Lecture 6:

August 5, 2002

GOLD STANDARD UNIVERSITY

Summer Semester, 2002

Monetary Economics 101: The Real Bills Doctrine of Adam Smith

Lecture 6

THE INVENTION OF DISCOUNTING

- The Second Greatest Story Ever Told, Chapters 4-6 -

- The Origin of Discount -

- The Discount Rate and the Rate of Interest -

Why Is This Story Important?

I got several comments from my audience to the effect that the story on the invention of real bills and discounting has only historical interest, and hardly any relevance to contemporary affairs. Actually, if the world is ever to return to a gold standard, we have to understand how it worked in the past. My researches show that economists have not succeeded in explaining its operation. They approached the issue from the position of mercantilism and from that of the Quantity Theory of Money. For example, they explained the adjustment mechanism governing foreign trade in terms of the international gold standard as follows. A country running a trade surplus is gaining gold while another running a deficit is losing it. The money supply of the surplus country grows, and that of the deficit country contracts. Other things being the same, there will be an increase in the price level in the surplus and a decrease in the deficit country. In the absence of trade barriers the surplus country will export less and import more, while the deficit country will export more and import less. This process will continue until the trade surplus/deficit disappears. International gold flows tend to reestablish equilibrium in the foreign trade accounts of gold standard countries, through their effect on the price level. So goes the argument. However, the available trade statistics show that this was not at all what was happening. International gold flows were negligible, and they were moved by other factors than payment for net imports. In fact, the adjustment mechanism worked not on the relative price levels, but on the discount rates of the trading countries. We must have a new theory of foreign trade, purged from the influence of mercantilism and the Quantity Theory of Money. In these Lectures I intend to develop this new theory of the gold standard in terms of the Real Bills Doctrine. Let us now return to The Second Greatest Story Ever Told.

Chapter Four

in which the gentle reader learns how discounting was invented

The weaver-on-clothier bill was singularly well-suited to play the role of means of exchange. The clothier came into daily contact with the gold coin in the course of his business (by contrast, the weaver and the spinner didn't see much gold in the pursuit of their trade). Often the clothier found himself in the position that he could prepay the bills he has accepted, sometimes well before maturity. But our clothier was a very shrewd man, with a perfect grasp of the reality that moved merchandise in one while moving bills in the opposite direction. The clothier would prepay the bills he has accepted *only for a consideration*. In more details, whenever people asked him to prepay a bill before maturity, as the weaver often did, he would offer *to discount it,* that is, to apply a reduction to the face value of the bill proportional to the number of days left to maturity. The weaver didn't object to receiving less than the face value of the bill. He needed ready cash, and he could not get it on any better terms than discounting his bills with the clothier. For his part, the clothier wanted the custom of the weaver as an obvious supplier of bills for his budding discount business, so he would offer the best terms to him he could. The discount was an income for him that the gold coins in his till could not otherwise generate. Clearly, both parties benefited from discounting. After this latest innovation people no longer talked about *paying* a bill; they talked about *discounting* it.

The origin of discount is merchant custom. The sale of cloth by the weaver to the clothier is not final until the bill is marked 'paid'. The cloth is on consignment. Payment at maturity is subject to the sale of cloth to the ultimate, cash-paying customer. Payment before maturity is certainly not a matter of right; it is a matter

for negotiation. *The height of discount depends on the intensity of consumer demand* as observed by the acceptor of the bill. If the demand is brisk, he will be satisfied with a smaller discount. But if the demand is slack, then the acceptor who still has an unsold inventory on hand to worry about - which he will, after discounting, carry entirely at his own risk - must insist on a larger discount. He wants to be compensated for the increased risk of carrying inventory that he may not be able to sell except at a loss.

Soon enough the clothier started posting his *discount rate*, that is, the amount of discount in cents, per $100 face value per day. For example, if the discount rate is 4 ¢, then a bill of face value $1,500 maturing in 50 days will be discounted to $1,500 - 15x50x4¢ = $1,500 - $30 = $1,470 since $1,500 = 15x$100. The clothier reserved the right to adjust his posted discount rate, every day if need be, to reflect the changing mood of the consumer.

No Lending Is Involved in Discounting

It was a later development that an annualized discount rate became the norm of quoting it (even though the credit involved would never ever exceed 91 days). For example, if the bill with $100 face value had 91 days to run to maturity, and was discounted to $99.50, then the discount rate was 2% per annum. Indeed, 4x91 days = 1 year, therefore, on an annualized basis, the discount is 4x(100 - 99.50) = 4x½ = 2 percent.

The fact that the discount rate is quoted on an annualized basis, the same as the rate of interest (in spite of the fact that the bill will mature long before a year would go by) has led to a curious mistake that was not free from its more ominous consequences. It has been suggested that discounting a bill is just another way of making a short-term loan, and the discount is nothing more or less than interest on the sum to be loaned, taken out of the loan in advance. In this (erroneous) view the discount rate is just another name for the short-term rate of interest. It would follow that there are no new problems here to study: in this (erroneous) view the source of discount rate is the same as that of the rate of interest, namely time preference (or its reciprocal, *the propensity* to save).

This was one of the most damaging mistakes ever made by economic theoreticians. In fact, *there is no lending and borrowing involved in the act of discounting*. The clothier is not lending and the weaver is not borrowing (nor is the clothier retiring a loan owed to the weaver) when the former discounts the bill before maturity for the latter. The discount rate has nothing to do with time preference (or its reciprocal, the propensity to save). It has everything to do with the propensity to consume (or its reciprocal, the productivity of the Social Circulating Capital, a concept I plan to introduce in a later course).

All participants of the bill market take to heart the admonition of Polonius to his son, Laertes:

Neither a borrower, nor a lender be,
For loan oft loses both itself and friend,
And borrowing dulls the edge of husbandry.
(Shakespeare, Hamlet, Act I., Scene 3.)

Shakespeare may sound hopelessly outmoded to our ears in the 21st century. Yet it is quite possible that he saw something that most others have failed to see. The advice of Polonius is not meant for everybody. If there is a lesson to be learned from the endless disputes about usury, usurers, and about the advantages or disadvantages of lending or borrowing, then it must be this. To make or take a loan is an *art* that cannot be profitably cultivated just by anybody. This art, no less than any other, has to be learned, practiced, refined, and rehearsed by both the lender and the borrower, each on his own turf. Implicit in Shakespeare's line is the fact that not every form of credit may involve a loan, lending and borrowing. It is precisely that form of credit we are studying here, that arises through clearing, epitomized by bill circulation and discounting, that ought to be available to everyone - whether one is artistically inclined or not.

Indeed, credit can and does arise independently of lending and borrowing. When the weaver draws a bill on the clothier, he *is* extending credit, yet he *is not* a lender and the clothier *is not* a borrower. Nor should the transaction consummated be regarded as a loan. The perception that the drawer grants a loan to the acceptor when he delivers goods against payment in the form of the bill accepted, or the perception that the acceptor repays the loan to the drawer when he discounts the same bill before it matures, is entirely fallacious and must be resisted by all means. *The credit is an integral part of the deal, by virtue of the momentum of the underlying merchandise moving apace*. By standard merchant custom, the terms "91 days net" are part of every such commercial deal. Stated otherwise, prices quoted by the wholesaler to the retailer are *discountable* prices. The amount of discount depends on the number of days the credit is used, and on the discount rate prevailing at the time of payment.

The Discount Rate Is Independent of the Interest Rate

Time preference, that determines the rate of interest, has nothing to do with the discount rate. Discounting is not governed by the *sovereign saver*. It is governed by the *sovereign consumer*. As we have seen, it is the consumer's slacker or brisker buying that makes the discount rate rise or fall. We express this by saying that *the discount rate varies inversely with the propensity to consume*. (By contrast, the rate of interest varies inversely with the propensity to save.) The conceptual difference between the two rates was observed by John Fullarton writing in his book *On the Regulation of Currencies* as follows:

"It is a great error indeed to imagine that the demand for . . . the loan of capital is identical with a demand for additional means of circulation, or even that the two are frequently associated. Each demand originates in circumstances peculiarly affecting itself, and very distinct from the other. It is when everything looks prosperous, when wages are high, prices are on the rise, and factories are busy, that an additional supply of currency is usually required . . . whereas it is chiefly in a more advanced stage of the commercial cycle, when difficulties begin to present themselves, when markets are overstocked, and returns delayed, that interest rises, and pressure comes on the bank for advances of capital" (*op. cit.*, p 97).

The confusion between the discount rate and the rate of interest has also been noted by Charles Rist in his *History of Money and Credit Theory from John Law to the Present Day*:

"Identification of the discount rate with the interest rate, which is frequent among English writers, is an unfortunate source of confusion" (*op. cit.*, p 315).

Achillean Heel of the Quantity Theory

The idea that the bill of exchange can circulate on its own wings and under its own power is often ridiculed by advocates of the Quantity Theory of Money, as I have pointed out in Lecture 3. The vicious attacks of monetarists, including those of their high priest Milton Friedman, on the Real Bills Doctrine mark the Achillean heel of the Quantity Theory of Money. It shows that an increase in the quantity of purchasing media need not cause a rise in prices. If the new purchasing media emerges simultaneously with the new merchandise, and the two disappear together as the latter is removed from the market by the ultimate cash-paying consumer, as in the case of financing the production and distribution of consumer goods by bills of exchange, *there will be no price rises on account of the increase in bill circulation*.

Detractors of the Real Bill Doctrine argue that several bills can be drawn on the same merchandise on its way to the market. So they can. But as I have pointed out in the previous Lecture, only the most liquid one, the bill drawn by the supplier on the seller of *first order goods* will be put into circulation. Just what the order of the underlying good is should be clear from the information provided on the face of the bill. If an additional bill on the *same* good is put into circulation, then, clearly, fraud is involved. It is disingenuous to attack a theory arguing that it fails whenever fraud is present. On that basis, every theory can be dismissed as worthless.

Demand for Real Bills

We have seen that the spinner and the cotton dealer were happy to hold the weaver-on-clothier bill to maturity. As soon as discounting became a universal practice, the demand for these bills has greatly increased. Other tradesmen also found it to their advantage to hold the bills to maturity. They looked at bills as a unique instrument combining two seemingly contradictory features: (1) that of an earning asset, (2) that of a medium of exchange. In fact, bills provided the only way to generate an income on cash holdings. Usually an earning asset is illiquid in that it takes time and, sometimes, monetary losses to liquidate them in a hurry. With the appearance of discounting this has changed. Now tradesmen could earn an income on that part of their circulating capital which they had to carry in the form of cash. As most businesses were cyclical in nature, they had to face a fluctuation in their cash needs. It was a most welcome development that they could generate an income on their cash holdings especially at the time they were entering their slow season.

In the next Chapter of The Second Greatest Story Ever Told we shall see how the demand for real bills snowballed as people discovered their great versatility.

Chapter Five

in which the gentle reader learns how the wily clothier shifted his cross of gold onto the shoulders of the miller

One day the weaver's loom broke down and was found beyond repair. The weaver had to get a new loom in a hurry. He did not have the ready cash, but he had a pile of maturing bills drawn on and accepted by the clothier. He visited his colleague and offered him the bills at a good discount. The clothier was anxious to help. An interruption in the supply of cloth would hurt his business, too. But he could not come up with the necessary sum in gold. However, as we have said, the clothier was a very smart man, and his advice was worth gold. "Why don't you offer these bills to the loom-maker in payment for the new loom?" the clothier suggested. "If the spinner found them attractive to carry to maturity, so should the loom-maker."

As predicted, the loom-maker was happy to take the weaver-on-clothier bills. He looked at these bills as a liquid earning asset which could be passed on easily if the need arose. The weaver found the discount rate offered by the loom-maker acceptable. He endorsed the bills, thus transferring the title to the proceeds to the loom-maker. Once more, there was no interruption in the business of satisfying consumer demand due to a shortage of gold coins. The versatility of the bill of exchange drawn on consumer goods in demand, and its potential for circulation, was proved again. The weaver-on-clothier bill could circulate even outside the small circle of tradesmen engaged in the production of cloth.

As it happened, next morning the clothier had a field day selling out his entire inventory of cloth. As his till was now flush with gold coins, he thought that his cash could with advantage be put to some use. He recalled that the previous day the weaver was offering his bills for discounting. So he emptied the contents of his till into a large purse, and walked over to the weaver's. There to his chagrin he found

that his earlier advice to the weaver was 'too good'. The weaver told him that he had passed on all the weaver-on-clothier bills to the loom-maker. Since the clothier felt uneasy with that much gold on hand, he decided to walk over to the loom-maker and offered to discount the bills he had come into the possession of earlier. But the loom-maker had disappointing news, too. He had in the meantime passed on those bills to the bricklayer in payment for work on the extension to his loom-factory. "If you hurry you might catch him, he left the premises scarcely an hour ago".

The clothier was annoyed. He wasn't going to run after the bricklayer. He saw that he could only blame himself. Here he was, foolishly chasing his own bills. "And they call this division of labor", he fumed, looking at the heavy purse of gold he grew tired of carrying. "Someone ought to do something about it, and let me mind my own business!"

Luckily, the flour mill was next door to the loom factory. The clothier got an idea. "I shall be damned if I ever go on wild goose chase again", he said to himself. "They will surely come home to roost, on their own wings, in their own good time - and so will my bills!" He dropped in to see the miller, asking him whether he wanted to get rid of some of the miller-on-baker bills in his possession. "I just thought you need a few extra gold coins. You must be buying grain to fill up your bins. It's harvest time."

As far as the miller was concerned, it was a deal. They didn't quibble long about the discount rate. The clothier let out a sigh of relief as he exchanged his gold coins for the bills endorsed by the miller. "It is high time, too", he said to the miller and added, jokingly: "I got tired of carrying my heavy cross of gold. It is your turn now, to take up the burden."

The clothier was pleased with himself. He was the type of man who would always turn adversity into advantage, by looking for a moral. Just as he thought: he had no trouble, after all, unloading his 'cross of gold'. There were always willing takers around.

The fact that the loom-maker and the bricklayer were happy to take the weaver-on-clothier bills in payment was a very significant discovery indeed. It proved that maturing bills of exchange on merchandise in great demand were perfectly acceptable as purchasing medium. Whoever got the bills had no doubts that he could also pass them on without difficulty, should he have to make an unexpected payment before the bills have matured. And if he kept the bills, he would earn a welcome return on his cash holdings.

While the bill of exchange was a good substitute for the gold coin, it was not a 'perfect' substitute, as the baker found out when he offered weaver-on-clothier bills in his possession to the grain merchant when the miller-on-baker bills came up for payment. "Don't take me for a fool!" the grain merchant told the baker angrily.

This paper clearly calls for payment in gold, and not in another piece of paper! If you haven't got gold, then you are in violation of your contract!

The grain-merchant was right. At maturity the miller-on-baker bill must be settled in gold. The idea of settling paper with more paper suggests fraud. A bill that at maturity can only be paid by drawing another stinks. The bill of exchange *must* be settled in specie at maturity. How otherwise could the holder of the bill be sure that he wasn't being taken for a ride? This reveals a function of the gold coin in which no other means of payment can deputize for it: gold is the philosopher's stone, the only one with which the quality of outstanding credit can be gaged. (In future Lectures we shall see other instances where the gold coin cannot be substituted by paper currency.)

Social Circulating Capital

In Lecture 4 I introduced Adam Smith's concept of the Social Circulating Capital. It can be visualized as that mass of goods that society is appropriating *strictly for the purpose of imminent consumption* during the next 91 day period. This mass of goods is far from being static. It is dynamic in the sense that its size and composition is changing constantly, following the proverbially fickle demand of the consuming public. I also proved the theorem that an item belongs to the Social Circulating Capital if the bill drawn on it will circulate - or, using our new term just introduced, if the bill can be discounted; if not, then the underlying item does not belong to the Social Circulating Capital. In the next Chapter we shall see that the unique quality of a good to belong to the Social Circulating Capital has to do with the drastic reduction in uncertainty concerning the path that good will follow as it is moved closer to the ultimate consumer. The risks of tradesmen in moving that good have been reduced to their irreducible minimum.

Chapter Six
in which the gentle reader learns why cloth can, but bricks cannot, fly

It was the beginning of winter when somebody was knocking at the weaver's door. It was the bricklayer. He recalled that in the summer he had held some weaver-on-clothier bills the loom-maker gave him in payment for work done. This time he wanted to get it right from the source. He has brought the gold coins along to save the weaver the trouble of carrying them himself.

The bricklayer was trying hard to please the weaver. His business was rather slow in the winter, and he wanted to earn an income on his idle cash. He looked at the bill

of exchange as an appreciating asset: every day it was worth more, right up to the day of maturity. By its very nature, the bricklayer's own trade did not generate any bills of exchange. His bills could never hope to circulate. Money sunk into brick and mortar was not the same as money put into fast-moving goods such as cotton, or wheat, within earshot of the cash-paying consumer.

The bricklayer was not jealous. He understood perfectly well that the preferential treatment given to the weaver-on-clothier and miller-on-baker bills, but not to the brickyard-on-bricklayer bills, was bestowed by the market for a good reason. The discrimination had to do with the nature of the underlying merchandise, and had nothing to do with character or personal honor. Brick is not consumed in the same way as cloth. It is used in building houses which are not bought and sold against cash payments representing the full purchase price. Therefore the production and distribution of bricks is financed quite differently from that of cloth. The fast movement of cloth to the consumer can generate bill circulation; the much slower movement of brick cannot. The movement of bricks to the consumer must be financed through lending and borrowing.

The weaver was pleased to comply with the request of the bricklayer. He even took a standing order for weaver-on-clothier bills to cover the winter months when the construction business was slow and the bricklayer needed a safe and profitable place to park his circulating capital idled temporarily.

It is crucial to understand the economic difference between cotton and brick. Cotton had the momentum which brick lacked. The financing of the movement of cotton could be done through bill-circulation. The financing of the movement of bricks couldn't: the brickyard-on-bricklayer bills could not fly for lack of momentum in the movement of bricks. The slower movement of bricks had to be financed through lending and borrowing, at the higher interest rate. This involved convincing the lender (saver) that the ultimate consumer of bricks, the buyer of the house, did have the means to retire the mortgage on his new house in time. As the proverb says, "there is many a slip between cup and lip". In case of the cloth (or any other item belonging to the Social Circulating Capital) the lip is already touching the cup and, accordingly, the chance of a slip is reduced next to naught.

A bill acknowledging receipt by the retailer of fast-moving merchandise can circulate in lieu of cash. The market extends limited and ephemeral monetary privileges to bills representing certain transactions while denying the same privileges to others. The decision whether to extend or deny it depends on objective criteria, having to do with the briskness of consumer demand, as well as the time-frame within which 'maturing' goods can be moved to the cash-paying consumer. Goods that are disqualified (as bills drawn on them would not circulate) are not left out in the cold. Their movement to the consumer is financed through lending and borrowing, at the higher interest rate. For example, the bill drawn on bricks being moved to the construction site will not circulate. Nobody who wants to park his liquid funds in quick earning assets would discount them for lack of liquidity. On the other hand, there are a lot of mortgage brokers who will be happy to arrange the financing for the purchase of bricks connected with the construction of a house. Other lenders would be happy to finance the construction and the operation of the brickyard at the going rate of interest.

In the 18th century there was a saying (long since forgotten) in Lombard Street in the financial district of London: "Nothing is easier than a banker's job, *provided* that the banker is able to tell a bill and a mortgage apart".

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Rothbard on the Origin of the Bank Note

My correspondent Robert writes: "I have enjoyed your articles on GOLD-EAGLE.com. Good job! Keep up the good work! For the last three years I have been teaching economics myself. I started out by reading about the various schools of economics and finally happened upon one that resonated with what I understood intuitively which was, of course, the Austrian School. So for a few years now, in my spare time, I have been reading all I can absorb from the great authors of that tradition. So, as I was reading your installment of Monetary Economics 101 I noticed that you criticized Murry Rothbard's explanation (I don't know who he derived it from) of the evolution of paper currency from warehouse receipts. I actually questioned this as well when first reading his explanations, so I am wondering if you have a list of books you might recommend for learning more on the history of real bills. Also I'm curious what other criticism you have of Rothbard's work or on the Austrian School's in general."

Here is my reply: Stay tuned, Robert, there is lots more criticism to come whence this has come from. Although the Austrians are not monolithic, neither are they sufficiently hospitable to authors who are unable to reduce themselves to sycophancy and to tone down criticism of Austrian idols. Austrian journals never published my contributions, presumably for this very reason.

In addition to my criticism of Rothbard's diagnosis of the fraud in the origin of the bank note and of fractional reserve banking, I shall also criticize his proposed therapy of the malady, 100 percent gold reserve banking. It would never work. It would be unable to supply the elastic currency that the economy needs. It would open the gold standard to even more violent attacks for being 'contractionist' and anti-labor. It is based on a serious misunderstanding of the operation of the gold standard. At any rate, the issue cannot be decided until one has studied the Real Bills Doctrine in depth.

An Austrian by birth although not by affiliation, Joseph A. Schumpeter wrote a concise History of Economic Analysis. Chapter 7 on Money, Credit, and Cycles will give you reference to authors who wrote on the bill of exchange. See in particular the debate preceding Peel's Act of 1844 in Britain, p 695 and 725, and his discussion of the Real Bills Doctrine starting on p 729.

References

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Joseph A. Schumpeter, *History of Economic Analysis*, New York, 1954.

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GOLD STANDARD UNIVERSITY

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Monetary Economics 101: The Real Bills Doctrine of Adam Smith

Lecture 1: Ayn Rand's Hymn to Money
Lecture 2: Don't Fix the Dollar Price of Gold
Lecture 3: Credit Unions
Lecture 4: The Two Sources of Credit
Lecture 5: The Second Greatest Story Ever Told; (Chapters 1 - 3)
Lecture 6: The Invention of Discounting; (Chapters 4 - 6)
Lecture 7: The Mystery of the Discount Rate; (Chapters 7 - 8)
Lecture 8: Bills Drawn on the Goldsmith; (Chapter 9)
Lecture 9: Legal Tender. Bank Notes of Small Denomination

Lecture 10: Revolution of Quality; (Chapter 10)
Lecture 11: Acceptance House; (Chapter 11)
Lecture 12: Borrowing Short to Lend Long; (Chapter 12)
Lecture 13: Illicit Interest Arbitrage

FALL SEMESTER, 2002

Monetary Economics 201: Gold and Interest

IN PREPARATION: COURSES TO BE OFFERED IN 2003

Monetary Economics 201: The Bill Market and the Formation of the Discount Rate

Monetary Economics 202: The Bond Market and the Formation of the Interest Rate