate of interest, and they used queuing instead of prices. That is, they would fix the rate of interest and make a que and when there was no money, the ones at the end of the que would make it the same rate of interest. So, instead of raising the rate of interest and diminishing the que they would loan the money to whoever would come first. Now for Rome, we know also that Rome had no banks, but had bankers. We don't know of banks, but we know of money changers and bankers.

Townsend: What was the difference?

Cipolla: We don't have an institution, so to speak.

Townsend: There was a named person, called a banker?

Cipolla: There was a person who made loans, but it was not an institution as such.

Sargent: Who was this person making loans to? The government?

Cipolla: No, to everybody: people who needed consumption loans, people who needed the loans to buy land, rich people who would spend too much because of conspicuous consumption. Now there are some passages in two letters by Cicero that suggest that payment was made actually through bankers. Instead of giving him (Sargent) money, I would have money deposited with you (Townsend), and I would write to you (Townsend) to pay off my debt to him (Sargent).

Townsend: Is it obvious how the mechanics of this worked?

Cipolla: No, the information is very scanty, we have only one or two passages in the whole production of Cicero that mentions this fact.

Townsend: There are no bank records per se?

Cipolla: No, but we know that there have been two or three crises, in which there was a tremendous increase in the rate of interest and fall in the price of land. We know also in one of these crises, the Emperor Tiberius stepped in, making loans to private people, injecting liquidity into the market, in order to solve the crisis. And we also know that during one of these crises, people were asked not to hold more than a certain amount of money - coins, cash.

TOWNSEND: So he made loans. He was issuing coins to these people.

CIPOLLA: Well, apparently, he had a large treasury of coins.

SARGENT: As distinct from issuing a paper note or something?

CIPOLLA: I can give you the reference. I think I have the articles. You can look at the articles. There were certainly short term financial crisis in Rome in the first century A.D., characterized by the high rate of interest, shortage of money in circulation, a tremendous fall in the prices of land that people were not able to sell as they attempted to acquire the liquidity they needed to get out of debt.

TOWNSEND: Is it obvious what triggered these?

CIPOLLA: No.

TOWNSEND: Is it known who the bankers were?

CIPOLLA: The bankers were not regarded as of high social standing, they were regarded as usual.

TOWNSEND: Were the bankers accepting deposits from people?

CIPOLLA: It is not very clear whether they were using their money. The fact that Cicero asked one banker to pay for him, suggested that they were depositing money to the banker. And since there is no reason to believe that these bankers were especially well endowed, the idea is that people deposited with the bankers because they were receiving a rate of return in the form of interest. Remember, at the end, I will give you the articles.

Chapter 7

Inflows of precious metals

SARGENT: Is one's impression that markets in land were active?

CIPOLLA: Yes, very active in Rome and you have the clear impression from these crises that the price of land was related very strongly to the rate of interest and to conditions of liquidity in the market. That is, if people needed currency, they had to sell land, and the value of the land became depressed. At the same time, in the world of Rome there were also the southern inflow of treasures from the wars of conquest. They would inundate the market with liquidity and at that time you would find the price of land going very high and the rate of interest going very much low.

SARGENT: You would? So that is like the Spanish situation in America?

CIPOLLA: Yes, especially in the wars of conquest in the Middle East which was the richest area of the Mediterranean. They brought in great treasures.

SARGENT: Those treasures would be from Egypt?

CIPOLLA: From Egypt, from the Middle East, from Syria, from Palestine, from Greece.

SARGENT: Treasures in the form of gold and silver?

CIPOLLA: Yes.

SARGENT: Did they monetize them?

CIPOLLA: Apparently... apparently they did.

SARGENT: So, this is the first century A.D.?

CIPOLLA: First century A.D. and first century B.C. At the time of Caesar, you have these fluctuations in which you have this period of tremendous inflow of gold and silver turning into liquidity, buying high prices of real estate, and a low rate of interest, and then everything changes ... The relationship between the three variables is very clearly defined.

SARGENT: Could you give us some references on that later?

CIPOLLA: Yes.

SARGENT: So that does very much fit the broad picture that Hamilton and these people talk about.

CIPOLLA: Well, we can discuss this later, but in the Spanish case you have a different picture. You have a great inflow of silver, but you have a state that spends more than it receives, so to speak. It spends it before it receives, so that practically, they fall into hands of the Genoese merchants, the Genoese bankers, who managed to advance the money. The great invention of the Genoese merchants in the 17th century was that of being very skilled in operating in what we would call today treasury bonds; they collected savings throughout Europe, including Spain, they sold treasury bonds to the Spanish, collected the money, gave the money to the Crown, and collected tremendous amounts of fees as intermediaries. So in a way the idea that they loaned to the Spaniards their own money is incorrect. In Spain, you had this tremendous indebtedness of the state which created treasury bonds with very high yields, which were actually a big incentive for people to invest in mercantile and commercial activities.

SARGENT: High real yields?

CIPOLLA: You could get easily 18, 19%.

SARGENT: Is there any evidence that the Roman government borrowed?

CIPOLLA: As far as we know, the Roman government never had a public debt. It collected taxes, and it issued coins.

SARGENT: What were the dominant forms of taxes?

CIPOLLA: Land taxes.

SARGENT: Any trade taxes?

CIPOLLA: Probably, I don't know.

SARGENT: What about tariffs? In terms of being a free trade area ...

CIPOLLA: It was mostly a free trade area.

SARGENT: So, if you are a member of the empire, you could trade without customs fees?

CIPOLLA: You could trade. There were very little customs. The customs were with the outside, outside of the border of the Empire, with the exception of Egypt. The province of Egypt, for the peculiar reason that I described, was always held as a special domain of the Emperor, and the relationship and trade between Egypt and the rest of the Empire was very peculiar. I don't know if fees were collected.

SARGENT: So, Egypt was ruled by an agent of the Emperor?

CIPOLLA: Yes, it was a direct domain, so to speak, of the Emperor.

SARGENT: As opposed to a fictitious ally, like King Herod?

CIPOLLA: Yes, or being another province, governed by the consuls or proconsuls.

SARGENT: Is anything known about trading patterns? Could Egypt trade directly with Spain?

CIPOLLA: I think so. We had better move to the Middle Ages.

SARGENT: Let me ask you one more question. What about insurance? Is anything known about insurance in ancient times?

CIPOLLA: I don't know.

SARGENT: O.k.

Chapter 8

After Rome

CIPOLLA: Let's cover the period between 500, 700 and 1000 which, I suppose, would be of interest to you and which was characterized by the fact that the market collapsed, and the monetary system collapsed with it. There was a monetary reform of the Carolingians in the 8th century, which instituted the silver monometallism. There was only one coin struck, and it was made of silver. So there was monometallism and one denomination. There was only one denomination, the penny, and the penny was made of silver. There was no other coin.

TOWNSEND: What about the pound? I thought that was introduced at that time.

CIPOLLA: The pound was a unit of account - 270 pennies.

TOWNSEND: But not a physical coin?

CIPOLLA: No. So was the shilling, which was 12 pennies. It was a unit of account. The situation in which you have only one coin in circulation was obviously a very primitive monetary system.

SARGENT: Is anything known about the circulation?

CIPOLLA: Yes, the circulation was very limited. I want to be very clear that I am not saying that because the market system collapsed, the monetary system became primitive, nor am I saying that because the monetary system became primitive the market collapsed. I think it was mutual. As the market progressively collapsed, the monetary system became more and more primitive, and as simultaneously the monetary system became more primitive, the market ceased to function.

SARGENT: What years, and what region are you talking about?

CIPOLLA: I am talking now between 700 and 950.

SARGENT: When you say the market collapsed, what is going on at the same time in the Byzantine Empire and North Africa?

CIPOLLA: Yes, I am talking about Western Europe, which at that time was an underdeveloped country, underdeveloped not only by our standards, but by the standards of the time. It was a country that the Byzantines would regard as barbarian, very primitive. The Arab would regard it as uninteresting and barbaric. It was certainly very below the standards of the time. It was a backward country by the standards of the time.

SARGENT: This would include places like Marseille?

CIPOLLA: That would include Marseille, but it would not include Spain, because Spain was conquered by the Moslems, so, Spain was part of the Moslem trading area, and Sicily was part of the Moslem trading area. So in Sicily and in Spain you continued to have gold currency.

SARGENT: And you continued to have lots of trade and markets?

CIPOLLA: Lots of trade and markets.

SARGENT: Did trade continue in the Byzantine empire? In the Balkans? And what about between Byzantium and the Arabs?

CIPOLLA: Yes, there was trade. It was the West that was cut off, so to speak.

SARGENT: Had it been integrated during the Roman period?

Cipolla: Yes, the West was integrated as far as Roman parts of the West were concerned. The West later included parts of Germany which were not part of the Roman Empire.

Sargent: Were Northern Italy and Rome cut off too?

Cipolla: No, Rome was part of the West. It was the area south of Naples which was not part of the West. The West included North Central Italy, Northern Italy, France, Germany, Belgium, Poland, Great Britain, and then with the 10th century Christianization of Scandinavia, Scandinavia was included.

Sargent: Geographically, it was primarily the Common Market of today.

Cipolla: Yes, geographically, it was the Common Market area.

Sargent: It also included areas during the Roman times that were integrated with both Spain and Byzantium?

Cipolla: Yes. In a way you have a breaking down of... The Roman Empire was the Mediterranean, plus part of Greece, and Northern France. With the fall of the Roman Empire, two things occurred. The German conquest unified, so to speak, the German part, which was not part of the continental part of the Roman Empire. And, you had the Moslem invasion which detached from the Roman Empire the Middle East and Northern Africa. In going back to that story, you had this penny which circulated very little, and, interestingly enough, was no more money than . . . It didn't have greater liquidity than any other asset, because people didn't want get money, coins, with which they didn't know what to buy. So practically, you had coins which were not used as a store of value. Most treasures contain very little coin. If people used metal as a store of value, they used it in the form of vessels or church objects, because they would have some use for it. And, since the cost of transforming the vessels into coins and coins into vessels was very low, it paid to have it in vessels. And, then if you needed some coins, you just melted it down and had the coins made. So, even as a store of value coins were not very widespread. On this, we have some very good statistics in the sense that we have treasures which contain very little coin. As you progress in the centuries, you find that more and more treasures contain more coins and less vessels. Coins were not very much used as a means of payment because mostly people resorted to barter, especially in the little fairs that they had. They used coins for long distance transactions. But there were very few long distance transactions.

TOWNSEND: What kind of documents? These are trade documents?

CIPOLLA: Well, you have mostly agreements about the sale of land, sale of property, real estate, and then, a great number of unilateral transfers as payments to the abbey or the landlord, owed to the lord as revenues, for the land that they occupied.

TOWNSEND: Those are available in France?

CIPOLLA: They are available in France. They are available in Italy, in England, and in Germany.

TOWNSEND: They are available? Later, can you give me some references for the English?

CIPOLLA: Oh, for the English you go back to the 14th century. Any history of the English manor, the manorial economy. Because the manorial in England lasted much longer than in the rest of Europe.

TOWNSEND: Many of these documents actually make repeated references to payment in coins, rather than, ...

CIPOLLA: Yes, but then you have often other documents ... In the 10th century, you find very many documents, in which a house, was sold for a price in coin, and then, you find the following document, that the price was paid in horses, weapons. The monetary system remained mostly because money was used as a unit of account.

Chapter 9

Credit and remonitization

Townsend: That's what I've been struggling with ... when England came out of this relatively autarkic, no trade period emerging into a monetary economy. The Doomsday records, 1086, have obligations listed in monetary terms. And yet that is a relatively early date.

Cipolla: Well after 950, there was a big recovery of the monetary economy all over the world. More on the continent than in England, which remained a backward economy until 1450, very backward in relation to the rest of the continent.

Townsend: In many of these documents then these references to coins are really to some kind of an accounting?

Cipolla: Exactly.

Sargent: What coin is being referred to in these documents?

Cipolla: The English would be the penny.

Sargent: The Carolingian penny?

Cipolla: Yes. However, after the beginning of the 10th century, after 900, it was debased with different speeds in various parts of Europe.

Sargent: And who was issuing this?

CIPOLLA: In England, it was the King. In England, especially after William the Conqueror of 1066, the English King maintained a very strict control of the monetary situation, which was not the case of the Emperor or the King of France, on the continent. The King of France was successful in having the national currency only with Philip August, at the beginning of the 13th century. And through the 13th century the feudal system prevailed. That is, any Lord could have had his own currency.

SARGENT: And the Lords did issue coins?

CIPOLLA: Yes. But the issue of coins developed very much after the 10th century. After the 10th century you had an increase in population, an increase in production greater than the increase in population, so, you had what we would call a growth in per capita income, and you had an increase in the demand for money which was greater than the increase in production. So, the three things increased, but one more than the other, production more than population, demand for money more than production. And the reason was that an increasing number of transactions were done by the use of currency, so, the degree of monetization of the economy increased.

SARGENT: Were these long distance transactions?

CIPOLLA: No, also local transactions. You have to remember, that one has to be careful. For instance, in 1473, in Florence, there was the Medici Bank, which was a very advanced type of bank, of the holding type, with branches all over Europe. At the same time, the checking system was developed, so much so that wages of some workers were actually paid in checks, rather than in currency. This was in 1473. At the same time, a few miles from Florence in the countryside of Cosentino, a mountainous area near Florence, we had the registers, the account books of the local blacksmith, that recorded all the transactions. People went there when they needed to have a mill adjusted, to have a lock adjusted, and so on... they went to the locksmith, this master smith. Well, only 23transactions were in currency. This eighteen miles from Florence. So this was similar to what we have today: the advanced financing techniques in New York, and in the center of Africa, the bushman still not using currency. At that time in Europe you had within a certain relatively short distance, very different situations. Now the peasants of Consentino would use Florentine coins, which they got by coming to the city and selling some of their products. But a good deal of the coins which they received in these locations, they would leave in Florence, because they would buy shoes or other things to bring back to the villages. So, the net outflow of currency from Florence to the outer parts of the Florentine states was not necessarily great. You have to take into consideration that there were great variations from area to area. Now this is not a typical area, it was a mountainous area . . . but not 35 miles from Florence.

Townsend: Was it all in-kind transactions for the blacksmith?

Cipolla: Yes. He would repair the rim of a wheel, and then he would receive chickens, eggs. As late as the 15th century, many doctors in Florence would reach an arrangement, for instance with a monastery, to treat the monks on a monthly basis. Whether the monk became sick or the monk was healthy, the doctor would receive a monthly payment, independently of the number of sick cases that there would be. The monthly payment was often in the form of wheat, or a pig. So it was at the same time that they were using checks . . .

Townsend: What you're suggesting is that it is possible that the blacksmith received regular periodic payments from people, with the understanding . . .

Cipolla: No, no.

Sargent: . . . So, for the blacksmith it was kind of a quid pro quo?

Cipolla: It was a barter, barter on an occasional basis. In the case of a doctor, you had a fixed monthly payment, not as a standard, but in some cases.

Townsend: Is it known what kind of transactions were taking place, if we go back to those villages in England, or France, earlier, when the economy was not very monetized? Most of the documents I found referred to at most payments and obligations of the villagers to the Lord of the Manor, or to the monks of the Abbey. I found very little material on what the villagers were doing with one another.

Cipolla: There is practically no information on that, although we know of the existence of fairs. And you have the weekly market, which was mostly a local fair. They would exchange things mostly on a barter basis, because not many coins were circulating. But don't forget, as I said, it was not only that not much coin circulated, it was also that not much coin was demanded. The idea is that you want a dollar, because you know that tomorrow morning you go out and get the milk, and you can get bread. But, in a situation in which you don't know if you can find bread or milk, you don't necessarily want dollars, you want bread and milk for tomorrow morning. That was their situation. The market was not very developed.

Townsend: Was it a barter market? Would there be cross village markets, lets say a little village ...

Cipolla: There were the weekly fairs. There were the monthly fairs. There were the yearly fairs.

Townsend: This was throughout the early part of the middle ages, year 1000 to 1500?

Cipolla: The weekly fairs were mostly local affairs. The monthly fair might gather people coming from greater distances, and in that case you might find greater frequency of coins or dollars.

Townsend: What documents?

Cipolla: Descriptions of the lives of saints. For instance, cases in which a saint would be a merchant before, and then he would repent for the profits that he made and turn into a saint, and then some monks would write his history. From that we would know that he went to some fairs and made some profits, selling candles, or ...In fact the merchants were regarded... There is one document which says hominus dure ("tough man") because in order to move from one village to another, you had to pass into forests, marshes, unguarded places, be subject to attack. ... In fact, they didn't move singly, they moved in caravans. And they were people who would have been ready to fight and to rob, if the occasion occurred. And some of their fame ... the name attached to them, was very negative. For instance, the merchants of Verden were accused of going into the villages and stealing children, and selling the children into slavery across the border in Spanish territory to the moslems. So, to people who were settled in the cozy stable world of the manor, these strange people, who came from far away, carrying strange commodities, trying to get much, and give as little as they could, in profits, their transactions were regarded as very strange to people.

Townsend: Do you know how early that was taking place?

Cipolla: Well, trade never stopped completely. It never stopped completely. It reached a very low level between the 7th and 10th centuries. And the monetary system collapsed, accordingly, so much so that no more were coins money, then. . . I mean, what characterizes money you can teach me. But, if it is maximum liquidity, then coins were no more liquid than say horses, or weapons. People were not always ready to accept them. And also, in some of the account books of monastery and landlords, you find that occasionally they say when the revenue is fixed in coins, they retain the right to be paid in kind. Because if they needed wheat or horses or some kind then to receive coin was not ... So there was an elaborate system of unit of account, in which there were three denominations: penny, shilling and pound. But as a real coin, there was only the penny, which was actually also very little used. And what I find very telling is, what I said before, even as a total value it was not very much. They melted down and transformed it ... Now all this changed dramatically in the second half of the 10th century.

Then, you had a flourishing of mints, and a tremendous increase in the use of currency, which as I said, increased. . . When we say the demand for money is a function of income, in the long run it is also a function of population, total income, but it is a function also of the degree of monetization of the economy; that is, for the same amount of income, now people use more and more money than they used before. So it is the degree of monetization of the economy which increased very much. And the volume of issues of coinage increased very much. Mining activity increased.

SARGENT: Do you see coins being drawn in from the Arab world and Byzantium, or was it mainly coins made in Europe?

CIPOLLA: I think mostly coins made in Europe. I think that as a matter of fact, Europe had an unfavorable balance of trade with the Orient. There was essentially a greater search for metal and activation, especially in the mines of central Germany and Bohemia, greater growth of production of silver, mostly silver, and ..

SARGENT: This was because of the discovery of silver?

CIPOLLA: Well, I suppose as the demand for silver grew (we don't have the figures) its price in terms of other commodities and services, for example in terms of labor, increased, and that stimulated the search for silver and stimulated the mining activity. So starting from 950 we have this discovery of silver, and the greater production in Germany. And although there was a feeling of great increase in production, it was not enough. So much so that the penny had to be progressively debased. I think the fact that the debasement took place especially in the more developing places like the Italian city states, indicates that the development was not done so much for fiscal but for monetary reasons, to increase supply of ...

SARGENT: Without price increases?

CIPOLLA: Yes. Just to avoid the falling prices.

Chapter 10

Trading blocs

SARGENT: I want to ask your opinion on why it is that Europe, Western Europe, gets cut off from the trade and the Eastern and Southern Mediterranean doesn't. From 500 to 1000.

CIPOLLA: I think it was just the ...

SARGENT: Was it the Germans, or the Arabs, or ...

CIPOLLA: No, the trade with the Arabs was very difficult because of religious conflict and the only trade with the Arabs was actively carried out through with the Jews, via the border with Spain.

SARGENT: So the Jews were intermediaries?

CIPOLLA: Yes.

SARGENT: What about Byzantium?

CIPOLLA: With Byzantium the intermediaries were the Venetians, what little trade there was. But the fact is that the turmoil ... you have to think of Western Europe as a country dominated by warlords, with very little interest in development and capital accumulation, and very insecure conditions, and life being centered around the manors, which were mostly autarkic units. They were never completely autarkic but they were autarkic by say 85, 90% of their activity.

SARGENT: Was there some change in the technology of protection or something . . .

CIPOLLA: After the 10th Century?

SARGENT: No before. You know, after Rome fell.

CIPOLLA: Not that I know of.

TOWNSEND: Well, the Moslems controlled the Mediterranean?

CIPOLLA: Yes, the Moslem controlled the Mediterranean. And they were not interested. You have an indication of this in the treatises of the Moslem geographers. The Moslem geographers, in describing the world of their time, are interested in mostly describing China and the Byzantine Empire. The West, to them, was just what for us today would be the bushman territory of central Africa.

Chapter 11

Feudalism

Townsend: You say that the manors are largely autarkic, maybe up to 80% or 90%? So there was some residual produce being exported and imported in this feudal system. How far would it be shipped?

Cipolla: It varied from region to region. It varied from case to case. The question was not so much that it was impossible to transfer commodities from one place to another, but that the market simply did not exist. To give you a clear example, some abbeys in Germany needed wine for religious purposes, at least allegedly for religious purposes. Probably because they wanted to drink wine also. They couldn't buy the wine. What they did was to buy land, or to have land donated to them, in the wine producing territories of Rhine, to produce the wine there on a manorial basis; and then to have it carried by their serfs from the territories of the abbeys where the wine was made to the territory of the abbey where the monks lived. Now this example to me is very telling. It shows you that the physical possibilities of transportation still existed. What did not exist was the market.

Townsend: What about in England where . . .

Cipolla: In England it is the same story.

Townsend: I'm sorry. I guess I don't know enough about England. But what were the different crops that were produced in different parts of England that would motivate these . . .

CIPOLLA: Well, we don't know much about the exchanges. In the case of England, I can tell you another very telling story. An abbott in France needed to repair the roof of the abbey. He needed lead. He couldn't find lead on the market, so he wrote to an abbott in England. He wrote an abbot who had a manor which included a mine which produced some lead. Now interestingly again, the English abbott did not sell the lead to the French abbott. He sent it as a gift, with the assumption that the French abbott would make a gift to him. The economy between the 7th century and the 11th centuries, with the disappearance of the market and the lack of multilateral transactions, became essentially an economy with robbery and gift-giving. It is amazing the amount of robbery and gift-giving that went on daily in that society. If you wanted to have something, you asked the person whether you could have it as a gift. And the assumption was that you make back a gift of equal or greater value. If you didn't stick to the rules of exchanging the gift, you would not receive anything in the future. It is like today when we invite people to dinner. If you invite a person two or three times and he never invites you back, you stop inviting him! That was the economy of the time. So, it was based on a unilateral transaction. You had transfers from the peasants to the Lords and from the Lords to the King, and among equals it was either robbery or gift-giving. And it all took place without money. Then you had the growth of the city. There is a magnificent poem of the 13th century, this French poem of the 13th century, that at one point says, "The City is an everyday fair, is a place where there is everyday a fair." This indicates to you the image of a person who was used to a situation with a fair which took place only once every week, month, or every year. And now there is an institutional situation where the market operates every day!

TOWNSEND: What kind of transfers would the villagers give to the Lord of the Manor?

Cipolla: Kind and labor.

Townsend: What in-kind were they obliged to give? Grain?

Cipolla: Normally, between half and one third of the crop, plus some extras in the form of chickens, eggs and poultry. And then a number of days of service, per week, or per year depending on the situation of the land that was being given.

Townsend: There is relatively much material on the in-kind labor obligations, but I haven't found much on the in-kind transfers of grain.

Cipolla: Oh, if you look at the French manors, it stands one third to one half of the crop. The peasants resisted very much, resented very much, the labor deals. It was a nuisance to them to have to work for the Lord two days a week or three days a week.

Townsend: This was like a monastery, perhaps?

Sargent: Now, in addition, did the monks have their own land, that was farmed for them, or were they getting all their grain from the villagers? In England, the monks seemed to have their own strips which were farmed for them.

Cipolla: Well, the manor was divided into two parts, the mansus indomicatus which was the land the Lords retained for themselves, direct exploitation, and the parcels which were allotted to the tenants. The tenants owed to the Lord a share of the crop that grew on their land plus labor which the Lord used in tilling the land that was under his direct control. Now, the part which was given to the tenant was much more intensely cultivated than the part which was kept by the Lord. The land of the Lord contained a lot of pasture, hunting ground, and forests. The collapse of the manor, which came with the development of the market system, consisted especially of the fact that the Lord cut down his central land into pieces and gave it to tenants, abandoning the direct exploitation of mansus indomicatus. In the case of England, however, there was a reversal of the trend in the 13th century, when prices increased and it was in the interest of the Lord to return to the land, exploitation of the mansus indomicatus. So, you have the manor which was made of two parts, one part was actually eliminated, became exploited as what was previously called the second part, after the year 1000. In the 13th century, because of the increase in prices, in England there was a reversal of the trend. But the trend resumed after the Black Death in 1348 and eventually the direct exploitation of the mansus indomicatus disappeared also. But in England the development was much later than in France or Italy.

Townsend: So, there might have been a period where almost all the land of the monk or the Lord was distributed out to the villagers.

Cipolla: With the end of the manorial system.

Sargent: Towards the end of it?

Cipolla: At the end, at the end, because the manor was always divided into two parts. You had a manor as long as you had the tenants, and the part which was kept in the act of exploitation. The work of the tenants was used to keep the land of the Lord or to produce services. For instance, there were blacksmiths that the Lord had, and because of the non functioning of the market, for the usual reasons, the arrangement was that the Lord would give one of the allotments of land in mansus the part which was allotted to the tenants. The smith would till the land and produce for his own family, and then he would produce after this, as a smith that is, he would go for two or three days, a week, a month, or a year at the House of the Lord. So you see here another case of the reduced division of labor, because the smith was forced to work part of the year to till his own land, to produce the grain for his family.

Townsend: I still feel a little uncertain about when some of these changes took place. If we had conjured up the image of a village in England around the year 1000, this was before much ...

Cipolla: We have the two parts, suppose, we have the part that was allotted and the part which was saved for the Lord for himself. The Lord received a share of the crop plus the work of each one of these, which he worked part of the year. Starting with the year 1000, this part was more and more allotted, it tended to disappear. In the 13th century in England, the Lord made an effort to take away the tenants from here and to free the land again and to work as in the early system. But after 1348, the process of the complete allotment of the land took place again. Practically, the breaking down of the double system took place after the year 1000, with the exception of England, in which there was reversal of the trend that took place, until 1348.

Townsend: So what is the guess, say, before the year 1000?

Cipolla: Before the year 1000 you have the double system.

Townsend: Okay. So even then some of the produce off the villagers' strips is going back to the Lord?

Cipolla: Yes. Regularly.

Townsend: 30%?

Cipolla: Between 1/3 and 1/2.

Townsend: Is there any evidence that it was a fixed percentage amount?

Cipolla: The situation varies. When I say its 1/3 or 1/2, I just say it was very frequent. But there were very different arrangements from case to case.

Townsend: From village to village.

Cipolla: From village to village. Within the same village, from person to person. Certain pieces of land, for reasons we don't know, probably because of the fertility of the land, possibly because of the condition of the land that came into the hands of the Lord. The thing was not so neat. These pieces were scattered, often, and some pieces might come as a donation by another Lord. Some other pieces might come as a submission of a person who owned the piece of land that he submitted to the Lord in order to obtain protection. In the act of submission, he might say "I give you my land, and you give it back to me for a revenue, which I will pay. But it is reduced revenue because I am donating the land to you." So, you had a very tremendous variety of situations.

Townsend: What about in England?

Cipolla: In England the manorial records were more complete. In France, we have the best ones from 1750 until 1900.

Townsend: So these manorial records ...

Townsend: Were there in kind transfers?

Cipolla: Yes.

Townsend: Not just monetary transfers?

Cipolla: No.

Townsend: Okay.

Cipolla: Occasionally, however, when you have monetary transfers, when you have the revenues fixed in money, that doesn't mean that they were paid in money. And this we have very clearly, because we have some documents in which it says this land owes so much money per year to the abbey. And then you have the document which says the revenue has been paid this year with so much wheat, and so much corn, and so much ...

Townsend: Why do you suppose they were using that accounting system?

Cipolla: To simplify things, because you have a way, you have more flexibility. You say, you owe me the equivalent of 5 shillings. Then one year, if there is no wine, and there is a lot of poultry, you can pay me according to the bargaining power that you have and I have as a Lord. You can give me the wine or poultry, for an equivalent of 5 shillings.

Townsend: There is no one setting a shilling price anyway, right? That's what you mean by the bargaining power? There was no market exchange in shillings . . .

Cipolla: That is a very interesting question. There seems to have been prices determined. I don't know how in a situation in which money was mostly a unit of account. But in a way, today, we are getting to the same system. In a way, today, currency tends to disappear in the relation to the amount of currency which is used in the amount of transactions. When I transfer from my account to your account, there is no exchange of money. We use a unit of account, which is the dollar. But there is no transfer of money. I don't know if the analogy is correct, but use of currency tends to disappear. I mean, when we transfer savings to investments, today, in a way, without transfer of currency, but just by some computer telling the banks that such and such deposits, from such and such depositors - give the purchasing power to these investors and there is no transfer of currency. It just goes on the books, or on the computer.

Townsend: Let me ask you a question about these transfers. If a villager were obliged to, say, contribute a 1/3 of his crop to the Lord, that gives the Lord an interest in making sure that the farmer is doing a good job...Is there an indication that there was monitoring of labor effort, as on the Lord's strips, on the Lord's land, presumably for the same reason?

Cipolla: Especially in the cases in which the Lord was not directly concerned. That is, a Lord might have owned many manors, and the other manors which were far away from the main manor were in the hands of officers of the Lord. These officers were obviously more under the pressure to guarantee that there would be a high return.

Townsend: Those are the officers one reads about, that acted as monitors on the Lord's land. But what I'm wondering is if you can tell from these documents that these same officers were also inspecting the villagers' land?

CIPOLLA: We don't know. We can't tell. You have to think that it was a very customary world in which the law of custom prevailed. There was very little dynamics. And very little effort to improve, so to speak, to accumulate capital. It was mostly to tend to guarantee that they had sufficient for the Lord, to live pleasantly and to buy, occasionally, things when some merchants would come passing by the castle from far away. But there was no great incentive to accumulate, except to buy more land, not to intensify. There are two things as a matter of fact, I must correct. With the introduction of the water mill, there was an incentive to build more mills. That was one form of capital accumulation, because with the mills they exercised a kind of monopoly. That is, the Lord forbade the peasants from keeping their hand mills in their houses and forced them to use the seignorial mills. Then revenue came from the mill, for the grain they would be milling.

TOWNSEND: And these were the so-called mulchers? Was that a large tax?

CIPOLLA: We don't know. But, it was enough to make the peasants in some cases rebel. You also have to consider the manorial economy as a centralized economy.

TOWNSEND: Was there any borrowing or lending with the Lord, with these villagers? Was there any record of that?

CIPOLLA: There must have been because we know also that some abbots borrowed money, or borrowed in kind, in commodities from their peers. What there was, which is something that was important throughout the Middle ages, were periods of hoarding in these homes, periods in which for instance, a person took all the silver of the church and melted it down to produce coin and sold coins, or sold the silver itself, or sold the things that could be hoarded. There were great alternating periods of hoarding and dishoarding. I think, for instance, that the great period of construction of cathedrals between the 11th and 12th centuries had been financed by the tremendous mass of dishoarding. The great use of coin, the great production of coins of the period after 950 or 1000, was largely connected with the production of the mines. But there must have been also a tremendous amount of dishoarding or melting of all the silverwear, and goldwear, and jewelry, as well as coins. We have some good evidence of that through the stories of saints. For instance, for the building of a French cathedral, the story is that the bishop backed himself into reconstruction, and then got short of money. Then one of the workers prayed to a saint, and the saint performed a miracle. While working on the abbey, one part of the wall came down, and a big treasure was found. Now this was obviously a concocted story. What he did was to use the treasury of the church to finance the reconstruction. But throughout the Middle Ages you had these alternating periods. There were periods of optimism, in which there was dishoarding and periods of pessimism, with much hoarding.

SARGENT: Did churches borrow and lend?

CIPOLLA: Yes.

SARGENT: Not only from each other, but also from their parishioners?

CIPOLLA: They lent money to the parishioners.

SARGENT: They did?

CIPOLLA: Yes. They acted as lenders.

SARGENT: That was fairly widespread?

CIPOLLA: Yes. It was mostly consumption loans.

TOWNSEND: How early?

CIPOLLA: I would say throughout the whole period.

SARGENT: The story that you told earlier indicated that there were transfers going across countries, between the abbots in the different countries?

CIPOLLA: Yes. Mostly as gifts. Or counter gifts.

SARGENT: But the gifts might occur at different times?

CIPOLLA: Yes. Oh, yes. Although when the abbot might send a gift of lead, the other abbot would not wait long to send a gift of wine for him.

SARGENT: Are there any indications of any abbots lending to each other?

CIPOLLA: Yes.

SARGENT: Across countries?

CIPOLLA: That I don't remember. But I wouldn't be surprised, depending on the relationship that might exist between one abbot and another. The manorial economy was a centralized economy in which, practically, you had to look at the poliptique as a plan, a plan in which consumption, which was the main aspect of the product, absorbed most of the product that was established, so to speak. And the product was also established, so to speak, in broad lines. And they kept an allowance for the fluctuation due to the agricultural cycle. If you want to understand the nature of the Poliptique as the manorial record, you must think of them as a central plan.

TOWNSEND: These variations over the agricultural cycle ..., was that explicitly in the plan?

CIPOLLA: They took care of that debt by saying that you had to plant so much, so much amount of seed per year, and made allowances for the fluctuations in the product, not by fixing how much you owed but by saying 1/3 or 1/2 of the crop. But, it was a centrally planned economy. Since the nation state, we tend to have a unit of reference in economics, either the individual or the nation state. Occasionally, you have the region. Now here we have the manor. When you think of England, or France or Italy, these are abstractions in the picture of the times. The reality is the manor, or the assemblage of manors.

TOWNSEND: So they were telling these villagers what to plant?

CIPOLLA: Yes. And there would be very little innovation, very little change.

TOWNSEND: What about this so called strip system in England?

CIPOLLA: It was the open field system. That practically obliged each tenant, of each street, to conform to the type of crop that was planted into the general area in the field that the strip belonged to. In the closed field system of southern Europe, the peasants had more, more freedom so to speak. With the narrow field, they were obliged to plow, and to seed, and to use the type of seed they would never use, so that the community, village attitude was much stronger in the North than the South, where more individualism prevailed.

TOWNSEND: The strips were suppose to be dispersed?

CIPOLLA: They were divided by areas, yes.

TOWNSEND: The strips were divided?

CIPOLLA: No, the strips were not divided. Only one little furrow would mark the division between one strip and another, but there would be no plants. While in the South, with the closed fields, there would be plants, trees, separating one field from another.

TOWNSEND: There are some references to, say, a typical villager holding 30 acres but dispersed into say, 30 or even 60 strips, throughout two or three fields. What was the reason for that?

CIPOLLA: We don't know, because that system goes back to prehistoric times. It preceded the manorial system. The manorial system just operated on the assumption that was the basic system to use.

SARGENT: So, in these areas, before there were manors . . ., but there was the same kind of cultivation . . . how was . . .

CIPOLLA: There were village communities, having communal land that was divided into strips. But, then you go back into that part of history for which there are no documents.

SARGENT: But, is the feeling that during the Roman times, in a given area, if it was cultivated, that the market had a wider domain?

CIPOLLA: I don't know in England, but certainly there was more of a market in Roman times, than later on. Also Italy, and Spain, were relatively very developed, under Rome. We don't know exactly how much of the agricultural product was traded. We don't know how much farms were self-sufficient. Trading was certainly greater than in the Dark Ages, between the 7th and the 10th centuries. But there was a lot of self consumption, production for direct consumption.

SARGENT: Is it your impression that per capita incomes fell?

CIPOLLA: Oh yes, very much so. The standard of living collapsed. Very much. To a great extent. Although, the standard of living of the peasantry under Rome was never very high. But there were middle classes in the cities and there were a number of wealthy landowners, whose standard of living declined dramatically. Then, public goods deteriorated to an extraordinary degree. Roads were not kept, bridges fell, cities collapsed.

SARGENT: Is anything known about literacy rates?

CIPOLLA: Diminished during this time. The literacy rate was relatively high under Rome, relatively to the sense that the Roman legionnaire, soldier, was a literate soldier.

SARGENT: He was?

CIPOLLA: Basically he was. For instance, they often gave written passes to enter into, and to go out of the Roman camp, which shows that the soldier at the gate could read.

SARGENT: Could the manorial peasant read?

CIPOLLA: No. In fact, what you had with the substitution of the German feudality, German landowners for the Roman landowners, you had a substitution to an illiterate aristocracy from a literate aristocracy, illiterate to the point that they despised literary education. There was the very good Amila Santez, Queen of the Goths, who wanted to educate her son, the future King of the Goths, and to have some Roman teachers to teach him how to read and write. And the nobility of the court opposed the will of the Queen, saying that if you made a literate King, you made an inefficient King, because, the training should be hunting, and war making. That is, because of physical prowess, physical strength. So they cared for education, but it was a different kind of education from the Roman. It was education for tournament and hunting, which was training you for war.

SARGENT: Did they have administrators? We are talking about the period, 400 and 500?

CIPOLLA: We are also talking also about the period, 700 and 800. The administrators were mostly the clergy.

SARGENT: They were? So, these were the people who took over both France and England?

CIPOLLA: In fact, there is also a very curious case. Occasionally, you find some of the court aristocrats being landowners. Most of these people spent their time hunting and in tournaments; 99spent most of their time hunting and in tournament. Occasionally, you would find someone who liked books because they were close to some abbey and saw the abbots reading the books. But, even in this case you did not learn to read and write. You had someone to read the books to you. Just like the wealthy men of our day, they have a chauffeur.

SARGENT: So, the Roman aristocrats were educated.

CIPOLLA: . . . were very educated. And with an inferiority complex towards the Greeks, the Roman culture. They despised the Greeks morally. They thought that the Greeks were morally corrupt. But they always had an inferiority complex towards the Greeks in relation to philosophy and literacy. So, whenever they could, they learned Greek. And just as 19th century elite intellectuals in England and America spoke French, the Romans spoke Greek, to show themselves to be educated.

SARGENT: How long did it take these German landowners to impose the manorial system?

CIPOLLA: Well, I think it grew up slowly. The basis of the manorial system was the Latifundia of the Roman empire, the big estates that already existed. As time went on, this type of organization was set up. But, just like you couldn't say that the industrial system started from 1750, it took centuries to develop.

SARGENT: What about the military obligations in the manor, say around 1000?

CIPOLLA: Well, in the central part, the Lord would leave some of these strong men whom he would support, with the food that he would get from the peasants.

SARGENT: Were these cavalry?

CIPOLLA: Cavalry or footmen. Both. And, these he would use for his own purpose of robbing or molesting of his neighbors, defending his own castle from attack, or to pay obligations to a greater Lord, or to the King, if he had received the manor in a feudal contract.

TOWNSEND: So each village would have some militia?

CIPOLLA: Let's say any stronghold, could be an abbey, a castle, a stronghold with a few hamlets around, not necessarily a village.

TOWNSEND: Were there hamlets that did not have fortifications?

CIPOLLA: There were hamlets... If the Lord would not live there, there would not be fortification, or there could be limited fortification. If the abbey was there, it depended. Some were fortified, some were not. The fortifications grew up especially after the attacks of the Vikings, in the 10th century.

TOWNSEND: So, it seems plausible that each cluster of villagers, or hamlets and villagers, would have some protection from some group.

CIPOLLA: Yes. In the most primitive areas you might have one tower and a small wall and then around it houses and shops for the smith or the millers. In case of an attack, everybody would go to the precinct of the Lords. And, in case of stronger attack, the few who would have the last defense would go to the tower. Often, the tower had the entrance, not on the ground floor but on the first floor.

SARGENT: Was an abbey organized like a manor?

CIPOLLA: The abbey was the . . .

SARGENT: In terms of protection, in terms of . . .

CIPOLLA: Yes, but the manor was the whole thing, the abbey would be a point in it. The abbey would be the center.

SARGENT: The abbott would conduct himself also as a Lord?

CIPOLLA: Yes.

SARGENT: So, he wouldn't be dependent on another?

CIPOLLA: No. He would be a feudal Lord. Occasionally, some of these monasteries would have 300 monks. There was in Germany one monastery with 300 monks, and 200 knights. These 200 knights were the military force, which the monks retained for defense of the abbey, and retained for military service, because an abbey might receive land from the King, with the obligation to render military service when the King needed the service. Since the abbot and the monks would not fight, they had a retinue of knights which they would expedite and send to the King when the King needed them. And, all this was because there was no monetary economy. Again, the military service was paid in kind because the Kings did not have the money to pay the mercenaries. All this revolved around the fact that there was no market and no monetary economy. So, wherever you look you find this unifying theme.

SARGENT: Now, if you looked at the Parthians, would you have observed similar things?

CIPOLLA: I don't know how the feudal system of the Parthians was arranged. I think that the King received the service of these horsemen to whom he had given land so they could support themselves and their horse. So practically, it was the same system. But I wouldn't swear to it.

SARGENT: So this system of manors was prevailing into Italy too?

CIPOLLA: Yes.

SARGENT: How far South?

CIPOLLA: To Naples.

SARGENT: What about near Venice?

CIPOLLA: Also. Venice of course was an exception. There is a very beautiful document of the 10th century in which the person who wrote the document was writing about the customs paid by various merchants of the border, the few merchants who moved around the country among from various abbeys, etc. due to the Royal Treasury. And at one point it mentions the merchants coming from Venice at the end of the 9th or beginning of the 10th century. And it mentions the Venetians; and then he felt that he had to say something about these strange people. And he said, like in parentheses, these people never sow, they never plow, they never gather grapes, they never gather crops. The idea that there could be a large group of people living off of trade was so totally out of the possible imagination. It was like someone coming from the moon.

SARGENT: And this person who wrote this, lived ...

CIPOLLA: Lived not far away. In Pavia, near Milan. So it was about 300 kilometers.

SARGENT: So throughout this period Venice was trading with ...

CIPOLLA: With Byzantium.

SARGENT: Were the Venetians gathering goods from Europe?

CIPOLLA: They traded originally in salt. They brought salt to the hinterland of Lombardy and got grain. Then they extended their trade to the Byzantium and got some seeds, and some other products, Oriental spices, which they would sell to the very rich abbots and very rich aristocracy that lived in manors. But to tell you for instance how poor was this trade, fundamentally, one of the things that the documents say is that they had to pay in kind, to the treasury in Pavia. One of the ebony coins was among those that they were bringing in, so they were bringing in coins made of ebony. So, it was a thing we would find today in the airport.

SARGENT: Was it very small trade?

CIPOLLA: Yes.

SARGENT: We are talking about 1000 or so?

CIPOLLA: Yes. About 950. It was the beginning.

SARGENT: And this had been this way from 500 to ...?

CIPOLLA: Well the Venetians lived mostly as fishermen, and selling salt, and they didn't pick up trade between Pavia and Constantinople. In Pavia they did find out, if you look at the map of Italy, you have Venice here; you have Pavia, which is near Milan, here; you have the Po going here; and you have the road that goes from the channel in England to Rome. Now this road was very important for the Pilgrims because, like today the Moslems make a point of going to the Mecca once a year, or once in a life time, the Christians made a point of going to Rome, or to the Holy Land, once a year.

SARGENT: The Roman Road?

CIPOLLA: The Roman road. Pavia was the connecting point between the Roman road and the Po. So, here you had the sea connection with Byzantium. So, the Venetians would find here, once a year, markets which were good because of the flow of the Pilgrims. So, it was not only to cover these areas, but to cover an area of Pilgrimage.

SARGENT: So, this characterized 500 to a 1000?

CIPOLLA: Yes. Incidentally, these pilgrims had no inns. There were no towns, and no inns, and again because there were no markets, no money. So these people would sleep and be fed at monasteries which were built especially along the Roman road, to take care of the pilgrims. There would be no place to go for pay for food and lodging. That started only with the growth of cities, after the 10th century. Again, no markets, no monetary system. Again, that was also a gift. The people. . . it would be a duty of the monks to give lodging and food to the pilgrims. And the pilgrims, if they had something, thus would make a gift to the abbey. It was an exchange of gifts, not a commercial transaction.

SARGENT: Now were these people of all classes?

CIPOLLA: All classes. Occasionally, there would be a very rich pilgrim with a retinue, who would make a big gift to the abbey or to the monastery for the lodging. And occasionally there would be beggars who would just sleep and eat, and leave nothing. They had different quarters. If you were a poor beggar, you would be left in the courtyard to sleep, or if it was the middle of winter, you would be given a room in the stable with the horses. If you were a pilgrim of great wealth and high social status, you would be given a cell in the monastery.

TOWNSEND: How dangerous was it?

CIPOLLA: Very dangerous. Travel was very dangerous. Robbery. Killing.

TOWNSEND: By local people?

CIPOLLA: By all sorts. You would be robbed for very little, to rob you of your coat. Poverty was very great. There was not the security of transportation of the Roman times.

SARGENT: And that security of Roman times was secured by Roman troops?

CIPOLLA: Roman troops. The legion force, at the time of Augustus, there were 300,000 soldiers. Rome was very efficient in their use. One of the reasons for the financial crisis, mentioned before, was that the Roman army was increased from 300,000 to 600,000, in the last few centuries. And the pay of the soldiers increased more than proportionately. So, the total cost of the army went up. But, under Augustus, the Roman legionnaire was paid very little. I think one penny per day, and it was 300,000 men. It was very efficient with 300,000 people the control they kept.

SARGENT: Was there an Italian army under Augustus?

CIPOLLA: No. By that time, it was Italian, it was Spanish... Don't forget that the Romans gave citizenship very early. And in fact the greatest period of Rome, was the time of the Antonines. Hadrian was a Spaniard. Trajan was born in Spain. They were the descendants of Roman colonists, but they were Spanish. Diocletian was a Yugoslav. So the Roman Empire in that respect was very open. It would be like the Queen of England being an Indian, the King of England being from Jamaica.

TOWNSEND: Were there punishments? ... How did such a small number of troops keep order?

CIPOLLA: They were extremely well organized. There is a very good book by Lusdorf on the strategy of the Roman Empire. They used allied Kings, the system of alliances, to protect their borders. They would deploy the legions widely. But, for the last part of the Empire when the system of the alliances did not function anymore, then they had to increase the size of the army, to keep manning the environment.

TOWNSEND: Their allies were people outside the nominal boundaries?

CIPOLLA: Yes.

TOWNSEND: What about internally, domestically? Were punishments severe if you robbed and it was proven?

CIPOLLA: Yes, but with one thing, the severity varied from time to time, and I don't know exactly. I don't think it was as cruel as during the Middle Ages. The Middle Ages were much more cruel. But, there was one thing about the Romans, they had a sense of law. That is, no one was condemned until there was a trial. And this we know very well, because of a testimonial which comes from the Jews, in the Bible, in one of the descriptions of the trial of Jesus. There were the local people who wanted to put to death Jesus. The Roman centurian intervenes and says it is not in the custom of the Romans to kill a person without a trial. So this was said by a witness, by a writer who was not sympathetic to the Romans, so it is a very good testimony.

SARGENT: In terms of the manors, what kind of legal tradition, and punishments did they have? Was it uniform, or a great deal of variety?

CIPOLLA: I don't know. I think that the German system came to prevail, in which I think there was very much of cutting hands, or this kind of punishment.

SARGENT: So, it's your impression that the German system pushed out the Roman law?

CIPOLLA: In the form of punishment, yes. Although, the Germans at the very beginning were cruel in a more primitive way. The most sophisticated in cruelty were the Greeks, and the Persians, and the Easterners, who were much more refined in their tortures. The Romans would do for instance, crucifixion, like in the case of Jesus, and the two who were set up on the crosses, beside Jesus, who were robbers. And when there was the revolt of the gladiators, they were all crucified. So they were pretty tough. And, I think it was a society that was essentially bloodthirsty because the spectacles of the Circuses were certainly not . . .

SARGENT: How was it then that the Romans perceived the Greeks as being immoral?

Cipolla: How would you say not keeping your word, being effeminate, being devious, in this sense. The same way that a farmer from Minnesota would look at the Parisians of the left bank, same kind of attitude. The Roman society was a society of peasants, and it valued the virtues of the family.

Townsend: Is there a way to estimate the number of militia on the manors? The ratio of troops per peasant?

Cipolla: Well, you had the three stages, the feudal lords who fought, essentially, these things; then with the growth of the city you had the city militia; and then at the beginning of the 14th century you had the mercenaries, which caused a tremendous increase in state expenditure, and therefore caused an increase in taxation. And in the case of Florence, actually, it was the expenditure for mercenary armies, that caused a tremendous increase in public debt, and issuance of a great amount of treasury bonds, during the 14th century.

Sargent: As a casual impression, do you think the manorial economy had devoted more resources to protection, or less resources to protection than the Romans?

Cipolla: It was protection and attack. It was robbery and defense. I don't know, to tell you the truth. And within Rome you have to make the distinction between the early part, the Empire and later parts of the Empire. In the late Empire it increased very much. Well, then, going from this lack of monetary system, there was growth of production of coins, and the debasement of coins. From that moment one of the most interesting aspects of the monetary history is to trace the course of progressive debasement. It is well determined, the speed and the timing of the debasement, which could have been be done essentially for two reasons; for monetary reasons, to increase the supply of currency; or in order to adjust the rate of exchange between two different types of coins, the gold and silver, there was a double monetary system - or for fiscal reasons, to increase the revenue, of the seignorage.

Chapter 12

Shortages of coins

SARGENT: Now, for these monetary reasons, are there reports of shortages of coins?

CIPOLLA: Yes. In fact, one of the interesting aspects of the history of the medieval monetary system, is that, when the ruler stuck to the moral imperative which was at the time to keep the money stable, they ran into a shortage of coins, and since monetary sovereignty was not complete, that is, foreign currencies could come in as soon as there was a shortage of currency, the people would accept coins from abroad. Normally, by Gresham's law it was coins of lower content. So you would find, in trying to keep your money stable, that you would eventually make for the invasion of foreign coins.

TOWNSEND: Why did they try to do that? Why would they want to keep the money stable, per se?

CIPOLLA: It goes back, in theory, to Nicolla Aren, who wrote a treatise in 1355. The Kings of France ... there were three models of monetary development: the stability of the English King, the ups and downs of the French, and the steady debasement of the Italian states. The English Kings tended to maintain their coins stable, and they ran constantly into the difficulty of shortage of currency. The Kings of France made big debasements, in order to finance the 100 Years War. In 1355, after one of the biggest debasements, Nicolla Aren who was a Bishop, wrote a book, stating something which at that time was considered revolutionary. That "money" was not the property of the King, not the property of the Prince, but that the money belonged to the Government. So, you couldn't fool around with money. And, if you touch money, which is something that belongs to the public, you ruin the country. The King, who was alive then, was enmeshed in the war with England and he couldn't pay much attention to the treatise of Nicolla Aren. But his son, Charles the 5th, was educated by Nicolla Aren who was a Bishop, tried the monetary reform, applying the criteria. In fact, he asked Nicolla Aren to take care of the monetary reform. Nicolla Aren, made a sound currency, completely stable, with the results that there was a complete shortage of currency and disaster in the economy.

TOWNSEND: Disaster, what kind?

CIPOLLA: There was no currency, prices would fall.

TOWNSEND: So, the prices fell? But, not fast enough? Is that what you are saying? What kind of disaster?

CIPOLLA: Well, disaster in the sense that the merchants had no currency. You heard complaints from the merchants on the shortage of currency, shortage of liquidity.

SARGENT: Was that a complaint about the shortage of lower denomination things, or was it a complaint about ...

CIPOLLA: It is a complaint about shortage. Because, all denominations were short. Now, why Nicolla Aren maintained that theory... now don't forget that Nicolla Aren was a Bishop. As a clergyman he received revenues at that time in coins, and if the coins were debased, the revenues of the Church would suffer.

TOWNSEND: So, the obligation was stated a certain kind of coin?

CIPOLLA: Yes, by the 14th century.

Townsend: But, it didn't say the metallic content of the coin?

Cipolla: No. But if you devalued the coin, prices would go up.

Townsend: Right, I understand ...

Cipolla: ... and you would get, in real value, you would get your revenues diminished.

Townsend: Sometimes it appears as if, in the issue of coin with less metal there was actually an edict proclaiming the issue of a new coin. But, I guess that wasn't uniform? When they put less metal in the coins, did they announce that they were doing it?

Cipolla: Sometimes they kept it secret. Sometimes they just ... What they did, in order to issue ... the system was different from the Roman system. The King did not have his own mints; he did not have gold, of his own. So the way for him to devalue the currency was to offer to the people, who would bring metal to the mint, a higher price, and the profit he would make, would be on the seignorage. So you have the price payed by the mint.

Sargent: So, we are talking both about the English mint system as well as the ...

Cipolla: As the Italian. It was the same system. But, the only thing that the three behaved in three different manners. The Italians being practically mercantile states, they were very interested in having the relatively sufficient supply of currency. So, we have progressive, a steady debasement. The French debased the currency mostly for fiscal reasons, and when the fiscal need was over, they felt that they had to revalue the currency. So, they had the worst of both worlds. They had the succession of bad debasements, and ...

Sargent: Oh, they actually devalued?

Cipolla: They devalued. The English kept the currency stable.

Sargent: So, what period are we talking about?

Cipolla: 1200-1500. What you have is the price paid by the mint, to which you have to add the costs of minting, plus the seignorage, which is the tax which you pick up from the minting the coin, and then that gives the amount of money that you issue from a given amount of silver.

Townsend: So, are they actually telling the people to bring in the ore, or the gold, that they are just going to take a fixed amount of gold?

Cipolla: Yes. So, suppose the price of the market, the current price of the market is 8 pennies, let's say, and you want to increase the revenues from minting. You don't have silver, because if you had silver, or gold, you wouldn't need to resort to the trick of debasement. The reason you debase the currency, is that you have no treasure. So, you are pennyless. So, you say, I offer to people to bring silver, nine pieces, instead of eight. People bring you a pound of silver and you give nine shillings. Then you spend one shilling, to the laborers who work at the mint, you retain for yourself two shillings, and you come out with 12 shillings. If before the situation was 8-1-1, it was 10; you debase the currency from 10 to 12 per pound. So, in order to make a profit, through seignorage, you have to offer for a profit to those who bring the silver to the mint or the gold to the mint. The result would be an increase in prices eventually. That is eventually, the price of the market will tend to go from p to pe, at this point everybody stops bringing silver to the mint. And in order to have the mint operating and producing more coins, you have to offer further debasement p. Essentially you are interested in seigniorage, if your debasement is for fiscal purposes. But you have to increase p, because if you simply increase s and do not increase p, nobody would bring in specie. If you are interested essentially only in increasing the supply of money, of currency, if you are interested in debasement for monetary purposes, you are not increasing s, you increase only p. In fact, you have cases, like in the case of Florence in the 15th century, in which they actually abolished s. That is they put s in the expense of the state, or the treasury and they increased p, to invite the merchants to bring silver to the mint at Florence.

SARGENT: From your books, there were different rates of costs and seignorage for different denomination coins?

CIPOLLA: Very much so. From 1252, you start having the production of gold coins in Europe. It started in Florence and in Genoa. And then, practically in every single place. So then you start having gold and silver. Now, gold was always full bodied, that is, the nominal value of gold was equal to the metallic content, minus a difference which was very minimal. The c + s, cost plus seignorage, for gold, was always 0.9 percent, no more, in the case of the Italian states. Now, as you produce more, as time went on, there were more and more denominations made. That is while in the Carolingian times, there was only the penny ...

SARGENT: The silver penny ...

CIPOLLA: The silver penny. Then, higher denominations were produced, and eventually, the gold was produced. So you had the gold plus various silver denominations. Now, as the silver denominations were becoming smaller and smaller, the cost of production increased, c increased, more than proportionately - that because the coins were made by hand. You would make a plate of silver, of a given alloy, and literally with scissors, you would cut round pieces and then hammer them, and then print them. Now if, from a pound of silver, you put out 50 coins, or you put out 350, obviously the cost would be much greater for 350, than for 50, because there was no machine. They were done by hand. Moreover, the value per unit of these coins, would be much lower than these. So proportionately, the cost of production would increase very much, as you went down the scale of the denomination. So for instance, in the case of Milan, the gross (10 shillings) had a cost that represented about 1%. The penny, had a cost that represented 25%. Similarly, the seignorage was proportionately higher for the lower penny than for the greater denominations. Although, on absolute terms it was not greater, in relative terms, it was much greater. So, the mint charges which were c+s were much greater for the lower denominations then for the greater denominations. So, the result was, that you had gold, silver and silver. That is, the silver that was full bodied, in the sense that c+s would be no more than 3% of (intrinsic value) i, and silver denomination which was token in the sense that c+s was about 30intrinsic value and the exchange value would be about 30these token coins. Now, the difficulty of the system consisted in having a system composed of essentially three types of currency, operating as a unitary system. Because any movement in the market rate of exchange between gold and silver would tend to modify the rate of exchange between these coins and these coins too. And, any tendency of the market to expand, when people tended to diminish their propensity to hoard money and increase their propensity to buy commodities and services, would tend to increase the rate of exchange with both of these coins.

Sargent: Were France and England issuing gold coins too?

Cipolla: Yes.

Sargent: And, the pattern was that the gold coins depreciated ...

Cipolla: Practically. The French gold coins were not as stable as the Italian coins. The ducat of Venice remained absolutely stable from 1284 to 1790.

Sargent: In terms of metallic content?

Cipolla: In terms of metallic content. The inflationary pressures of the economy were discharged on the silver currency. The French Kings, occasionally devalued also the gold coins. But a very small amount, nothing comparable to the great fluctuations of the silver currency. The silver currency in France was constantly devalued massively and revalued massively, so having the worst of both worlds, because you damage both the people at fixed income with the devaluation, and the other people with the revaluations.

TOWNSEND: So, did we decide why they were doing this? Shortage of coins? Or rather ...

CIPOLLA: The devaluation was due either to the monetary purposes, shortage of coins, or revenue. The revaluation was due more to normal reasons, to cultural values. The idea that currency was not to be touched was not accepted by the mercantile states of Italy, which however, never had a very high seignorage. You see, for instance, the difference between the monetary policy of Florence and the monetary policy of Milan. You see it very well in the sense that the devaluation of Florence never coincided with critical moments of the finance of Florence, never. They financed their needs with taxes and loans, treasury bonds. In Milan, you see a different pattern. Very often, the debasement was carried on at the time that there was a political crisis. So, to study the chronology, is already ... very deep in it. And you see also in the percentages represented by s, and by p. In Florence they tended to increase the p; s was very minimal.

TOWNSEND: But, Florence was debasing, nonetheless?

CIPOLLA: Oh yes, but in order to get a supply of currency. If they hadn't done, they would have had deflation or invasion of foreign currency, bad foreign currency, which is not a good. . . .

TOWNSEND: Is that because they were making profits off the coins? What did they care if they had foreign coins?

CIPOLLA: What?

TOWNSEND: Why would they object to having foreign coins?

CIPOLLA: Because, the foreign coins were first of all ... because there was a kind of pride in having new currency used by the people, with whom you would trade. Secondly, because you would guarantee the fineness of the coins. There were two ways of debasing the coins, three ways: debasing the fineness, debasing the weight, a combination of both.

Townsend: I don't understand what the fineness is. That is the purity of the metal?

Cipolla: The purity of the metal.

Townsend: And weight?

Cipolla: Weight.

Townsend: Weight means you just put more alloy in?

Cipolla: No. When you have a metal coin, you have a weight. Suppose you have 10 grams ... of silver, you have the fineness which is 900 per 1000, you have the pure content, which is 10 multiplying 900 per 1000, which makes 9. You could reduce 10, you could reduce from 900 to 800 per 1000, or you could have a combination of both. Technically, you could do also another thing. You could increase the nominal value, leaving unchanged the weight and fineness, or increase the nominal value more than you increase the weight of the ...

Townsend: The nominal value, that is what we talked about before.

Cipolla: Yes.

Townsend: Now, if they changed the weight, was it obvious?

Cipolla: This is the problem I was trying to tell you, that changing the weight was considered the clean way of doing it. Changing the fineness was considered the dirty way of doing it.

Townsend: For merchants, did they assay ...

Cipolla: Florence never changed the fineness of the full bodied silver coins. They changed only the weight. If they had let their money disappear, and let money come from abroad, they would not have control of their finances. One of the reasons that the money of the Florentines was accepted was the guarantee of purity, of the fineness of the coins. Same as the Venetians. The Milanese acted much more crudely. They were not such an important financial center.

Townsend: Well, I can understand that a city state might want its coins to circulate widely.

Cipolla: It was not a question of only circulating widely. The Florentines were trading with half of the world, like the Venetians were trading with half of the world. It was very important for them, for the Florentine merchants, or the Venetian merchants, when they went to Eastern markets, or North African markets, to have a coin.

Townsend: So, did you have to go through the process of verifying the metallic content of the coin?

Cipolla: Well, the weight you could verify. Weight you put it on a scale. The fineness, you had to melt the coin.

Townsend: Right, but you are saying that since they had a history of not tinkering with the fineness, it was accepted.

Cipolla: Right, the people in foreign markets would not accept coins when they knew that the alloy was changed.

Townsend: But I still don't understand, back home, why they wouldn't allow foreign coins to circulate.

Cipolla: They allowed foreign coins to circulate. But they wouldn't allow the whole currency to be substituted by a foreign currency. The moment that you stop coining, the moment that you don't arrange for p to progressively be above the level of the market and have your mint operating, eventually you would have all your coinage disappearing, and you would be invaded by inferior foreign coins. They would not have anything to offer to any foreign markets, to buy their products, to offer in exchange. So, it was a double aim, of having a reliable currency which they would trade in foreign markets and at the same time of having an adequate supply of currency at home. And often these two were completely different objectives. So what they did also was to keep the gold currency stable; the silver currency, they debased progressively, but with the full bodied coins, the bigger amount of silver, absolutely stable in fineness, not in weight. So, they increased p by changing the weight but not the fineness, and had the worst silver token coins, changed both in fineness and in weight. With this provision then obviously the silver token coins were not legal standard, not legal tender above a given amount of money. So, for big payments, the only legal tender would be gold or full bodied silver coins.

Townsend: Why would they do that?

Cipolla: Well, the same thing, you cannot pay 1000 dollars in pennies today.

Townsend: Okay.

Cipolla: In this sense, they came to have a situation similar to that of the southern Americans, who have an accounting in dollars and operate locally in pesos. They have the advantages of having some store of value in good currency. They operate abroad, in a strong currency, and they pay their costs locally in pesos. So, they take advantage of any increase in the rate of exchange, between the dollar and pesos, because they reduce their costs of production, and their savings go up in terms of local currency. So, the Florentine merchants were trading in gold, and paying their workers in silver tokens. So, the monetary history was enmeshed in social history.

Townsend: Why, because the silver was getting debased? But not in some of these other places? Were they cheating on the workers? Is that the idea, that the workers didn't know?

Cipolla: No, the workers had no alternative. Local prices were expressed in terms of the silver tokens.

Townsend: Right, but they might demand more coins.

Cipolla: Well, they didn't have the bargaining power to do so. So, it was some kind of tough way of doing it. But financially, it was monetary. It was a very interesting system that operated as a unitary system only with brief periods of equilibrium. Other times, you had a constant shifting of the rate of exchange between these various coins.

Sargent: You say England was not depreciating?

Cipolla: No. England depreciated only 3 times during the whole of the Middle Ages. But essentially, it did a funny thing. Suppose a long period of stability, that is, the King established the penny. If I remember correctly, the penny must be 1.5 grams of silver, 925, and established that at this point. Because the currency kept getting struck by the same parameters, and was offered the same price. There was practical stability of weight and of fineness. The silver didn't flow to the mint, so practically you had the same coins in circulation, the same type of coin in circulation, which diminished in weight, not in fineness, slightly because of wear and clipping. Then the King of England occasionally after some time, ordered a recoinage of the system, that is, people had to bring to the mint the coins which were not of the standard weight, to be reminted. So, what looks by the laws to be stability, was actually a series of minor revaluations of the currency, because the currency in actual circulation was less than the theoretical weight, same fineness, but less in theoretical weight. So, what you had in England, was a series of... occasionally had to the value.

Sargent: But, it was a small devaluation?

Cipolla: It was a very, very small devaluation compared to the devaluations of France, which were ... and the Italians ...

Sargent: Did England attract silver coins from other countries?

Cipolla: Well, England had one advantage. England was like the Arabs of today. The Arabs have oil while England had wool. Essentially, it was a good position, to have a good balance of payments. But, by insisting on this kind of stability, it often happened that England was invaded by foreign coins, mostly from Flanders.

Sargent: What kind of monetary system did Flanders have?

CIPOLLA: Flanders had a system which was subject, on the one hand, to the pressure of the English system, which was stable, to the pressure of the French system, which was constantly devaluating, and revaluating. So, it had to play between the two.

SARGENT: Because there was trading with both? Flanders was under what kind of political rule at that time?

CIPOLLA: It was an independent country. It's very interesting to see how they tried to manage between the pressure of the English, silver stability, which was effective stability as compared to the rest of the continent, and the French violent fluctuations. But, very often they coined coins which then circulated in England, despite the laws of the English King. The English King constantly issued laws against the use of foreign currency. But, the Flemish imitated the English currency, exact imitations. So, there was no way of saying whether they were Flemish.

SARGENT: Were they the same fineness or weight?

CIPOLLA: No. They were slightly less in weight. But, always a little bit more than the ones in actual circulation, the debased ones ...

SARGENT: Right in between the debased ones and the true ones.

CIPOLLA: Yes. It was very clever.

SARGENT: This was conscious?

CIPOLLA: Let me show you one thing. This was the number of pieces issued per mark of silver. For a penny there were 465 per mark, a gross of twenty shilling, thirty five per mark, which obviously indicates to you how much more expensive it was to cut 465, instead of 24. If you divided the weight of the mark by the number of pieces per mark, you got this weight. This was the fineness. This was worth 963 per 1000, this was 62 per 1000. Multiply this by this, and you obtained the fine content of the silver. Now, having this fine content and having this kind of nominal value, if you paid one pound tale, which was 20 shillings, you paid with one of these shillings, you paid with 9.34 grams of silver. If you paid with 24 pennies, you paid with actually 7.58. So, this was what it meant by being token, and this was what it meant by full bodied. Now, they had to make all these calculations without computers, just using figures, which were still Roman figures without the zero.

SARGENT: So they didn't in 1470? They didn't use Arabic figures?

CIPOLLA: Some used Arabic figures, but in the hills of Milano they were still using Roman figures. Now, they were operating on very small margins. Now, if you think that this was a period of still great approximations. Clockmakers and moneymakers were the vanguards of our culture in the sense that they got used to making precise calculations.

SARGENT: Clockmakers and moneymakers?

CIPOLLA: The moneymakers. In fact, they were regarded as an aristocracy of the labor force. They had great privileges, and they had to make calculations that other people couldn't do.

SARGENT: So, they were making calculations using Roman numerals?

CIPOLLA: Yes.

SARGENT: So, when did the people start using Arabic?

CIPOLLA: 17, 16th century. In the 14th century they were still using Roman numerals. But, in order to fit, in all there games and to keep aligned on there various denominations, they had to be very precise and they operated on very small margins. These were the aristocracy of society at that time. So, they were the vanguard of culture, which was based on very precise measurements. Occasionally, they goofed. And when they goofed, it was a disaster. The money would disappear. But they rarely did.

SARGENT: So, Flanders was issuing currency in order to place it in British . . .

Cipolla: They used currency first to trade locally, among themselves; then to import wool from England; then to import wine from France, and from Spain.

Sargent: Did they mint the same coin that they traded with England, to trade with France, or did they mint ...

Cipolla: It depended. With England, in theory, they couldn't. England would not accept the Flemish coins. So they resorted to the trick of minting coins which were exact replicas of the English coins. With France and with Spain, France and Spain accepted the coins of Flanders. It was manufactured. Many of these coins were actually melted and reminted. By melting and reminting the coins you would lose some of their metal contents. This was one of the reasons why in international trade, the silver tokens were not accepted. If you accepted a silver, full bodied from Flanders, and you melted it in Florence and transformed it into a Florentine coin, you lost very little from nominal value to the commodity value. If you melted the silver token you lost a lot. So, the silver token was legal standard only up to a certain amount, and they were not used in international trade. People would refuse them. If you had coins that were trusted internationally, you would have them accepted abroad, and you would have the advantage of having that little amount of seignorage that you had. Or if the coin was widely accepted all across Europe, even with a small amount of seignorage on individual coins you would end up making a lot of money because the coin would be accepted. For instance, the Venetians had their silver gross, which was widely accepted all throughout the East. So, though making a small seignorage on each coin, they sold a tremendous amount of this coin to the East. They made a lot of money.

Sargent: They sold to Constantinople?

Cipolla: Constantinople, Alexandria, the Middle East and the Northern Africa.

Sargent: Did they sell to the Ottomans after 1450?

Cipolla: Yes. Well, we have covered a lot of ...

Chapter 13

Banking

SARGENT: Yes. But, we haven't talked about banks, or credit.

TOWNSEND: Let's just start talking about banking . . . early banking.

CIPOLLA: Medieval or early banking, because about Roman banking I don't exactly . . . I give you the two articles which contain the known information. And there is one book; I can send it to you. I have the reference in Italy. If you drop me a note, I will send it to you. It is the story of one banker. Somehow, this set of documents came out about the life of this fellow whose main activity was banking. So, we have one biography, of one family, who practiced banking.

SARGENT: In which years?

CIPOLLA: I think it was at the time of Pompey. It is a very interesting book. It is full of realism because it follows the life of one person.

SARGENT: In what language is it written in?

CIPOLLA: In French.

SARGENT: Okay.

CIPOLLA: About the other thing of banking . . . I have something to warn you about, is to stay away from the prevailing thesis, which is expressed mostly in Anglo-Saxon literature. The Anglo-Saxon literature emphasizes the importance of goldsmiths as original bankers. Now, this is true for England, which was a very underdeveloped country. And since there were practically no moneychangers and other type of bankers, the goldsmiths performed the activities of the bankers. That was the typical situation in a typical underdeveloped country of the time. To look at the origin of banking, you have to look at Florence, Genoa, Bruges, and Flanders.

Sargent: Was this simultaneous in time?

Cipolla: Practically.

Sargent: And what period are you talking about?

Cipolla: End of the 12th or middle of the 13th century – end of the 12th to the end of the 13th century.

Sargent: So, could you paint us a picture of the early development of banking, and how it was matched up with the development of coinage by the states? Was there an increase in the growth of coinage?

Cipolla: I think that the growth of coinage was not sufficient to satisfy the demand for money. So, there were a series of alternatives. One was the use of commodities as means of exchange, for instance, pepper, like in the colonies they used wampum. But that was, so to speak, against the trend of the time. So, it was one solution which did not have very much consequence. The second solution was the debasement of the currency, which was making more units of payment out of a given amount of weight. The third solution was to increase the amount of credit. So the connection between the two has to be seen against the background of this tremendous growth in the demand for money.

Sargent: And there was a growth in commercial activity?

Cipolla: Yes, which was connected with the growth of commercial activity, and as I say, with an increasing degree of monetization of the economy. So, it was not only a function of growing income. It was the fact that more of the transactions were carried out with currency, rather than by barter or some other mechanism, like exchange of gifts. Now, there were three sources of banks, essentially. The three sources were: first, pawnbrokers, that is, small petty landowners who would practice mostly credit or consumption loans. These never developed above the pawnbroking activity. It was one branch of banking that remained in the same stage, so to speak. They were also the more hated part of the banking community, because they were practicing consumption loans. So they made these loans mostly to people who were in bad need of purchasing power, and because of the high risk of the consumption loans, the rates of interest were normally higher than the interest rates among merchants. Then, there was the second source of original banking, the moneychangers. That is, already, in the 12th century, you had moneychangers developing in the most advanced markets, and these people, taking advantage of the masses of coins that they had at their hands, practicing not only money changing, but also making loans.

Sargent: So they would carry inventories of coins?

Cipolla: Yes.

Sargent: And these would be located in the centers of international trade?

Cipolla: Yes, there were people who would actually set out a table, which in Italian is called "banco", the name of the table is called "banco", with a carpet on the banco, and you would have boxes for coins, and they would change coins. They would have a scale to weight the coins. They were actually the main suppliers of the mint. When the mint increased the p in that equation, the first people to bring the bullion or old coins to the mint were the moneychangers.

Sargent: This continued in the 12th century?

Cipolla: This continued in the following century. The main link between the public and the mint, were the moneychangers. They had faster information than anybody else. And, more precise information.

SARGENT: Did these people continue to do business on these tables, or did they start ...?

CIPOLLA: Yes, they carried on most of their activity on these tables.

SARGENT: On into the 13th and 14th centuries?

CIPOLLA: Yes, and in some places like Florence, they had a guild of their own, which was one of the most important guilds of the town. The guilds had a kind of hierarchy which was manifested in reality in the processions of the city. When the procession took place, the most important guilds would be in front. The moneychangers' guild was always among the first ones. It shows also that the pawnbrokers were not a guild. And if they had a guild, it would be at the bottom of the line. But the moneychangers had a guild.

SARGENT: And were they respectable?

CIPOLLA: Yes, they were respectable. And, the third source of origin of banking was given by the activity of the merchants. Now, when we say merchants, we have to be very careful about the meaning of the word, because merchant in the Middle Ages, which in Latin is called mercato, didn't mean tradesmen. It meant a tradesman, a manufacturer, who operated through the putting out system, and a banker. So there was no specialization. The merchant was at the same time a trader. And since he traded often also in raw material, like raw wool, raw silk, and so forth, then he would put out these raw materials to craftsmen, who organized a putting out manufacturing system. So, he would be the organizer, the main manufacturer. Instead of having things in a factory, he would organize it in a putting out system, but he would be a manufacturer.

TOWNSEND: Now what kind of loans was he making?

CIPOLLA: Well, he really was a trader. He was a manufacturer, and he was a banker. Now, I will explain to you the way in which he was a banker.

He was a banker by making a loan. First of all, starting from the 13th century, they created compagnias, that is corporations. The companies had two types of capital. The corpo de compagie and fore corpo, the body and outside the body. The body, the corpo, they collected as a company would collect today money for shares, that is, they would collect money mostly from family relatives. Originally, it was centered around the family - it was a kinship affair - They would collect money from the family, and would participate in profit and losses. But, they started collecting the money for fore corpo, that is, deposits which would not participate in the profits. They would receive a rate of interest and would not share in the risk and losses. So they had two kinds of money, the money which shared the risk and the profits and the losses, and the money which was just loans to them. Using the money which they had, they started also making loans, loans to other merchants, or loans mostly to Princes and to high, important persons. And the case, for instance, of the loans to the King of England were done in order to insure privileges for exporting the raw material wool. So, they became bankers, especially on an international level. In Venice, and in Genoa, and to a certain degree also in Florence, they made also loans to local people, almost consumption loans. Consumption loans to the Prince and so forth. Most of the investment loans were to the local level.

Sargent: Did these people continue to be merchant bankers?

Cipolla: Yes, they continued to be merchant bankers. One very interesting thing. At the very beginning its clear that they operated on a fractional basis, that they created money. They would receive money from you, and they wouldn't keep a 100reserve. They would keep only a fraction in reserve, and they would lend money to other people. Because, if you deposit money with me, you have deposits on my books which you can use to transfer to another person. In the meantime, I would give your money as loans to other merchants.

Sargent: So, they would perform the service of transferring these...

CIPOLLA: Yes. The interesting thing is that for a long time in Venice, up to the 16th century, in Florence only up to the 14th century, the transfer of deposits, deposited with these bankers, or with the moneychangers, would occur only in the presence of the parties involved. That is, if you had deposited money with me, and you wanted to transfer the deposit to him, both of you had to come to the banker, and in front of both of you I would write on the book that I transferred a certain amount of money from your account to his account. And the book was evidence in court in case of conflicts, in case questions would arise. The book was the evidence. Now, in the course of the 14th century in Florence, this cumbersome way of doing things, that is, of requiring the presence of both parties, started to be substituted by a written order. That is, you would write to me a letter, saying to transfer such and such an amount of your deposits to your account. That was the origin of the check.

TOWNSEND: He writes a letter to you the banker ...

CIPOLLA: He writes a letter to me ...

TOWNSEND: Do I also carry ... I eventually just show up?

CIPOLLA: You don't necessarily have to show up. He writes to me.

TOWNSEND: How would I know these transfers were actually made on the books of the banker?

CIPOLLA: I don't know how they'd check. It was very much based on good faith, which was normally ...

TOWNSEND: Were there cases of fraud?

CIPOLLA: No. Well, I suppose the banker would inform somehow the other person. The other person had the possibility of going and checking to see if the transfer had been made. But the important thing is that in the 14th century it was only in Florence and not in Venice. In Venice they continued the system of the personal presence. That is, the two parties had to be there and watch that the transfer was written on the books. In Florence, on the basis of trust, the written order was accepted, and part of the amount was moved from one account to another.

Townsend: Would it be true say even in Florence that some people were able to write a letter to the banker instructing him to change accounts and other people weren't. Was that possible?

Cipolla: No. I think that when a person had a deposit with a bank anyone could do it. The problem with them, the story of medieval banking, is the story of great failure. That is, those who specialized largely in banking activity, operated on the fractional principle. They created money. And there is a very good statistic at the beginning of this field, at the end of the 16th century in Venice. There was a big monetary crash, banking crash. And a senator, who proposed in the Senate the institution of a bank which would operate with only 100% reserve, which was in actuality enacted, gave some figures that would indicate that 90% of the banks in the last 100 years actually failed. And the reason was there was no lender of last resort. You have to imagine these people operating on the fractional reserve system in the presence of very high risks, because when they lend money to a merchant for instance to Syria, or to Damascus, or to England, it was very easy for the entrepreneur to run into a storm, or run into pirates, or to lose money or cargo anyhow. It would be a loss to the bank, and the rumor would spread. And, if it was a big loan, people would rush to the bank and try to withdraw their currency. Since they were operating on a fractional system, the coins would not be there. The money would not be there.

Sargent: Were these demand deposits? Were they redeemable …

Cipolla: Well, they also created, tended to create, saving deposits. They gave a higher return of interest if a person guaranteed to leave the deposit for a larger period of time.

Sargent: Do you know anything about the interest rates on these deposits?

CIPOLLA: Yes. They were not unreasonably high for that time. It was about 12-13%.

SARGENT: On demand deposits?

CIPOLLA: Lets say, to be safe, about 10 to 13%.

SARGENT: So, you describe this bank as beginning with a merchant who starts financing some of his own activities ... with these deposits.

CIPOLLA: Yes, these are the three. You had some loans made by the pawnbrokers, but they never developed into big banks. Moneychangers would develop into big banks.

SARGENT: They did?

CIPOLLA: And merchants, merchant banking especially would develop into banks, what we would call today the big banks.

SARGENT: Did the merchant banks tend to be associated with financing the enterprises?

CIPOLLA: Yes.

SARGENT: Of the merchants?

CIPOLLA: Then, in the course of the 14th century, there was the development of the bill of exchange. Initially the bill of exchange was a way of avoiding the transfer of currency from one place to another, which was always dangerous. Don't forget, when there was shipping of a big sum of money, there could be information leaking, and robbers ready on the road to capture the money. So currency was often smuggled in bags of wool, bags of other merchandise and so forth. To avoid this danger, the bill of exchange was developed, also in the 14th century. And, the bill of exchange was a complicated thing that involved four parties. Suppose that you – let me try to explain, it is very complicated. There are four parties. Suppose, you need money in Italy and suppose he is going to Italy and I am here and he owes money to you. What you do is: he goes to Italy, I write my brother in Italy to pay him Italian lira, when he gets there. In the meantime you give me dollars here, and you would settle with him and I will settle with my brother. So, there are two parties, two parties in the country of origin and two parties in country of destination. In this way the money remains, the currency remains, in both countries, and there is no transfer of currency from Italy to the United States. Here, the transfer of dollars from you to me; in Italy there is the transfer of liras from my brother to me. He remains indebted to you. I remain indebted to my brother. But by exchanging bills of exchange, because the things compensated with one another, they would find a way of compensating. I would compensate my brother through another bill of exchange. Now, the bill of exchange implied an exchange rate between the two currencies. And, the rate of exchange concealed the rate of interest, and it was not condemned by the Church because it implied a risk, that is, the risk in the movement of the rate of exchange, therefore, the compensation that I made, the profit that I would make, or you would make. There was a time lag; for instance, you give the dollar to me now, I write a letter to you, I give a letter to you, addressed to my brother, and you give this letter to him, he goes to Italy, he presents the letter to my brother, my brother pays the money to him. By the time you have given the dollars to me, and he receives the Italian liras from my brother in Italy, three months, six months, nine months might have passed. So there is a time lag, a time which has to be bridged. And it is bridged with the rate of interest which was included in the rate of exchange. We stipulate the rate of exchange of the dollar for lira is the one of today. Now, when they get the lira in Italy, and it goes to Italy in 9 or 6 months from now, the rate of exchange may have changed. I might have a loss. I might have a gain. Since I might have a loss, there is justification for the profit that I would make. So, it was one way that the canonists were not able to condemn.

Sargent: Did it matter if they condemned it?

CIPOLLA: Well, yes. The fact that it was not condemned made it the favorite instrument of credit for people who were fundamentally believers. And, they felt always a little bit uncomfortable in charging the rate of interest. At the time of death, in their wills, they would have to give some money to the Church, in expiation of the money they had gained.

SARGENT: What about the loan, interest on the loans that the merchant banks charged directly?

CIPOLLA: They charged a rate of interest which in the most advanced areas, like Florence, Genoa, Venice, Snages and so forth, if it was not above 12, 15% it was regarded as if it were legal. Don't forget that also states like the city of Florence issued treasury bonds, which were carrying interest in the 14th century. So the practice of a rate of interest was tolerated, so to speak. But the merchants felt always much more comfortable in dealing with the bill of exchange, which was clean. It was just like today, people in the United States have an objection to buying lottery tickets, feeling it is not proper to make money by buying a lottery ticket. It is not condemned, but there is traditional feeling of not. So, the bill of exchange became more and more an instrument of credit. I think that Professor DeRoover has exaggerated its role, in the sense that the bill of exchange continued to be an instrument for transfer of credits and payment of debts, without transferring currency from one place to another. But, it became also an instrument of credit in the sense that many bills of exchange that were made were issued without payment for mercantile activity. So, in a way the first bills of exchange were issued to transfer money in payment for a commercial transaction. Eventually, it became more and more frequent that they were just issued for credit purposes.

SARGENT: So, what period are you talking about when you talk about this growth?

CIPOLLA: These growths took place, especially in the 15th and 16th centuries. They became predominant in the course of the 16th century, when the Spanish crown was very heavily in debt. There was a tremendous amount of credit formation going on. It was mostly done through bills of exchange. So, about 1550, 1560, 1570, I would say about 90% of the bill of exchange movements around Europe were short term movements of capital, without any connection to commercial transactions.

SARGENT: Would bills of exchange involve more than four parties, sometimes?

CIPOLLA: No. It was always four parties.

SARGENT: He couldn't sell it ...

CIPOLLA: Oh, yes it could be sold. But, the original was drawn on four parties. Yes, you could sell the letter I gave to you, you could sell. Not at the very beginning, not in the 14th century, but in the late 15th, 16th centuries.

SARGENT: So were they resold?

CIPOLLA: They were resold. Then they could be made also with certain specifications of return, bills of exchange with another bill of exchange drawn in the country of destination towards the original party, so there were some variations around. Essentially, they remained structured in the way I described.

SARGENT: In terms of these, if they were sold, presumably they would be sold to parties who could verify the identity of the ultimate payer.

CIPOLLA: Yes.

TOWNSEND: Or the issuer of the letter?

CIPOLLA: Yes.

TOWNSEND: Did they countersign these things? If I'm carrying a letter from you, to go to your brother, I would meet a third party, and I would say this good for lira on a certain date. So what happened? He gets the letter. Do I sign on the letter to indicate that I'm giving it to him?

Cipolla: I don't remember seeing countersignatures, but I know it was done. The technicality I don't know. I've seen a number of bills of exchange with four parties involved, with their signatures.

Townsend: Was it known that it was sold, in the sense that there was a payment made for the letter, or is it possible that one of us was now in debt, that it was understood there might be a future opportunity to let the trade go in the other direction?

Cipolla: I don't understand the question.

Townsend: Well, if I find this third party and I give him this letter, that is good for lira, then I'm essentially giving him money which he can settle now by giving me some other coins or ...

Cipolla: I don't know. I don't at the present moment think of specific instances. I might have more time to think about it, to see some, to look in my notes. At the present moment, I don't see any documents that could substantiate an answer.

Townsend: So it's not known what the extent of circulation was?

Cipolla: Well, there was, especially in the 15th century the fairs of Geneva and in the 16th century fairs of Lyons, in France; these were important fairs for the compensation of the bills of exchange. These bills of exchange would be drawn on Lyons, and then compensation would be made at the fair between them, so that many could actually be paid without the transfer of currency. You might at the same time be a creditor from my brother and a debtor to someone who was a debtor to my brother, and all these things would be settled at the fair without the transfer of funds. So, there was a tremendous amount of expansion of these types of credits without the corresponding growth in the velocity of circulation of the currency.

Townsend: Is there any way to estimate the proportion of transactions that was settled?

Cipolla: No, but, we know it was enormous, because wherever you look at the ledgers of the merchants, especially of the 16th century, you find them always transacting through bills of exchange, which at the end of the era, were compensated at the fairs of Lyons, at that time, the most developed financial center for these things. Although the compensation was done at the fairs of Lyons, the ones who controlled most of the movements were the Genoese merchants, because by this time Florence had declined very much. Genoa had taken over because of its capacity to control the finances of the Spanish crown, which at that time, although it remained an underdeveloped country from the productive point of view, was the dominant country, the richest country, because of the silver. It's the same way that the Arab countries today are relatively underdeveloped but very rich, because they have oil. Spain was underdeveloped, as far as the productive manufacturers. But, it was extraordinarily rich; it was the dominant economy, because the whole world economy came to rotate around this flow of silver that came from Mexico, and then came to Europe, and then went to the East.

Chapter 14

Fairs

Townsend: What about clearance at a more regular fair? Not their enormous fairs.

Cipolla: No, mostly these bills of exchange, starting mostly from the 15th century, tended to be cleared at international fairs which in the 15th century were at Geneva and in the 16th century were at Lyons. And notice that the Genoese, who masterminded a good deal of the traffic, especially in the 16th century, never wanted to have the fairs in their own city. And I never understood exactly why. And when Lyons fell because of the deep trouble, they arranged a transfer of the fairs to Lasanne, a small city near Genoa. They didn't want to have them near, and there must have been some reason, which still escapes me. But they didn't. They controlled the whole business, but they didn't want to have it in their own city.

Townsend: What about the earlier fairs, in 13th century?

Cipolla: The fairs of Champagne.

Townsend: Yes.

Cipolla: There was a compensation of debts and credits at the fair.

Townsend: How did that work exactly?

Cipolla: Well, the compensation was not . . . Suppose you have a merchant coming from Italy to sell spices, or to sell some other Mediterranean produce, at the fair of Champagne, where he would buy mostly woolens from Flanders, or wool from England. And, you have a mass of merchants who do transactions. The transactions are not paid. They are marked on the ledgers of the notaries of the fair. And, at the end of the fair, only the differences are paid in coin. That is, if I sold you spices: you sold to one other fellow, wool; the other fellow sold to me something; then the credit and debts are balanced, and only the differences are paid.

Townsend: So, were these like bankers, these notaries or what?

Cipolla: No, the notaries were public officers of the city, who organized the fair, which were the four cities of Troyes and so forth. But there was no bill of exchange. Money had to be brought by the Italian merchants to the fair, and money had to be brought from Flanders by the Flemish merchants of the fair. Then the use of money was limited by the fact that only the differences in debts and credits were settled in currency.

Townsend: Is there anyway to know, again, the proportion?

Cipolla: No. But again, it must have been very high, judging from the fortune of the fair. People carrying the merchandise didn't care to carry also a large amount of gold and silver coin, because they felt that some of what they bought they could pay with the credits that they would realize from selling their merchandise. They carried some coins obviously just in case they would not be able to sell all the merchandise or they would find something else to buy. So they would still carry currency. There was still movement of currency. But later on in the 14th century, at Geneva and Lyons, there was only carrying of paper that was of bills of exchange.

Townsend: Let me see if I understand. I'm coming up from Italy with spices to trade, and let's suppose I sell it early on, the first or second day of the fair, then...

Cipolla: Then you have on the ledgers of the fair that you are a creditor.

Townsend: In what? In some unit of account?

Cipolla: Yes, unit of account of the money of the local region.

Townsend: When I'm selling, I'm negotiating a price?

Cipolla: Yes.

Townsend: So both of us go to the books of the notary and announce the transaction and the price.

Cipolla: The official. There he was not called a notary. He was called an official of the fair. And he noted the transaction, then, under your name, and you would appear as a creditor, or as a debtor for the spices you had bought from me, but you would appear as a creditor for the wool you would have sold to another person. Then they looked at all the combinations, that there were ...

Townsend: So at the end, they'd say, "look, you're credited for the sale of spices, but you are debited for the purchase of wool, here is the difference."

Cipolla: Here is the difference, and you see which one gets the difference and which one would be paying. But, there was still transfer of currency, and this was a bother for most of them because of danger of the transfer of currency.

Townsend: Are these clearing books available?

Cipolla: Yes, I think some are available.

Townsend: Do you think they noted the prices down, and quantity sold or just the fact ...

Cipolla: I never saw those in clearing books. I never ... the bill of exchange was practically the instrument that allowed the credit expansion in the following centuries.

TOWNSEND: Then, if you were indebted, you could write a bill to settle the debt?

CIPOLLA: Not at the time of the fairs of Champagne, because the bill of exchange had not yet been developed. Later. But, with the end of the 13th century, the fairs of Champagne finished. They finished for a number of reasons. First of all because of war. Second because of interference of the King of France who occupied the territory, and limited the freedom. Then, there was an important development, the development of the technology of navigation, the circumnavigations of the Iberian peninsula. So the Italian merchants from Genoa and Venice would have galleys going directly to Flanders and England without having to go through the fairs of Champagne. So the combinations of wars; intervention of the King of France, which for fiscal purposes controlled all the territorial fairs of Champagne before it was independent from France, and controlled it in taxes; and the growth of a direct connection between the South and the North via navigation around Portugal and Spain, these meant that the function of the fairs of Champagne disappeared. Then there was development in the 15th century of the fairs of Geneva, but that was already related to the development of the bills of exchange, as financial transactions. Incidentally, the growth of these navigations around the Iberian peninsula was very important because it meant that a country which at the very beginning was at the periphery of Europe, Portugal, was brought into the mainstream of economic and technological development, and it was on that basis that Portugal developed navigational techniques that allowed it to go down the coast of Africa. Incidentally, gold production in Europe was at a low and the gold came mostly from Africa. And most of the gold came from Northern Africa, came from Sudan, through Egypt and came to the gold coast of the Sahara Desert by caravans and was sold in Algeria and Morocco. The Portuguese, by coming down along the coast of Africa, reached this source of gold, western African gold, and brought it directly to Europe on their galleys.

Sargent: When was this route from Italy to Flanders opened?

Cipolla: 1280's.

Sargent: Was that technological or partly military? Was Gilbraltar controlled by the Moors?

Cipolla: No, I think it was the construction of better galleys, and galleys which could stand the ways of the oceans. Men never became very efficient at the sailing ships. In fact, Portugal never adopted the sailing ships. The galleys were very good for oaring.

Sargent: Oh! These were galleys that were going ...

Cipolla: Galleys, yes. The galley had some sails, but the main energy came from human beings in the form of oarsmen.

Sargent: And this was true of these ships that Portugal sent to West Africa?

Cipolla: No. Portugal developed at the beginning of the 15th century a type of ship called Caravel, which was a combination of the Northern sailing ship, and some of the smaller sailing ships of the Mediterranean type. Finally, set at the confluence of these two traditions, they developed the hybrid type of sailing ship which proved very good for explorations. So, most of the explorations of the Portuguese were made in Caravels. In fact, two of the boats that Columbus came to the United states in were Caravels.

Townsend: Let's get back to the banks, a little bit. In the fractional reserve system, is there evidence ... there was first of all some distinction between saving deposits and demand deposits?

Cipolla: Yes.

Townsend: I'm always wondering to what extent depositors knew that the bank was under a fractional reserve.

Cipolla: I think they knew it.

TOWNSEND: So, they knew that their funds were at risk?

CIPOLLA: They knew it, and they were. The bankers did not enjoy limited responsibility. The joint stock company did not exist yet. Even the merchants were fully responsible with all their wealth for the debts of the company. One way of protecting yourself, if you were a merchant or a banker, would be to put some property in the name of your wife. But anything you had, you owned – land, real estate, houses, silverware in the house, anything, – you would be obliged to pay your creditors. And there would be no limit; what you put at risk was not only the money that you put into the company or the bank but was all your wealth. This was one way of giving some insurance to the depositors, like to people in debt to the merchants. And this is why, for instance, the merchants would make trading companies that would last at a maximum of two or three years. It was very important to close the account. So they don't have long contracts, these companies. The banks operated on a long term basis. But, as I say, when bad news spread about the loans of a bank, there would be very easily a run to the bank, and the trouble was that there was no lender of last resort.

SARGENT: Was there mainly . . . did runs extend from one bank to another or was it mainly just one bank at a time?

CIPOLLA: It was mostly just one bank at a time. But, there were cases in which there was a run more widely. There was a case, for instance, which I have studied lately, very interesting, in which in Florence, in 1575, there was a crisis in one bank. The bank had been granted the treasury service, for the treasury. These people who had to pay taxes would pay through the bank. The bank on the basis of this money created the usual inverted pyramid of credit. They extended credit to people on the basis of the money that they had not used as a reserve. At one point, because of a conflict that arose between the government and the management of this bank, the government withdrew the treasury service from the bank. So, the bank found itself very short of reserves. And, then to shrink the credit very much, it found itself also having great dearth of liquidity. This spread to other banks in Florence. So much so that in the 70's it was very difficult for people to get coins when they wanted coins from the bank, and this was especially felt on Saturdays when the manufacturers had to pay their workers, who were paid in cash. We have a very good description of this crisis from the chronicle of the times. Type Mr. X, a depositor of the bank, would go there to collect coins to pay his workers on the Saturday at the end of the week. The bank would not be able to pay him, but said he would be paid with a check on another bank from which the bank had credit. So technically, the bank was solvent. It didn't have coins, but it was solvent because they could prove on the books that they were giving you a check which was covered by a credit from another bank. Then you would go to the other bank and the other bank would do the same with another bank, so practically there was no failure. But as the chronicle of the times said in a very telling phrase, the banks paid only with ink, rather than with coins. I like this expression; they paid with ink!

Sargent: And did they stay ... survive?

Cipolla: The thing went on for a while, for about 2 or 3 years. Then one of the big banks collapsed. But, the other banks were able to survive. There was not a domino effect.

Sargent: There was not?

Cipolla: There was not. There was a domino effect in Venice. Now I don't remember exactly. There were two crises, one at the end of the 15th century, and one at the beginning of the 16th century. I would have to look at my notes to see the precise dates, in which there was a domino effect. The bank would collapse, and another bank would collapse. In fact, it was at that point, after one of these big crises, that the government of Venice made the proposal that was actually carried out of establishing a bank that would operate on 100% reserve, as a substitute to the other bankers who were very private bankers. . .

SARGENT: And they co-existed?

CIPOLLA: No. Practically, there were still some small banks that were on the fractional, but people would use the bank with 100% reserves. But, this didn't last long, because after a few years the government needed money. So what it did, it said, the bank will have 100% reserves consisting of treasury bonds. In this case the bank could fail because there would be an issue coins ... very difficult because coins were of metal not of paper, so you needed to have the metal ... But the 100% reserve became 100% reserve in treasury bonds.

SARGENT: Was there generally free entry and competition during this period?

CIPOLLA: Yes. Well, there was a free entry limited by the fact that you needed to have a good reputation within the place, as a man of means to convince people to deposit money. So normally members of some wealthy family would open the bank. What baffles me is these statistics, which were known, because, as I said, there was that speech given by this fellow in the Senate of Venice, who said in the last 100 years or so there had been 97 banks created in Venice and 95 ended up in failure. These facts he could have exaggerated very much, because he was talking to the Senate of Venice, and if he had said a ridiculous figure, he would have been laughed at. And the research of an American fellow by the name of Richard Mueller, who is doing the history of banking in Venice shows that the figure was correct with some approximation. So these figures were known; it was known that starting a bank you would end up in failure. And yet you would still have people coming into the business, thinking that they would do it.

SARGENT: These failures tended to be prompted by failures of private loans or government loans?

CIPOLLA: In the case of the Barbi and Peruzzi in the 14th century it was failure of public loans. In the cases of the Venetian banks it was mostly private loans, – to merchants who would go to the East, and then there would be a storm that would destroy the cargo or some major losses. They would not be able to repay the bank. Since this was obviously of immediate knowledge in the city, in the community, people would rush to withdraw their coins, and the coins would not be there, the money would not be there. And these cases, actual failures, banks who were not able to show that they had credits from other banks, they were simply short of money, of assets.

Sargent: This was very much a failure of a corporation.

Cipolla: Yes.

Sargent: Like a corporation's bonds going bad because ...

Cipolla: Yes, with the only difference that you had to run to the bank because, and the problem was they didn't have the cash to pay you back.

Townsend: Is there evidence that they were physically running to the bank and waiting there in line?

Cipolla: Yes. Yes. There were very good descriptions of the panic that often occurred in these cases.

Townsend: This example you just gave, of a shipping venture to the East, this was like the merchant bank that had underwritten its own shipping operations?

Cipolla: Well, in that particular case, in Venice, banks were actually acting only as banks. It was a family. It was members of a big family, with other members who might be in trade. These members set up these banking companies which operated only as a bank. The intermixture was often through the family connections. These families with lots of wealth. Some set up the merchant company, some set up a bank. Although some of the banks of the Florentine type were merchant banks, were combined. For instance, the Medici bank, – there is a book I recommend that you read, by DeRoover – it was not purely a bank; they were both manufacturers and traders. They would practice banking; they would practice manufacturing; they would practice trading. In Venice, they had more specialization, of just banking.

Townsend: In any event, in this example, the public knew that a large part of the bank's portfolio was in a particular line of enterprise so that...

Cipolla: Well, don't forget that a city like Venice, at the top of its development, counted about 100,000 people. It was as large as Berkeley. It was a small world. And out of these 100,000 people, given the demographic structure of the times, half were children, so you were down to 50,000. Out of these 50,000, half were women, so you were down to 25,000. Out of these 25,000, 20,000 would be workers, sailors, and so forth. So the merchant community, the financial community would be a few thousand people. And they knew everything. So information would circulate rapidly. In fact, this is one of the extraordinary things. When you think of the Renaissance ... You can make similar calculations for Florence, and you will come out with the result that the Renaissance was the product of two, three thousand people. The huge Portuguese empire which ranged from Brazil, to Macao, to Angola, to the Ginian Coast, was a few thousand people.

Townsend: I guess I'm still baffled ... by their knowing that they were investing, essentially, when they put their money in the bank in a risky portfolio ... when they put their money in they knew the nature of the trading expeditions and they knew in advance that there were failures. And still they had these demand deposits, which create ...

Cipolla: Well, it was a tremendous convenience. It was yielding interest, it was a convenience, it was dangerous to keep the money at home because of robbery. So, the combination. It was a tradition, it had been an established tradition to deposit some money in the bank in order to pay through transfer of deposit.

Townsend: Is there anyway to estimate the proportion of transactions that would be concluded through bank transfers, as opposed coins?

Cipolla: Oh, I would say that of the big transactions, the big commercial transactions, 90% would be made to banks.

Townsend: Before you were saying the banks paid the workers in coin. So some people did not have accounts at the banks?

Cipolla: I was talking about Florence, and we have the evidence from these chronicles that on Saturday the employers went to the banks in order to get coins out of the banks to pay the salaries in coin. So I suppose what they needed was mostly petty currency, the silver token, that I mentioned, to pay the wages, which normally involved little amounts, per wage. Only the sum was a larger amount. But we have evidence in Florence, that workers occasionally would except checks. That was probably in the cases when cash was not available. Florence also had for some period in the 15th century the policy of maintaining the currency stable, which for the reasons I explained last time, provoked a shortage of coins. Then they debased, when the situation became too critical. One of the reasons for debasement, which I mentioned last time, was exactly to avoid these crunches, of shortage of liquidity in the market in the form of coins.

Townsend: You mentioned a little earlier that there were government bonds and a market for those bonds?

Cipolla: Yes. At the very beginning, for the first cities to issue bonds . . . the expression "bond" was not exactly correct. Suppose, I am the government, and I need money. As I said, especially there was this growth of need for money, for revenues at the beginning of the 14th century because of development of technology of war. This was mostly the development of artillery, the development of mercenary armies. So, suppose we are in Florence and my government needs more money. Instead of debasing the currency, as the King of France would have done it, I would raise taxes, but essentially relying on loans, which could be voluntary loans or compulsory loans. That is, your wealth was valued and if you were a person of certain wealth, you might be obliged to give to the government a certain amount of loans proportional to your wealth.

Sargent: And how would they service these loans?

Cipolla: With taxes. Mostly nondirect taxes. Mostly custom taxes. Now, I said that it is incorrect to speak of bonds, because what we do if you lend me money whether it's voluntary or forced, is that I would not give you a piece of paper but I would write your name on a book, just like with the bankers that we mentioned before. That is, you would be credited on the books of the treasury with a credit that would give you the right to so much interest per year. Normally, the rate of interest was 5 percent, but when the need grew very much, in the middle of the 14th century of Florence, Florence adopted, since it couldn't go too much higher the rate of interest because of the objections to the rate of interest, they adopted a trick: you would lend to me, the government, 5 florins, I would write on the book that you had given me 15 florins. So you would get a 15% rate of interest, instead of 5%. And, plus you would make a capital gain, if I would return the capital. Now, at the very beginning, these credits were not transferred.

Townsend: Not transferred?

Cipolla: No, not at the very beginning. But, very soon, when a crisis of liquidity developed in Florence about that time, they would make transfers. They would make transfers in the same way that banks would transfer. That is, you would go to the treasury office, and in front of you, and in front of the person from who you would buy from you, the creditor of the government, would go the name of the one who would be the creditor of the government. His name would be written down on the book, instead of your name. So, there were no bonds that would be transferred physically. But on the books of the debt of the community, one name would be transferred from another, just taken from the books of the merchants, one name would be put down instead of the other.

TOWNSEND: Are the books available?

CIPOLLA: Those books are available. There is a complete set of books for Florence that goes from 14th century to the 17th century.

TOWNSEND: So, in Florence there is a complete set of books!

CIPOLLA: Yes, a complete set of books. And there was a market, also for Venice, with a complete set of books; and that was a very active market. That is, in periods when the political situation deteriorated, or the fiscal situation of the government deteriorated, the price of these "bonds" which would be better defined as credits, would go down, often go down 30% of the nominal value, which would increase very much your rate of interest, just like bonds. The government would still pay the regular 5% interest. But, instead of you paying 100 florins, that you paid the government when you got the credit, the person who would buy from you, would buy at 30 florins. So, he would get 5 florins out of 30. So, the people with lots of cash could make very good profits. So, there was a very active market. And this already started from the 14th century.

SARGENT: Would you describe the loans of the Italian Banks to the governments of England and Spain? You were describing this process a little bit yesterday.

CIPOLLA: Yes, in the case of England, it was really an advance of currency, to finance the wars, of the expenditures of war at the start of the war with France. And they obtained promise of repayment, in the form of customs, revenues from customs. In a way, the King of England promised to pay you revenues from the crown in future years. In fact, he got too much money and he ended up declaring bankruptcy, he declared that he couldn't pay.

SARGENT: This was Edward?

CIPOLLA: Edward, yes. The news came to Florence, so that there was a rush on the bank, people who had deposits on the bank. The deposits were in corpo and they wanted back their money.

SARGENT: So, did they default on everything, the principle?

CIPOLLA: Well, he defaulted temporarily. What he did, he stopped payment accusing the Florentines of charging him too much interest, like the Argentinians and Brazilians are accusing the Americans today of charging too much interest and so forth, and then charging them of mismanagement. The Florentines counterattacked by trying to prove that the accusations were false. Eventually, an agreement was reached for delayed repayment, but that caused the weakening of the international market, the Florentine market, and there was a rush to the bank. They didn't have the money to pay so had to declare failure. In the case of the Genoese, the Genoese were much more – now we are talking about the 16th century, two centuries later – they were much more developed. And they used, literally, bonds, they were called juros, juros and haciento for which, they collected money which they lent from practically all over Europe. They lent to the King of Spain against buying juros, which had a good market because they had a high yield. And the yield on these juros was paid with the revenues of the crown, from the silver that would come from the Americas, or from the taxes. But, about 5 times between 1557 and 1620 the Spanish government declared default. The default, however, was never a complete repudiation of the debt. It was a repudiation of the interest. That is, the Spanish crown would say: now I am bankrupt, and I am bankrupt because they charge me too high of interest. So we renegotiate, and we renegotiated a lower rate of interest.

SARGENT: And eventually more loans were forthcoming?

CIPOLLA: Yes, eventually they needed more money: so they agreed to more loans at a higher rate of interest.

SARGENT: What were the Spanish financing by this?

CIPOLLA: They had practically, three major wars that they were constantly fighting. The Wars against the Turks, against Holland, and also against France. The wars against Holland were mostly religious. The Netherlands were a part of Spain, because of the inheritance of Charles V, but Northern Netherlands refused to accept the Inquisition, so they started a major war. Spain felt that it had to maintain a hold on the Netherlands, that was territory that belonged to the King of Spain. And this struggle continued from practically 1570 to 1648. Then they had the war with France, who feared the predominance of Spain because it was encircled. It was Spain to the South and the Spanish Netherlands to the North, and Spain belonged to the Hapsburgs, who controlled also Germany. So France felt encircled. So, France from 1500 to until 1640, at intermissions, constantly waged war with Spain. Then there was the war against the Turks. And by this time wars were very expensive, paying for mercenaries. So, practically Spain squandered all its treasure on its wars ... military expenditures, starwars.

SARGENT: There were no Spanish or English banks that those monarchs could tap at that time?

CIPOLLA: The English had started to develop, but they were still very underdeveloped from the financial point of view. And there were some Spanish bankers, but they did not have the techniques of the Genoese, maneuvering the juros and the bonds and the treasury debts that the Genoese had. In fact, by 1580 Phillip the II got fed up with the Genoese and the high rate of interest that they charged, and he tried to get the support of the Florentine capitalists, but the Florentine bankers didn't prove adequate, and he had to go back to the Genoese bankers. The Genoese banking system lasted practically until 1620, 1630. Then after another of the repudiations, another declaration of defaulting of the Spanish debt, the Genoese definitely withdrew. And that position was taken by the Jewish merchants of Portugal, who were very rich. These were Jewish merchants who had adopted the Christian faith in order to remain in Portugal, not to be expelled. And they were very skillful, and from 1620 to about 1700, the Spanish crown counted on the Portuguese Jews. So for the Spanish crown, the first support between 1490 and 1530 was from the southern German bankers, the Fuggers, who had started banking on the basis of the big discovery of silver that took place at that time in Southern Germany. They were substituted by the Genoese from about 1530, who controlled practically the Spanish finances until 1630. Then they were substituted by the Portuguese Jews from 1630. But, from 1630 onward, Spain was on the decline, so the needs of the finance were not as great as in the period of Philip II.

Cipolla: Well! I am sorry we have come to an end!

Townsend: It was very enjoyable.

Sargent: Yes. Thank you. Thank you.