

Currency Depreciation in Early Modern England and France

by

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The literature that has evolved to describe and explain early modern currency values has emphasized the extent of the decline in the specie value of the unit of account and has therefore emphasized the 'benefits to monarchs of depreciation, particularly from seignorage revenue and the improvement in the balance of trade. We argue that both these hypotheses are weak as general explanations of the determinants of monetary policy and are not supported by the evidence. The policies adopted were far more consistent with the hypothesis that the authorities were attempting to produce an efficient monetary system in a technologically primitive world. We support this hypothesis with evidence from sixteenth and seventeenth century France and England.

After a brief description of the early modern monetary system, we discuss the objective of attaining an efficient monetary system, with an emphasis on the importance of the technology of coinage. We then show how depreciations in England and France were primarily an attempt to institute an efficient monetary system rather than to raise revenue or improve trade.

The Early Modern Monetary System

Early modern economies commonly used a unit of account that served as a standard of value separate from the medium of exchange. The unit of account in France during the sixteenth and seventeenth centuries was the *livre tournois*, which contained 20 *so/s* and 240 *deniers*. In England the unit of account was the pound sterling, containing 20 shillings or 240 pence. In 1493 £1 sterling contained 186 grams of silver, as did 8.59 l.t.¹ By law all contracts were denominated in the unit of account rather than in particular coins. The medium of exchange was

¹ By 1680, the pound sterling contained only 120.4 grams of silver, as did 13.76 l.t. We abbreviate pound sterling (£), *livre tournois* (l.t.), shillings and *so/s* (/–), and pence and deniers (d.).

composed of domestic coins and some foreign coins, which were legal tender at rates proclaimed by the crown. The Mints bought metal (in the form of old coins, foreign coins, plate, etc.) at an official mint price per unit of weight of pure² metal. The exchange value of coins produced from this given weight of metal is known as the mint equivalent of the metal and depended on the coins' official value in the unit of account and their pure metal content. To allow the mint the cost of production (brassage) and perhaps some profit (seignorage), the mint equivalent was typically higher than the mint price.

During the early modern period four types of coin were issued: gold and silver coins of high fineness (purity), billon (silver coins about 25% fine) and copper.³ England did not mint billon coins during most of the period; coins of small denomination (such as the 1/2d and 1/4d) were low weight, high fineness silver coins. While the coins were all substitutes by virtue of their unlimited legal tender status, differences in their denominations tended to cause gold coins to be used for large transactions (including international transactions), silver to be used for smaller transactions and billon and copper for very small transactions. Since gold and silver coins were used in different sizes of transactions, they cannot be considered perfect substitutes. A 'shortage' of low-value coins impeded everyday trade, and this 'scarcity of specie' was frequently cited as a reason for monetary policy changes.⁴

² Or 23/24 fine for French silver (*argent-le-roi* silver).

³ Gold and silver coins were usually about 11/12 fine, the alloy generally being copper for silver coins and silver-copper mixed for gold (Craig, 1953; 103, 355).

⁴ This phenomenon is of course a separate issue from that of the often discussed 'bullion famine' of the fifteenth century, prior to the specie inflows from the New World. (See for example, Miskimin, 1984).

The monetary authority (i.e. the monarch) made many policy decisions: the mint price; the fineness, weight and denomination of the coins; and their face value. The mint price and the face value of the coins were proclaimed by public edicts. The particulars of the coinage were only issued to the mint officials, but they were fairly quickly discerned by the public (Gould, 1970; 14). In England the King owned and operated the Mint. In France the King frequently leased the franchise to individuals or firms who kept the seignorage, but were constrained by the Edicts and Ordinances of the monarch with respect to the mint price and coin details (Spooner, 1972; 107).

A depreciation is defined as an increase in the mint equivalent of one or more types of coins. Depreciation could be accomplished by either a debasement or an enhancement.⁵ A debasement of the coinage occurred when the quantity of pure metal in a coin was reduced, either by decreasing its weight or lowering its fineness. An enhancement was an increase in the legal tender value of existing coins. The two methods differed primarily in that a debasement, accompanied by an increase in the mint price provided an incentive to recoin old coins (if the new price exceeded the old mint equivalent), whereas an enhancement, similarly matched by an increase in the mint price, would not cause a recoinage of circulating coins.⁶

The Quality of Coinage as an Explanation for Depreciation

When the monetary authority gives legal tender status to more than one object, it creates the possibility of undervaluing one of the objects, or, in

⁵ The same mechanisms apply – in the opposite direction – to the case of appreciation.

⁶ While both might be inflationary, the latter would not tax money-holders.

Gresham's terms, of creating a good (undervalued) money and a bad money. In an economy in which there are both good and bad monies, the good money may rise to a premium, or be driven out of circulation, or both. This increases the cost of monetary transactions, as money no longer circulates by tale in the first case, and various denominations of coins are unavailable in the second. Coins withdrawn from circulation are either hoarded domestically or are exported to countries where they are not undervalued. The rather primitive nature of the money stock in early modern Europe continually generated good and bad monies, and the monetary authority attempted to alleviate this problem by depreciating the unit of account.

An ideal monetary system would provide the appropriate range of coins of various denominations (valued by the market at their face value), and these coins would vary in value for weight, so that the lowest denomination coin was not inconveniently small, while the largest denomination coin was neither too large nor too heavy. The monetary system of early modern Europe did not have such ideal characteristics, primarily because base money did not have the same characteristics for coining as fine gold and silver. As pointed out by Harris (1757; 384):

A certain proportion of alloy, renders these metals harder, and fitter for the uses to which they are commonly applied. The standard of about 11/12 fine, is very convenient; For, if it be much coarser, both silver and gold will lose of their colour, beauty and ductility; and if the standard be much finer; those metals will be too soft for many purposes.

In addition to losing their colour, base coins (that is, those with considerable alloy) had other undesirable characteristics. The pure metal became very difficult to extract, so that the intrinsic value of the coin was less than its specie content would suggest.⁷ In addition, the fineness of the coin was nearly

⁷ "That piece of base money which hath as much fine Silver as a penny, is

impossible to discern with the naked eye, even for a skilled assayer, making the coin very easy to counterfeit.⁸ Finally, base silver coins eroded through wear at a faster rate than fine silver coins (Harris, 1757; 451).

Since base money had poor qualities for coins, the supply of a range of denominations was a complex problem and its solution led to a host of further difficulties. Gold and silver coins were minted in relatively high denominations, introducing the problems implicit in a bimetallic standard. If the market bimetallic ratio changed, the coins of one metal became undervalued, providing an incentive for the undervalued coins to be hoarded, melted down or exported.

In England there were no coins of very low denomination minted by the Crown, and the vacuum was filled by various tradesmen's tokens and other private monies. In France there was a 'billon' coinage of low denomination, which entailed all the problems of a base money.⁹ In the seventeenth century both nations experimented with copper coins, but they were reputedly as easy to counterfeit as base silver coins (Harris, 1757; 376).

Further problems beset the monetary system, including illegal manipulations (such as clipping and counterfeiting) and the natural wear that similarly eroded

 '(cont'd) notwithstanding not worth a penny, because the mixture makes that you cannot extract this penny in pure mettall without loss and charge." Vaughan, 1675; 33.

⁸ "By this mixture both the Colour, Sound, Weight, and the other more hidden Qualities of the different mettals are so confounded as the falsity cannot be discovered, but with extream difficulty." Vaughan, 1675; 31. "When the standard of fineness is much baser than ours is at present, different degrees of deviations from it, are not conspicuous to the eye; and the precise fineness cannot be so well ascertained, even by skillful assay-masters. By this scheme of coining base money, besides furnishing opportunities to counterfeiters amongst ourselves; we should lay a temptation in the way of foreigners, to commit the same frauds." Harris, 1757; 509.

⁹ Vaughan (1675; 31) noted that most of the billon circulating in France was not minted legally; that is, it was counterfeit.

the value of coins. It is difficult to determine the extent of clipping, since most of the discussions of the lightness of coins combine the effects of clipping and wear. Challis (1978, 58), in describing the English coinage of 1497, states that "much of the small change in England had become so thin through use and so reduced in size owing to clipping that it was often refused in payment."¹⁰ After elaborate calculation Lowndes (1695; 228) concludes that "the Moneys commonly Currant are Diminished near one Half, to wit, in a Proportion something greater than that of Ten to Twenty two." Similar evidence abounds for France. Levasseur (1911; 255), describing the monetary system of the 1630's, notes that there were "beaucoup de pièces rognées et de pièces fausses."

In England the circulation of clipped coins was usually illegal. The law prescribed that a clipped coin should be taken as bullion (or cut in half and confiscated - half the proceeds for the Mint and half for the impounder), but, in fact, most continued to circulate. In part this must have occurred because worn (but not clipped) coin was permitted to circulate as legal tender and the distinction between clipped and worn coin was rather fine. Both clipping and counterfeiting were encouraged by the primitive state of coin-making, and it is apparent that after the introduction of the milled coinage in the mid-seventeenth century both problems were alleviated.

Even Women and Children (as well as Men) are capable of the Act of Clipping or Rounding. But this Practice of Clipping has never been Exercis'd upon the Mill'd Money, and I think never can be, because of its Thickness and Edging ... As to counterfeiting, the Hammer'd money is liable thereunto, because the Tools for Resembling the same, are cheap, and easily made and procured, and the Fabrication thereof may be performed in a little Room, and with less Art; so that Smiths and other Artificers can readily attain thereunto. But the Engines for the Mill'd Money are many and very costly, not easie to be procured.... [The milled money] shews better the true Colour of the Silver, to distinguish its Genuine from its Counterfeit Pieces" Lowndes, 1695; 223.

¹⁰ However, Henry VII then passed a law proclaiming all English pence, regardless of their weight, to be legal tender.

In addition, hammered money encouraged counterfeiting, as the coins were not standardized. Challis (1978, 13) notes that "If the blank was slightly too big or incorrectly aligned with the dies then part of it would receive no impression at all and would be left as a crescent of plain metal at the edge, a disfigurement to the coin and a temptation to the clipper." Vaughan (1675; 55) observes that "the Teston made in the Mill hath not been seen clipped in France."

In a monetary system in which many coins were undervalued, the costs of determining the true value of a coin were significant and could exceed the benefit of using the coin as a medium of exchange, thus reducing the monetization of the economy and the efficiency of transactions. Contemporary writers graphically described this situation:

In Consequence of the Vitiating, Diminishing and Counterfeiting of the Currant Moneys, it is come to pass, That great Contentions do daily arise amongst the King's Subjects, in Fairs, Markets, Shops, and other Places throughout the Kingdom, about the Passing or Refusing of the same, to the disturbance of the Publick Peace; many Bargains, Doings and Dealings are totally prevented and laid aside, which lessens Trade in general; Persons before they conclude in any Bargains, are necessitated first to settle the Price or Value of the very Money they are to Receive for their Goods. (Lowndes, 1695; 233)

In a similar vein, Petty (1682; 157) writes, "Money made of Gold and Silver is the best Rule of Commerce, and must therefore be equal, or else it is no Rule; and consequently no Money, and but bare Metal which was Money before it was worn and abused into Inequality."

In summary, the characteristics of precious metals prevented the introduction of an ideal coinage. The bimetallic standard, used in both England and France, implied that changing relative prices of gold and silver would create an undervalued money unless the monetary authorities responded. Before the mid-seventeenth century the problems of clipping (and in France the issue of billon) caused full-weight coins to be undervalued. We argue that the monetary

authority responded to the continual emergence of bad money by raising the legal tender value of the good money, that is, by depreciating the currency.

Traditional Explanations for Depreciation

The most frequent explanations for depreciation in the literature are the King's need for revenue and the desire for an improved balance of trade. In this section we suggest why these were not important causes of depreciation in early modern England and France.

The King's seignorage revenue arose from the difference between the mint price and mint equivalent of specie metals, net of the costs of minting, and could be raised by increasing the rate of seignorage or by increasing the mint output. During the early modern period (excepting 1542–51 in England) the mint equivalent rarely exceeded the mint price by more than 5%, leaving a very low rate of seignorage. In his description of the French fiscal system Wolfe (1972; 359) comments that, between the late fifteenth and late sixteenth centuries, "profit from seignorage, debasements, fees, and other devices declined almost to the vanishing point."¹¹ The English abandoned charges for coinage in 1666 in favor of covering the costs with a new excise tax on wines, vinegar, cider and beer (Ruding, 1845; ii 118).

The main reason for the low seignorage was competition amongst coins from different countries (and even bullion) as media of exchange. Individuals would tend to coin their money where the charges were least. Thus in 1626 a Committee reported to the Lords that, "The second cause [the first being a

¹¹ Wolfe appears surprised that the right of seignorage was so little used: "There is no doubt that there would have been little or no effective resistance if the king had chosen to use his coinage rights as an important source of revenue, as did several English kings [1542–51] during the sixteenth century. But in fact this did not happen."

balance of trade deficit] that the Mint remains unfurnished, will be the charge of Coinage, raised in price so far above all other places, constraining each man to carry his Bullion where he may receive by Coinage the less of loss" (Cotton, 1626; 136).

Another factor was the increased availability of alternative government revenue sources compared to earlier periods. For example, French kings introduced domestic bond sales (the *rentes sur l'Hôtel de Ville de Paris*) in 1522, and during the reign of Louis XIV indirect taxes became a primary source of government revenue (Dessert (1984; 18–20)). Despaux (1936; 358) notes "Ayant reconquis, dès Charles VII [1422], la souveraineté monétaire en même temps que la souveraineté fiscale, le roi n'eut plus besoin des profits des ateliers de monnaies." The English explicitly recognized the fungibility of revenue in 1666, when costs of minting were met by excise taxes.

The volume of mint output could be increased by raising the real mint price (the nominal mint price deflated by the general price level), for this would cause individuals to dishoard their metal.¹² As described below, it might also improve the balance of trade, generating a second source of metal for the Mint. A far more significant increase in mint output would occur if a general recoinage were generated, either by a debasement or by a demonetization of circulating coins (known in France as a *décri*). With the exception of the Great Debasement, this rarely occurred in England. The French demonetized coins more frequently than the English (for instance, in both the 1640's and 1670's), but in both countries it was more common to demonetize foreign coins than domestically minted ones. Landry (1910; 111) points out that demonetization could be more

¹² Note that if depreciation involved simultaneous increases in the mint price and mint equivalent, then the rate of seignorage remained the same.

effective at raising revenue than a depreciation:

Quand le roi cherche son profit, le décri est proprement ce qu'il veut, et non la mutation; car c'est le décri qui aura pour effet d'activer la frappe. Quand le roi est dirigé par le souci du bien public, alors...c'est la mutation plutôt que lui qui permet, ou qui semble permettre d'atteindre le but visé.

The general populace, however, considered such acts a form of expropriation, making them a costly method of raising revenue, and Landry goes on to note, "Le décri est une opération hardie, qui trouble et lèse gravement le public, et qu'on ne saurait répéter sans cesse" (Landry, 1910; 126).

Whether or not depreciation was a policy undertaken with the specific objective of improving the balance of trade is a question taken up in the following section. Here we examine the impact of a depreciation on the balance of trade. In the short run depreciation would generate a balance of trade improvement as long as domestic prices did not rise proportionately and other nations did not undertake offsetting depreciations. In the long run, a proportional rise in prices was inevitable. But how long did this take? The evidence is unclear. Miskimin (1984; 66) argues (on the basis of rather thin evidence) that "Prices rose swiftly, indeed nearly simultaneously, in response to each weakening of the coinage." Other authors claim the price increase was more gradual. For example, Landry (1910; 63) says, "[quand] la valeur légale des espèces a été élevée... on verra les prix de toutes choses monter eux aussi... mais cela ne se produira tout de suite." Thus any trade gains from depreciation were short term, although it is unclear how long that short term was. Although the fear of retaliation is mentioned by Supple (1957) as an explanation for the failure to enhance silver in the 1620's, neither he nor other historians provide evidence of either a fear of retaliation or threats of the same.

The Experience of Depreciation

Figures 1 and 2 show that both the English and French coinage depreciated considerably between 1493 and 1680. Depreciation in England occurred in four discrete episodes: 1526, 1542-61, 1604-12 and 1666.

In 1526 the English gold coin was enhanced 12 1/2% and the weight of the silver coinage was reduced by the same proportion.¹³ Henry VIII ordered this change to "adjust English coin to bring it to equivalence with continental specie" (Challis, 1978; 311). Historians agree that this depreciation was a reaction to the enhancements in France and the Netherlands in 1519 and 1521.¹⁴ The decision to depreciate coins of both metals suggests that an adverse balance of payments, rather than an inappropriate bimetallic ratio, induced the adjustment. In addition to the depreciation, the King introduced a new gold coin of 22c. (.9167 fine), a fineness more common in Europe than the traditional 23 3 1/2c. (.9948 fine) of England. While the debasement of silver (as opposed to the enhancement of the gold coin) brought silver coins to the Mint, it reflected the need for aliquot parts (easily-calculated fractions) of the pound and not an attempt by the King to increase his seignorage.

Initially, the English Mint undertook the Great Debasement (1542-61) to raise crown revenue.¹⁵ In 1542-45 Henry VIII raised the mint price of silver from

¹³ Craig (1953; 102) notes that the adjustment to the silver coins was through debasement rather than enhancement because a 12 1/2% increase in the official values of pennies and groats, causing pennies to be worth 1 1/8d., "would have been absurd."

¹⁴ See Challis (1978; 68) and Craig (1953; 104), who states "there is no reason to suppose that the changes in coin values and weights in 1526... went beyond an effort to equate coin with bullion market values."

¹⁵ The following outline of the Great Debasement draws from material in Gould (1970), Challis (1978), Craig (1953) and Feaveryear (1963).

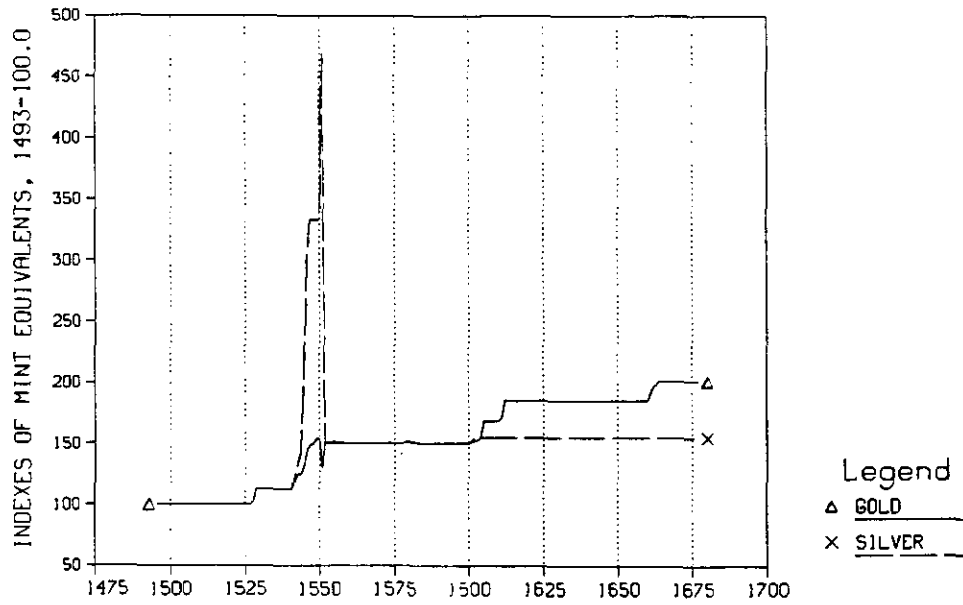


Figure 1

DEPRECIATION OF THE POUND STERLING, 1493-1680

Source: Feaveryear (1963).

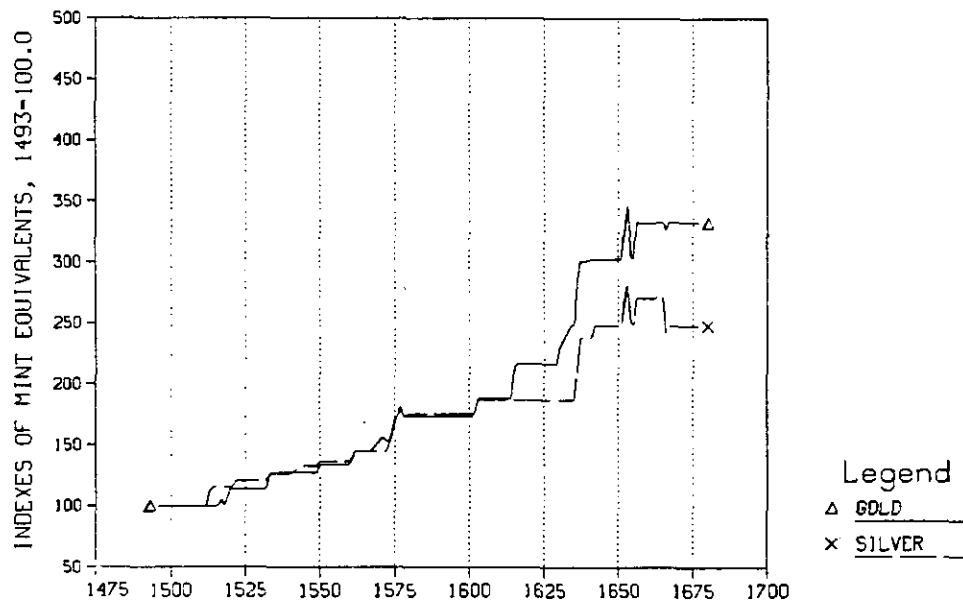


Figure 2

DEPRECIATION OF THE LIVRE TOURNOIS, 1493-1680

Source: de Wailly (1857).

47/7 to 56/- and minted coins with a mint equivalent of 96/-. Since the mint equivalent of silver coins minted between 1526 and 1542 was only 48/8, most of these coins were drawn to the Mint and recoined, with considerable profit for Henry. The seignorage (plus brassage) rose from 1/- to 40/- per pound weight. In 1546 the mint equivalent rose to 144/- and did not change again until 1551. The mint price was gradually raised to attract more metal to the mint, but this incentive failed, and in 1548 Henry demonetized the testoons (minted in 1542-4) in order that their recoinage would provide metal for the Mint.

In 1551 (after a relatively small issue of coins 25% fine with a mint equivalent of 288/-) Edward VI commenced the return to the old monetary system by both minting coins of the traditional fineness and calling down the official values of the base coin. Unfortunately, although the base coins were called down to the same mint equivalent as the fine coins (65/5d), the coins were eroded by wear and by clipping so that their *de facto* mint equivalent was higher. Hence the base coins were still overvalued and remained the main medium of exchange until demonetized by Elizabeth in 1561. The demonetization returned the full weight coins to circulation, although at a higher face value than prior to the debasement (i.e. there was a net enhancement over the period).

Gold coin was also debased during the period, albeit to a much lesser extent than silver. In consequence, the official gold-silver ratio (the relative values of gold and silver coins) fell from 1:12 to approximately 1:5. Since relative gold and silver values had not changed internationally, this undervalued gold in England. The amount of gold in circulation declined (Gould, 1970; 25), and the gold that continued to circulate did so at a premium.¹⁶

¹⁶ The circulation of coins at values greater than their official values was illegal, but it undoubtedly occurred. See, for instance, the proclamation of 11 April 1549, which complained of people who would "buy and sell the King's majesty's coin, of and for higher price than it is by his majesty's proclamation rated and valued"

The profits from debasement between 1544 and 1551 have been estimated at £1.27 million (Challis, 1978; 255), a vast sum, both relative to the usual net revenue of the Mint in the sixteenth century (about £1000 per annum) and to the ordinary annual revenues of the Crown (£200,000, (Dietz, 1923)). However, the debasement caused costly and extensive disruption to the English monetary system. Coins of different standards circulated simultaneously. Where the better coins could be distinguished, they were driven out of circulation or circulated at a premium. Braudel (1984; 357) describes the resultant chaos: "The situation was one of extreme disorder, with the coins in circulation all of different weight and silver content, many of them clipped, yet with the same face value." The high seignorage, baseness of the coins and multiplicity of standards provided incentives to counterfeiters and the other problems discussed at length above. The restoration of the currency standard amounted to a recognition of the heavy costs of debasement.

The adjustments to the coinage between 1601 and 1611 and between 1661 and 1663 were primarily a response to the increasing relative value of gold (a result of the increased supplies of silver from the New World). By 1600 the Mint undervalued gold, so very little was sold to the Mint and gold was exported from England. The required remedy was to change the relative values of gold and silver, and, rather than appreciate the silver coinage, the King depreciated the gold coinage. The initial adjustment (1601-11) raised the ratio to 1:13, which exceeded the market ratio. The overvalued gold tended to cause an outflow of silver from England. In the 1620's policy-makers considered making a bimetallic adjustment,

¹⁶(cont'd) (Gould, 1970; 24). The proclamation continued, "Above these values no person was to presume to buy or to sell the same [rated coins], on pain that both the buyer and the seller should forfeit the coins so bought or sold, and ten times the value thereof, and also be imprisoned at the king's pleasure" (Ruding, 1840; i 315).

but advisors to the King argued that an enhancement of the silver coinage would cause an inflation that would be detrimental to those (such as the King) who had credits fixed in units of account. Supple (1957) convincingly argues that the shortage of silver caused by undervaluing it was the source of many of the contemporary comments, usually attributed to mercantilism, about the shortage of money. In the 1660's the English gold-silver ratio again fell below that on the continent, and the King enhanced the gold coins by 6.7%. These episodes illustrate how the changing relative market values of gold and silver necessitated the depreciation of the unit of account, as measured in one specie metal, to prevent the emergence of undervalued coins.

In France, enhancement of the circulating coins accounted for 90% of the depreciation of the gold coinage and 66% of that of silver. The remaining depreciation occurred through the debasement of the existing coins (the gold *écu* was debased in 1519 and 1561 and the silver *teston* in 1521) and the introduction of new coins of lower standard. The French experience can also be broken down into specific episodes: 1519-21, 1533, 1550, 1561, 1568-77, 1601, 1615, 1630-40 and 1651-55. A glance at Figure 2 shows that only twice was just one metal depreciated (1540 - silver; 1615 - gold), suggesting that bimetallic adjustments were rarely the motive for depreciations. Furthermore, there were no recoinages induced by debasement, and the profits from the Mint were marginal throughout the period.¹⁷

The explanation generally given for the enhancements is that the market value of the coins had risen above the mint value, and the King or Cours des Monnaies was merely ratifying the market valuation. Examples abound. In 1554 the

¹⁷ See Glassman and Redish (1984; 35-6) for evidence that the debasement of the *écu* in 1561 did not cause reminting of the *Henri*; this was the only time a debasement might have caused a recoinage.

Cour complained "Plusieurs personnes indifféremment prennent et allouent les monnaies d'or et d'argent, tant du coing de France qu'estrangères, à plus haut et excessif prix qu'il n'est pas permis par l'ordonnance du Roi" (cited in Levasseur, 1911; 223). Wolfe (1972, 294) comments that goldsmiths "paid premiums for newly coined, full-weight gold and silver." In 1573 the official value of the *écu* was 52/-, but it circulated at 54/- and the official value was raised to that rate; three years later the market value had risen to 65/- and again the official value was raised to the market value.

Historians have proposed various explanations for the rise in the market value of the coins. Shaw (1896; 83-93) simply blames it on "the people." Spooner (1972) attributes the price rise to foreign enhancements in some cases (e.g. 1519-21; 1561) and to the excessive circulation of billon and copper coins in other cases (e.g. 1533). Vaughan blames the repeated depreciations on the circulation of billon coins:

In all those Countries where base money is current, there the price of Gold and Silver is daily raised by the people, not only without the Ordinance of the State, but contrary to, and in despite of all Prohibitions... so it is in France; although the Ordinance for the value of the Gold and Silver may securely be maintained by this help, that no Forrein Coin is there current; yet when you come to change base Money for Silver or Gold you shall find how the people there raise the price unto you of the purer Money. (Vaughan, 1675; 32).

The rise of the market price above the mint price may thus be explained by the wear and clipping of billon coins, whose circulation at their face value led to a premium on finer coins. In addition, the circulation of foreign coins may also have caused domestic coins to be undervalued and to circulate at a premium. Van der Wee (1977; 295) notes that this would occur if a foreign coin, traditionally accepted at a certain value in the domestic unit of account, continued to be accepted at that rate after it had been debased. Dessert (1984; 35) argues that debasement in the Low Countries and United Provinces had this effect on French

coins in the seventeenth century.

In response to premia on various components of the medium of exchange, the monetary authorities followed the market and raised the official value of the coins to that level.¹⁸ There are two explanations for the need to respond to the market. Landry (1910; 122) argues that the increase was needed to maintain a flow of metal to the Mint, since the premium on freshly minted coins did not completely adjust for the increased market price of the metals. Alternatively the authorities may have wished to reduce the inconvenience and transactions costs caused by the undervaluing of coins. However, while enhancement might eliminate the problems of undervaluation, it did not get to the root of the problem, namely the circulation of lightweight, clipped coins.

Despite the frequency of enhancements there is evidence that the French attempted to avoid depreciation. In 1577 the Cour des Monnaies held a general meeting at Saint Germain to discuss improvements in the monetary system. Harsin (1928; 51) summarizes the tenor of the meeting: "Ce qui est particulièrement remarquable dans toutes ces discussions, c'est la conception intransigeante de tous ces auteurs sur la nécessité d'avoir une monnaie droite." The Cour concluded that depreciation through either enhancement or debasement was ill-advised. Believing that the circulation of foreign coins and the separation of the unit of account and the medium of exchange were responsible for depreciation, they attempted a remarkable reform. They ordered that the unit of account and medium of exchange be merged in the *écu* (1 *écu* = 60/-), that foreign coins only be taken as bullion (excepting only the gold ducats of Spain

¹⁸ Note that the choice to depreciate (raise the value of undervalued coins) rather than to appreciate (lower the value of overvalued coins) reflected the fact that legal tender laws made it more likely that undervalued coins circulated at a premium than that overvalued coins circulated at a discount.

and Portugal) and that billon only be legal tender up to the sum of 100/-.¹⁹ The new system lasted for 25 years, until the rise in the market value of the full-bodied monies forced an enhancement of their official values (in 1602), restoring the separation between the unit of account and the medium of exchange.

Conclusion

Our analysis of depreciation in early modern Europe highlights the evolution of monetary institutions. We have observed that alternative sources of government revenue reduced the need to extract revenue via currency manipulations. In addition, as the economy became more monetized and more involved in international transactions, alterations of the currency became more disruptive. By the sixteenth century the monetary authorities clearly recognized that depreciation in any form disrupted the smooth functioning of the monetary system, but they did not completely abandon such policies. Coins were an imperfect monetary form, and the imperfections caused monetary problems that required a policy like depreciation. By the late seventeenth century, however, the introduction of milled coins and the understanding of the perils of excessive issue in a token coinage system represented important steps toward the monetary stability epitomized by the Classical gold standard.²⁰

This interpretation of monetary developments in the early modern period contrasts with two other studies of monetary history as an evolutionary process,

¹⁹ As Shaw (1896; 88) points out, this was very similar to the successful early nineteenth century changes to the British monetary system, which gave rise to a stable monometallic monetary system with token fractional coinage and no legal tender currency for foreign coins.

²⁰ The relationship between the increased stability of the unit of account (and the resulting decrease in the cost of using money for transactions) and the very large decline in velocity over this period is interesting but outside the scope of this paper (see Riley and McCusker, 1984).

those of Marc Bloch (1954) and Fernand Braudel (1984). Bloch argues that although depreciations in the era from the mid-thirteenth to the eighteenth century appeared to have many different causes, in fact there was really just one cause: an insufficient quantity of money in the economy.

Si bien que tout se ramène en somme à la même constatation: une économie d'échanges déjà et de plus en plus développée ne disposant pas des moyens monétaires métalliques suffisants à sa vie ou des méthodes capables de parer à cette insuffisance: de méthodes autres, du moins, que l'inflation par l'affaiblissement (Bloch, 1954; 76).

We have shown that the monetary problems and policies were a response to the lack of quality – not a lack of quantity.

Braudel's overview of monetary history focusses on the uniqueness of the British experience and presents the hypothesis that the stability of the British currency after 1561 was "a crucial element in England's fortunes" (Braudel, 1984; 356). In our interpretation, the stability of the British currency resulted from her abstention from the issue of base money, an abstention that continually led to a scarcity of small change. The French resolved the problem by issuing base money, which supplied the need for small change but necessitated continual depreciation. It is not obvious that the former policy was more conducive to economic growth than the latter, leaving this a matter for future research.

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