



**Universiteit
Leiden**
The Netherlands

Devaluation, coinage and seignoriage under Louis de Nevers and Louis de Male, counts of Flanders, 1330-84

Blockmans, W.P.

Citation

Blockmans, W. P. (1979). Devaluation, coinage and seignoriage under Louis de Nevers and Louis de Male, counts of Flanders, 1330-84. Retrieved from <https://hdl.handle.net/1887/1819>

Version: Not Applicable (or Unknown)

License: [Leiden University Non-exclusive license](#)

Downloaded from: <https://hdl.handle.net/1887/1819>

Note: To cite this publication please use the final published version (if applicable).

DEVALUATION, COINAGE AND SEIGNORAGE
UNDER LOUIS DE NEVERS AND LOUIS DE MALE,
COUNTS OF FLANDERS, 1330-84¹

F. and W. P. Blockmans

Thirty years ago, Professor Hans van Werveke calculated, in a now famous lecture to the Royal Historical Society of London, the volume and profit of the coinage under Count Louis de Male of Flanders, 1346-84. He claimed that this Prince drew approximately one fifth of his income from his seignorage and therefore proceeded repeatedly to devalue. He suggested also that the considerable devaluations initiated by the Count had an unforeseen but nevertheless favourable effect upon Flemish exports.²

A number of weaknesses in this argument can however be pointed out. Firstly, no account has been taken of the effect of devaluations in other countries; not only as far as the attraction of precious metals is concerned, but also as regards the competitive position of Flemish industry. In fact the latter suffered more harm from the exorbitant increases of wool-export duties.³ It cannot be proved therefore that the profit-seeking of the Prince was the principal determining factor in this monetary policy. Furthermore, the proportion of profits obtained from the seignorage in relation to the total income of the Count, cannot be precisely assessed due to the absence of information on the latter subject. Finally, the correlations between mint output, intrinsic value and the seignorage receipts have never been statistically demonstrated. Nevertheless, the studies of Spufford and Munro have confirmed the importance of the procedures initiated by van Werveke.

It is for these reasons that I shall attempt in the following paper to elaborate upon the data collected by van Werveke, also taking into account the period of the preceding sixteen years. Apart from gaining additional information, this period (1330-46) offers a number of interesting aspects:

1. An acute crisis was developing internationally, within the political, commercial, military and monetary systems. These factors influenced the position of the currency in West European countries.
2. From 1338 onwards the Count was almost completely powerless in Flanders, the government being in the hands of a commercial elite with a popular base in the leading towns.⁴ The question as to the extent to which a particular monetary policy actually originates from the personal aims of a Prince and his councillors is now open to investigation.
3. Exact information concerning the Count's income is available for the period of 1332 to 1336, thus enabling the proportion of the seignorage to be calculated.

Our data are based upon a number of accounts of the masters of the mint and three statements of the coinage by the wardens. These documents were partially published by Gaillard in 1857⁵ and are the oldest known documents of this type in the Low Countries. Both van Werveke and Ghyssens⁶ have made use of them, although only partially. It appears, however, to be necessary to return to the original documents, not only for these accounts,⁷ but also for the instructions, commissions, contracts and ordinances which have been traced in the chancery records.⁸ My information concerning the Count's income is also based upon two unpublished accounts⁹ and one unpublished survey of the Count's finances drafted by the General Collector in 1332 and brought up to date until the year 1336.¹⁰ Some new information is now available for the period before the oldest preserved accounts. It is quite certain that both the master for the silver and the warden were in office long before the beginning of their oldest preserved account (13 September, 1334) since on 12 April, 1334 they were allowed to continue in Ghent, on the right bank of the Scheldt, in the German Empire, the functions for which they had been appointed at Aalst.¹¹ The master of the mint for gold, Falco da Lampaggio from Pistoia is known to have been appointed on 28 June 1335, one year earlier than his oldest account. The contract had a duration of three years, and considering the fact that he stopped minting gold in June 1338, one may assume that there had been one year of gold minting for which we lack statistical evidence (June 1335-June 1336).¹² Further indications permit the assumption that the same man occupied the position of master for gold as early as 1331.¹³

The first stage of the monetary policy of Count Louis de Nevers, for which new evidence is at our disposal, dates back to 8 August, 1331. At that moment new instructions for the production of silver coins were issued,¹⁴ providing for a severe reduction in fineness, of 12 grains. Simultaneously, the value of the gold coins was lowered although their intrinsic value remained unaltered. This points to a double premium given to silver, more than one might expect on the basis of the general silver scarcity alone.¹⁵ The three largest towns, (Ghent, Bruges, and Ypres) soon became aware of the debasement, since they ordered in December 1331 "the assay of the new coins struck at Aalst" and invited a Ghent goldsmith to bring the results to the Count's general collector.¹⁶ Other institutions similarly reacted with reservation. In February 1332 the Count affirmed the new valuation as follows:¹⁷

1 groat tournois	= 12 d. parisis
1 florin	= 12 groats tournois
1 royal	= 15 groats tournois

The town accounts of Ghent show an analogous shift in the rates exactly in the first half of August 1331, thus within a week after the proclamation of the new ordinance.¹⁸ The florin was previously valued at 13 $\frac{1}{3}$ gr. tourn. and the royal at 17 gr. tourn., which meant a rise of 10 to 12%. The Count thus conformed with the rates prescribed in France after the revaluations of April 1330.¹⁹ There is more to this however. Since rents and fines were normally expressed in money of account on a silver basis and were paid in gold, the Count's income must have been considerably augmented by the imposed increase in value of the new silver coins. This explains the prompt reactions from towns and clergy, for it is to be noted that the Count expressly mentioned the compulsory application of the new rates for all debts owed to him.

This operation, consisting in a strong enhancement of the value of silver both by altering the silver to gold ratio and by lowering the intrinsic value of silver coins, took place in a period of monetary stability in France and massive silver exports from England through an adverse balance of trade.²⁰ The devaluations cannot under these circumstances be considered as defensive, but must be regarded as purely voluntary. The two aspects of the measure of 8 August, 1331 must have been intended to raise the Count's income through higher seignorage profits and a premium on all debts to him.

This interpretation is supported by the extremely precarious state of the Count's finances in this period. In the survey of April 1332 drawn up by the three most prominent financial councillors, the ordinary income is computed at £10,418 parisis, and the extraordinary at £15,112 parisis, the latter being mostly derived from the repression of the revolt of 1323-8. During a period of three years, from September 1328 to September 1331, £300,000 had been collected in Flanders and completely spent. The total debts contracted by the Count amounted to more than £360,000. The authors of the report concluded with a warning: "Si est nostre conclusion que, se vous voulez mener teille vie et continuer, faites pourcachier par autres que par nous."²¹ Effectively, the Count permitted his councillors to levy more taxes and charge more fines, thus raising his total yearly income from £10,418 before 1328 to £25,530 in 1332 and to £64,279 in 1335-6.²² Even though the 1335-6 account was closed with a profit, the overall debts to the general collector remained as high as £8,792. The fines imposed on towns and individuals as part of the repression after the revolt of 1323-8 contributed the most in raising the Count's income, as is shown in the following table:

Division of the Count's income 7.9.1335-7.11.1336

domain	£ 8,022	10.6%
transport ²³	4,359	5.7
justice	8,550	11.25
new rents and fines on insurgents	26,786	35.25
aid	1,298	1.7
diverse	26,977	35.5
	£ 75,992	101.3%

In this context, the profit-seeking motive for the monetary measures of August 1331 is beyond doubt: every seignoral right was exploited to the maximum in order to raise the Count's income.

But the Count was not able to pursue his policy as he might have wished. Probably the assay by the three towns made the debasement obvious. On the 13 March, 1332, he had to send new instructions to his warden of the mint at Aalst. Realising that the reduction of the alloy had become common knowledge, the Count now ordered the striking of groats and half groats with 6 grains more silver than those struck since August 1331. The warden was also ordered to cut one groat and two halves more out of a marc of Troyes. The alloy of the black silver pennies had to be lowered by three grains.²⁴ The devaluation was thus limited and acknowledged but nevertheless continued. About the gold coinage, we know only that it went on simultaneously from the 8 August, 1331 onwards. In November 1334, however, its output seems to have ceased.

Louis de Nevers' endeavour failed so early because of its lack of refinement; changing too much at once. Nevertheless, it is highly probable that he took large profits from his debasements from 1331 to 1337, a period of good money in France and of almost no coinage in England. His action may have largely contributed to the difficulties of Paris and London in maintaining their standards. As is shown in tables 1, 2 and 3, the French debasement of January 1337 forced Louis de Nevers to a defensive devaluation of both his gold and silver coinage which can be proved to have been extremely profitable during some eight months until February, 1338. From then onwards the returns diminished and the quickening French debasements were no longer followed in Flanders for reasons which we shall explore further.

Let us now turn to the surviving accounts for the period 1334-46. Considering the fact that all of the documents mentioned above, combined, still show large gaps, the question arises as to the completeness of our data.

The accounts for the gold currency cover a period of only 2 years (1336-8); we have already pointed out that gold was probably struck under the same conditions one year earlier. Another period of nearly four months is also documented in 1343;

for the white silver 4 years and 2 months are covered, further a period of 6 months in the year 1343 and 11 months in 1346;

for black silver the accounts cover a consecutive period of 3 years and 9 months (1334-8).

In a total period of well over twelve years, due to the fact that the data do not cover the whole period, the supposition of more missing accounts arises for the period after November 1338. This suspicion is supported by the text of the treaty of 3 December, 1339 between the Duke of Brabant and the Count of Flanders, which provided for the issuing of a joint currency, although we have no account from this period at our disposal.²⁵

I shall venture to answer the question of the completeness of our data by discussing the period from November 1338 to December 1339. No accounts for this period have been preserved and there are no serious indications concerning actual coinage in Flanders. Moreover, such activity seems to me to be extremely unlikely considering that Count Louis de Nevers had lost almost all control over his county and that from 12 February until 5 October 1339 he had retreated to France leaving the real power in the hands of Jacob van Artevelde and his followers.²⁶ During the two months in which Louis de Nevers returned to Flanders he was forced to sanction the policies of his opponents, including the sealing of the previously mentioned treaty with Brabant. The Count fled to France one day later however, on 4 December, 1339 and was never to regain his power in Flanders. Under these circumstances (taking into consideration that one of the parties immediately withdrew), one can ask oneself what sort of execution the treaty must have received. This question becomes even more important because of the absence of any accounts concerning the joint Flemish-Brabantine coinage. There are however surviving coins of a common type issued under the name of both Princes, mentioning the mints of Ghent and Leuven.²⁷ Ghysens suggests, on the basis of the light weight and numismatic characteristics, that the common currency

could not have been brought into circulation earlier than February 1341.²⁸ In my opinion, the mention of the names of the Count and therefore also of his mint on the surviving coins does not necessarily indicate that Louis de Nevers actually played an active role. Coins were also minted in Ghent in his name in 1343 and 1346, but really under the authority of the revolutionary government of the three towns. Was this also the case in 1339 and/or 1341? It is a possibility, but then one must assume that the accounts of the coinage were lost by chance, while accounts for the years 1343 and 1346 were deposited in the count's archives. Some of these factors lead to the formulation of a new hypothesis, namely that the conventional groat was not coined in Flanders at all but only in Brabant, with of course a legal tender in Flanders and also in other principalities, such as Hainaut. The following facts support this possibility:

- A coin of the 'socius' type, which had been adopted in the Flemish-Brabant treaty, had been struck in Flanders since 1337.²⁹ Because of the massive production of this coin (table 2), it is possible that there was no direct need for new production.
- As a result of the retreat of the count, the revolutionary leaders were confronted unexpectedly with a legitimacy problem; should they use their own authority to mint coins? It seems unlikely that they would have decided to do so as early as December 1339. Generally speaking such a situation would lead to reservedness, hesitation and delay.
- The master of the mint, Falco da Lampaggio from Pistoia, who had worked until November 1338 for the Count of Flanders, went only a short while afterwards into the service of the Duke of Brabant, and thus embodied the unity of the coinage following the Flemish example. It is possibly for this reason that the Flemish put their confidence in the Brabantine coin. It must be noted however, that only a very small number of groats of the conventional type are preserved.
- The text on all the preserved coins shows the names of the mints of Ghent and Leuven, in this order. This undoubtedly points to their production in Brabant. Furthermore, whilst the formula 'MONETA FLAND' was current in Flanders, it remained the practice in the Duchy to mention the name of the mintingplace. A greater number of the latter remained in use, especially Antwerp, Brussels and Leuven, but also Maastricht and Halen. This detail equally indicates production in Brabant, albeit following the Flemish example. The mention of Ghent as one of the mints is part of the fiction already introduced by using the Count's name.

If it now appears plausible to suggest that no coins were minted in Flanders either during the year 1339, or after the treaty in December of the same year, then one can elaborate this argument to cover the end of the period under discussion, namely the year 1346. The Count had ceased to play a political role in the county. It was not until years later, in April 1343, that the revolutionary leaders began issuing money in his name, and then obviously only when they were forced into this position by the spectacular devaluations of the French currency (table 1).

Table 1. Debasement of silver coinage in England, France and Flanders 1330-46

	England	France		Flanders		Ag-Au ratio
	t	t	f	t	f	
1330	243d.	48	11d. 12g.	?	11d.	?
1331				57	10d. 12g.	?
1334				57½	10d. 6g.	12.6
1335	253d.					
Jan. 1337		96	10d. 16g.			
May 1337				60½	9d.	10.9
Oct. 1338		96	8d.			
Jan. 1340		105	7d.			
Apr. 1340		108	6d.			
Jan. 1341		84	6d.			
Febr. 1341		96	6d.			
June 1342		120	6d.			
Apr. 1343				66	8d.	12.1
Oct. 1343		60	12d.			
July 1344	266d.					
1345	268d.					
Jan. 1346	270d.			66	7d. 16g.	11.3
Apr. 1346		180	3d. 18g.			

t = taille
f = fineness

Making allowance for gold coins struck in 1335, we can sum up our hypothesis as follows:

Coinage was not necessarily struck during the periods between 1334 to 1346 for which there are no surviving accounts. An explanation as to why there should have been no minting even appears to be possible. This would imply that the data shown in tables 2, 3 and 4 reflect the complete mintage in Flanders for a period of a good twelve years, with the exception of one year as far as gold is concerned. On the other hand, we can ascertain that coinage of white and black silver went on continuously from 1331 onwards under the conditions shown by the ordinances and appointments. For gold, an intermission may have occurred between 1332 and 1335.³⁰ On the basis of this it is possible to make a comparison with the data computed for the reign of Count Louis de Male (table 5). It appears thus, that the latter had much more gold and white silver minted, but four times less small change. This contrast probably also applies to the period 1331-34 for which only qualitative evidence is available.

Although the profit motive as an explanation for the monetary policy of Louis de Male has been seen to be insufficient, it should not on the other hand be neglected. A high income from minting made it possible to urge the master

of the mint to strike small change on which no seignorage was taken.³¹ We have already emphasised the fact that during the thirties Louis de Nevers found himself in great financial difficulties and that he used every means available to raise his income. It becomes difficult to ignore the element of profit-seeking when one takes into consideration how the Count, who was reproached by his financial counsellors for wastage, managed in 1337 to increase his seignorage on gold currency threefold and on silver currency sevenfold.

Especially for silver, the debasement of that year resulted in considerable seignorage receipts during some eight months, after which period the Count was forced to reduce his profit margin in order to continue to attract bullion. As far as the volume of the silver coinage is concerned, production was highest during the eight months following the debasement of 25 May, 1337 and thereafter steadily slowed down, as is shown in the following average production figures per diem:

16.9.34 - 26.4.37	86.6 pure marcs
25.5.37 - 15.2.38	127.6 pure marcs
19.2.38 - 10.6.38	65.2 pure marcs
24.6.38 - 7.11.38	49.3 pure marcs

The total profits from the seignorage during the most active period of Louis de Nevers' coinage represent, on the other hand, no more than a modest proportion of his income. During a good four years, 1334-8, the profits from the seignorage amounted to £18,192 parisis, out of which 90% was derived from the coinage of silver. This figure can be increased to £18,267 parisis if one adds an extrapolated figure for the seignorage on gold in 1335-6. On a yearly basis this amounted to roughly £4,407 parisis. These receipts can be compared with the Count's total yearly income in 1335-6 and with the general survey of 1332:

	total income	average seignorage receipts as %
1332	£ 25,530	17.26
1335-6	£ 64,279	6.86

Between these very divergent figures, the choice is difficult. Since the considerable increase in the count's total income after 1332 was less than proportionally produced by seignorage receipts, the ratio of nearly 17% for 1332 seems closer to normal than the later figure.

It is against this background that the minting profits of Louis de Male can be compared with those of his father (tables 5 to 8). From 1346 until 1354, his profits stayed at approximately the same level as those of his father during the period 1334 to 1338. From 1354 until 1362 however, he collected four times as much seignorage; from 1362 to 1366 three times as much, and from 1366 to 1374, twice as much.³² Intentionally or unintentionally, but definitely not unnoticed, the coinage meant a substantial source of income and replaced the considerable fines which had been levied by his father.

The correlation coefficients between coin output and seignorage receipts (1334-84) are positive and significant:

gold	0.744
silver	0.651

The weaker correlation for silver than for gold can be explained by the fact that the intrinsic value of silver was much more often, and more drastically, altered (nearly 1:20 as against 3:4). On the other hand in the case of gold, the seignorage rate was changed with nearly all the mutations and sometimes in a dramatic way (nearly 1:22) as is shown in the following table.

(based upon the data in tables 2, 4, 6 and 7)	Gold	Silver
Total number of mutations under review	32	23
Alteration of intrinsic value alone	2	5
Alteration of seignorage rate alone	22	8
Alteration of both	7	10
Alterations of:		
fineness: number	9	12
extreme values	18-24	5 $\frac{3}{4}$ d.-11 d.
taille: number	4	5
extreme values ^a	(35 $\frac{1}{4}$) 52-63 $\frac{1}{3}$ (66)	57 $\frac{1}{2}$ -72
seignorage rate:		
number	29	18
extreme values	6-130 $\frac{1}{2}$	1-10

(a) In brackets: values of exceptionally introduced types of coins

It is equally obvious that for gold the reduction of the intrinsic value correlates strongly with an increase of the seignorage rate. On the contrary, for silver alterations of the intrinsic value in most cases do not correlate with an adaption of the rate of seignorage; when it occurs, the correlation is not always negative, as shown in the following table:

	Gold	Silver
Correlation of the alterations:		
I.V.—and S.R. +	5	5
I.V.—and S.R. -	-	2
no correlation	2	10

(I.V.: intrinsic value; S.R.: seignorage rate; -: decrease; +: increase.)

From this we may conclude that the manipulation of gold currency was mainly operated by changing the rate of seignorage while the intrinsic value was the main variable for silver. Nevertheless in both cases the seignorage receipts of the counts underwent a firm impulse from the volume of mint output.

The correlations between the rate of seignorage and mint output are demonstrated in the next table. The output has been analysed through both the per diem figures and the duration of each issue. It has to be noted that these lasted much longer for silver than for gold, and that the quantities of silver alloy minted were also considerably higher.

Issue lasting:	Gold			Silver	
	<3 months	>3 months		<5 months	6-16 months ≥20 months
S.R. 0					
+ and +	1	5	-	3	1
- and -	2	7	1	2	4
+ and -	4	2	1	2	-
- and +	4	2	1	5	-
Totals	11	16	3	12	5
		27			20

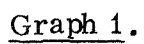
(S.R.: seignorage rate; 0: coinage output; +: increase and/or high level; -: decrease and/or low level.)

The full interpretation of these figures requires more data concerning the prices of bullion. Nevertheless, some patterns of decision-making can be discerned:

- the combination of high seignorage rates and high output evidently depends on favourable market circumstances; the effects work out in the medium term;
- lowering seignorage rates and equally lowering output can be profitable for the count; his moderate gain is a stimulus to attract bullion long-term;
- high seignorage rates and low output do not last long because of shortage of bullion;
- low seignorage rates can stimulate the output for a while, depending on market conditions.

A specifically succesful application of these mechanisms was the introduction of a new type of coin, usually of lower fineness and weight than a former one in which people had lost their confidence after a series of debasements. Such new issues scored sometimes feverishly high output figures thanks to the high price the mintmasters could offer for bullion at the expense of a further—still invisible—debasement. The mouton in 1356-57 and again in 1363, the heaume in 1368, the silver lion in 1365-67 and the groat in 1369-70 are examples of great long lasting issues, with exceptionally high per diem output and equally high seignorage profits.

COIN OUTPUT GOLD



Let us turn now to the global output figures (table 8 and graphs 1 and 2). The correlation coefficient of gold and silver coinage in marcs of pure metal is moderately positive: 0.555. The production of silver is relatively higher in the years 1335-38, 1345-53, 1365-70 and 1379-85, and consequently more regular than gold issues. Louis de Male obviously had a great deal of luck thanks to the international monetary crises that made possible huge profits on gold coinage from 1356 to 1361. After the restoration of the French coinage under Charles V, however, the extravagant Flemish output and seignorage receipts vanished.

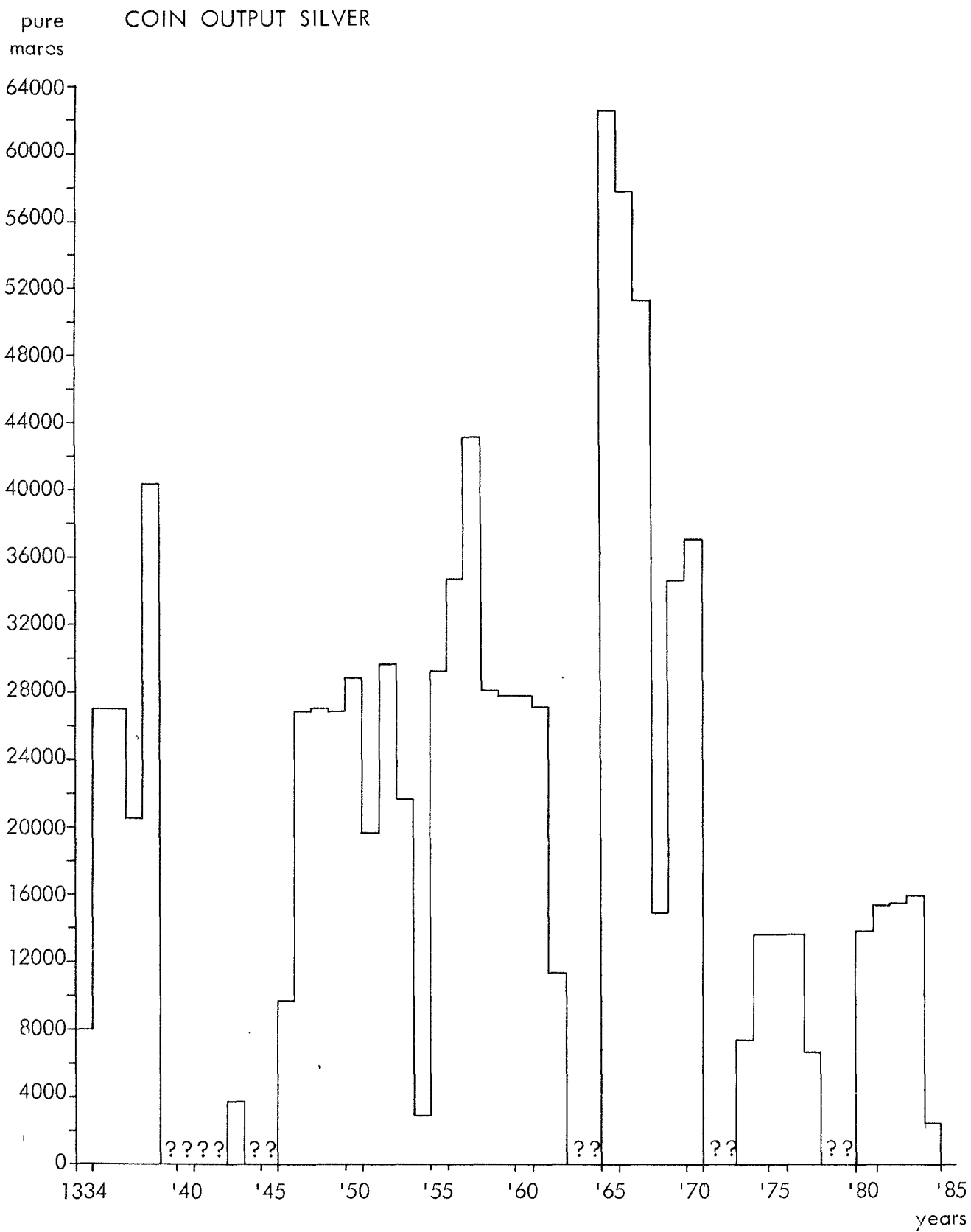
To what extent can international monetary mechanisms serve as an explanation of the changing monetary policy during the period 1330 to 1346? The English Parliament had issued in 1335 a strict prohibition on the export of both bullion and coin. At the same time Edward III devalued his smaller silver coins.³³ Although this could have especially affected the Flemish trade, these regulations appeared to have been difficult to enforce. The English coinage, which had fallen into decline during the previous decades, nevertheless saw in 1336 a strong revival, which must to a certain extent have had disadvantageous effects on the supply of bullion in Flanders.³⁴ It was however only after the great devaluation in France in January 1337, the first in six years, that the Flemish currency was devalued. During this one year, the Count received on average 1d. par. per groat, half or quarter groat which was minted. Herein lay by far the greatest profit obtained from the whole coinage during the years 1334 to 1346.

The mechanism is thus complex: Louis de Nevers seems primarily to have been purely seeking his own profit. In 1337, external pressure and the export of bullion forced him to devalue his currency further, which for a few months appeared to be especially profitable. Afterwards however, he became in turn the victim of in particular, the French devaluations. The last phase of the operation appeared, as far as the gold was concerned, far less successful, possibly again due to the English bullionist policy.

Apart from the already familiar political motives, it now becomes possible in the light of this, to explain more fully the stagnation of wool exports during the period 1336 to 1337. With the arrival of Edward III in Brabant and later, in 1338, also in Flanders, the situation changes. As a means of payment for his political and military goals, he flooded the Bruges market with wool and made continuous appeals to financiers. He initiated thus a colossal flow of capital, concentrated upon Bruges as the most important money market in West Europe.³⁵ Money flowed therefore readily into Flanders making the minting of any of their own coins unnecessary for years. During the next stage we see the typical effects of war upon the coinage. Hoarding made gold coinage difficult, whilst the need for small change increased. There was furthermore a noticeable rise in the price of silver, especially during the years 1337 and 1340 to 1341.³⁶

The extent to which the monetary policy of the revolutionary government differed from that of the Count remains as one of the final points to be discussed.

The production of white silver was entrusted in 1343 to Percheval du Porche from Lucca, who, during the years 1334 to 1337, was also the Count's



Graph 2

master of the mint in Ghent. It is noteworthy that this man, during the period July 1344 to July 1346, fulfilled this same function for the King of England, after the latter had repudiated his debts to Florentine bankers.³⁷ In 1346 the three leading towns of Flanders called upon a member of Percheval's family to become master of the mint.

Characteristic of this coinage, which in the contemporary accounts is described as 'of the three towns', are the low seignorage rates, the reduced intrinsic value and the modest amounts minted. The attention of the public was drawn to the debasement by the inscription *MONETA NOVA COMITIS* etc.³⁸ It was obviously necessary to respond to the speedy collapse of the French silver currency, which in April 1343 had reached its lowest point. The considerable increase in English coin output from 1341 onwards, must also have contributed to the scarcity of silver in Flanders, since 94% of the bullion was of foreign origin.³⁹ It is remarkable, therefore, that the revaluation of the French currency during the years 1344 to '46 was not followed in Flanders.

In January 1346, a groat was issued containing still less silver than the previous one. Owing to a minimal seignorage, it was still possible to attain a reasonable output. One may here point to the three devaluations which the English silver currency underwent from July 1344 to January 1346, as a result of which the English production of silver coins attained, for a short duration, a higher level than had been attained for thirty years. In Brabant and Hainaut, debasements equally took place in 1345.⁴⁰ The Flemish coinage of 1346 can therefore not be regarded as purely profit-seeking vis-a-vis France; it was defensive against devaluations in England and in the neighbouring principalities. Finally, it is noteworthy that the towns did not strike small change, probably because they lacked the mint revenues to press the mintmasters on this point. this point.

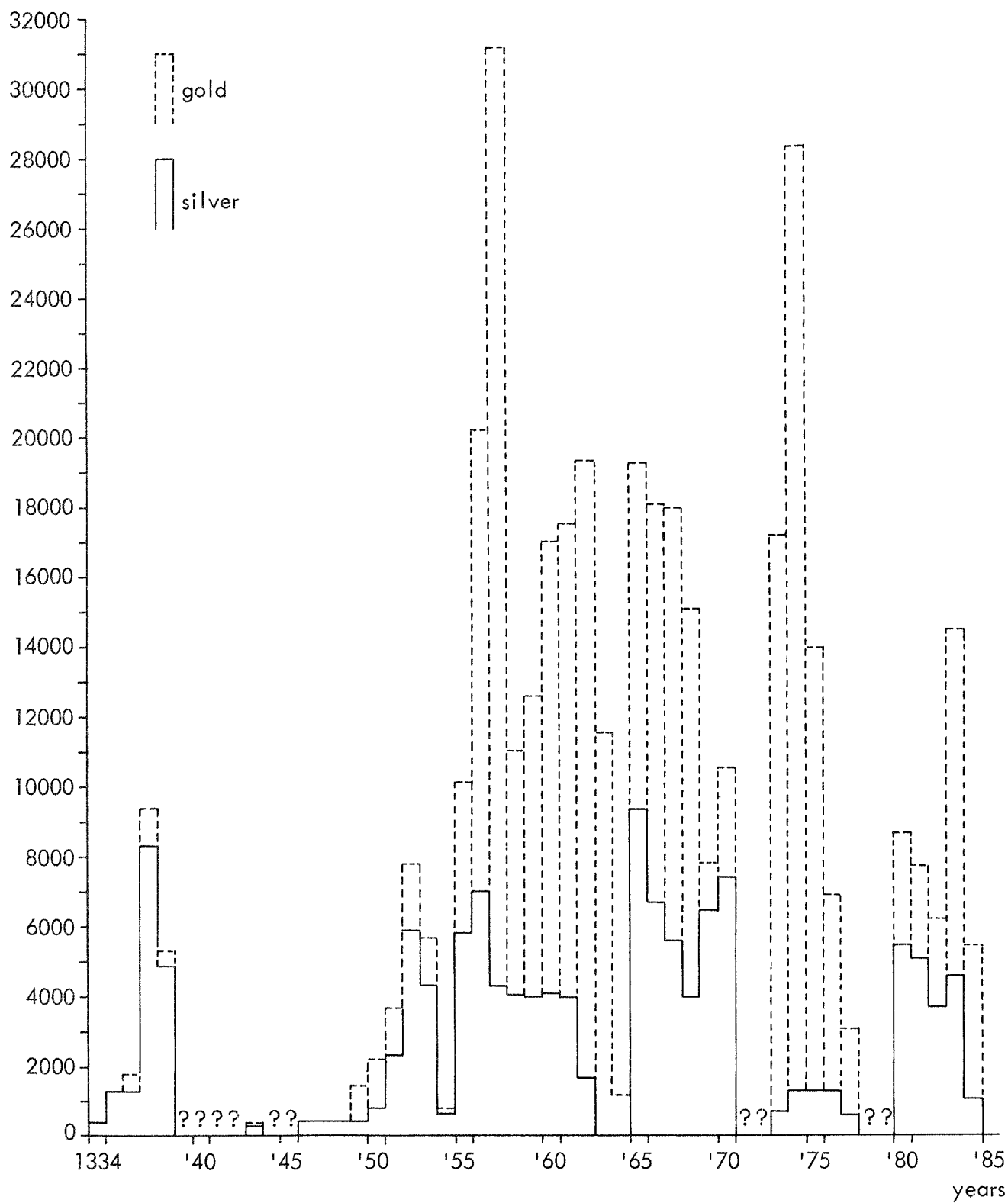
Count Louis de Nevers tried to draw maximal profits from his coinage. At least during some months in 1337 and '38 he was certainly successful in this. He may also have drawn an extensive income from his debasements in 1331 and '32. In those years his seignorage receipt represented a considerable part of his total income. On the other hand, the monetary policy of the leading towns did not strive towards high seignorage receipts but appears to have been essentially determined by external circumstances. It did not manage, however, to provide the poor people with small change, in contrast to both Louis de Nevers and the Florentine revolutionary government.

As far as the reign of Louis de Male is concerned, our analysis equally aimed at a more precise insight in the motives and instruments of monetary policy. The suggestion of profit-seeking by the count and his advisers has now become a certainty. Of course, their decisions depended on the market situation, for which they could not be held solely responsible. But within that framework, they obviously took all the possibilities of profit which were presented to them.

The international effects of the monetary policy of the period were most likely increased by the sharp insight which existed among certain Italian specialists, who through their consecutive service to different masters were able to benefit on either a personal or family level by the profit-seeking of their masters.

£ parisis

SEIGNORAGE RECEIPT



Graph 3

Table 2. Coinage of white silver and seignorage in Flanders 1331-1346

Period	No. of days	fineness	pure marcs of Troyes	taille	rate of seignorage	seignorage receipt (in £ parisis)	no. of coins	per diem output (in marcs)
8.8.31-12.3.32	218	10d.12g.	?	57	1 gr.	?	?	?
13.3.32-?	?	10d.6g.	?	57½	1 gr.	?	?	? (a)
16.9.34-26.4.37	955	10d.6g.	70,829	57½	1 gr.	3,541 9/-	9,535,685	74 (b)
25.5.37-15.2.38	267	9d.	27,429	60½	7 gr.	9,600 3/-	} 2,801,564	103
19.2.38-10.6.38	113	9d.	7,301	60½	5 gr.	1,825 6/-		65
24.6.38-7.11.38	137	9d.	5,619	60½	5 gr.	1,404 17/-	453,296	41
	4 yrs. 53 d.		111,178			16,171 15/-	12,790,645	
16.4.43-17.10.43	185	8d.	3,768	66	2 gr.	376 16/-	373,032	20
20.1.46-20.11.46	305	7d.16g.	6,969	66	1 gr.	353 8/-	719,994	23

(a) in quarter and half groats; the taille is in all cases calculated in proportion to the groat

(b) in groats, half groats and quarter groats

Table 3. Gold coinage and seignorage in Flanders 1336-43

Period	no. of days	pure marcs of Troyes	taille	rate of seignorage	seignorage receipt (in £ parisis)	no. of coins	per diem output (in marcs)
28.6.35-?	± 1 yr.	(2,184) (a)	71 $\frac{2}{3}$	9 gr.	(984)	?	?
16.6.36-27.1.38	592	3,028	71 $\frac{2}{3}$	9 gr.	1362 2/-	217,000	5.115
28.6.37-9.1.38	197	170	53 $\frac{1}{2}$	27 gr.	229 19/-	9,250	0.863
5.3.38-8.6.38	96	252	53 $\frac{1}{2}$	18 gr.	220 16/9	13,500	2.625
	3 yrs.	3,450			1812 17/9	239,750	
		(5,634)					
16.4.43-9.8.43	116	27	53 $\frac{1}{2}$	12 gr.	16 4/-		0.233

Table 4. Coinage of black silver in Flanders 1331-1338

Period	no. of days	fineness	marcs of alloy	taille	no. of coins
8.8.31-12.3.32	218	1d. 21g.	?	264	?
13.3.32-?	?	1d. 18g.	?	264	?
16.9.34-26.4.37	2 yrs. 223 d.	1d. 18 g.	6,213	264	1,640,232
25.5.37-10.6.38	1 yr. 17 d.	1d. 18 g.	3,044	268 $\frac{3}{4}$	805,899
	3 yrs. 270 d.		9,257		2,446,131

(a) Extrapolation on the basis of the data for the following period.

(b) Value: 1d. parisis.

Table 5. Average per annum of the coinage in Flanders

	1334-1346			1346-1384		
	weight total	weight average p.a.	number of coins p.a.	weight total	weight average p.a.	number of coins p.a.
gold	851 kg (1385.5 kg) (a)	70,917 kg (426.308 kg)	19,979 (119,875) (b)	48,867 kg	1,643 kg	413,391
white silver	29,869 kg	2,489 kg	1,156,972	195,994 kg	5,262 kg	c. 3,625,000
black silver	330,745 kg	27,562 kg (88,199 kg)	203,844 (652,302)	?	?	46,472

In brackets: (a) an extrapolation for 1335-36 is included.
(b) p.a. during period of effective coinage.

Table 6. Gold coinage and seignorage under Louis de Male, 1346-1384

This table is an extension and a revision of those published by van Werveke, "Currency manipulation," p. 120, and "De muntslag," p. 22 and p. 26. There are several reasons for the differences. The source material has been extended to the acts published by T. de Limburg-Stirum, Cartulaire de Louis de Male, 2 vols., Bruges, 1898-1901. Some supplementary data are drawn from accounts which had not been analysed thoroughly (20.12.1354-9.5.1355-24.11.1355, 22.11.-3.12.1356, 20.4-22.10.1359) or had been overlooked (7.8.1380-3.5.1382, see explicit statements in "De muntslag," p. 16 (sub nr. 51) and p. 19) (Lille, ADN, B 612/7751, 7796, 7834 and 20932; Brussels, ARA RR 2140).

On the other hand, our total figures are lower than van Werveke's because he seems to have accounted the marc of Troyes as 245 grams (see his equation in 'De munstslag,' p. 23 and also his *De Gentsche stadsfinanciën* in *de Middel eeuwen*, Brussels, 1934, p. 107 which leads to an overestimation of about 0.1%).

His results were more seriously affected by a number of miscalculations (see also the different figures in his two publications on the subject). It should be stressed, however, that we are very much indebted to the work done by our illustrious predecessor.

The dates in the first column concern the period of effective mintage unless this is lacking in the document. A letter "A" before the dates indicates the period of the account; a letter "A" or "M" behind the dates refers to the latter date, stating that it is the end of the account ("A"), or of the mintage period ("M").

Period	Coin	Currency (in groats)	Fineness (in carats)	Pure marcs of Troyes	Taille	Rate of seign- orage (in groats/marc)	Seignorage receipt (in £ parisis)	No. of days	per diem out- put (in marcs of Troyes)
A 6.5.1349-1.1.52	écu	22	23 ¹ / ₄	12,700 2 oz.	54	6	3,810 3/-	989	12.842
A 15.1.52-6.9.53	écu	23 ¹ / ₂	23 ¹ / ₄	7,925 1 oz.(a)	54	9	3,204 4/8	599	13.231
A 20.12.54-24.11.55	écu	24	22 ¹ / ₄	9,529 4 ¹ / ₂ oz.	54 ¹ / ₃	12	5,717 14/6	340	28.028
20.2.56-13.8.56	écu	24	22 ¹ / ₄	2,226 6 oz.	54 ¹ / ₃	18	2,004 1/6	176	12.652
12.8.56-3.12.56	mouton	28	24	7,418 3 ¹ / ₂ oz.	52	28	10,378 19/6	114	65.074
10.12.56-11.2.57	mouton	28	24	3,096 4 oz.	52	46 ² / ₃	7,225 3/-	63	49.151
11.2.57-4.3.57	mouton	28	24	1,442 2 oz.	52	42	3,028 18/-	22	65.557

(contd.)

Table 6 continued

Period	Coin	Currency (in groats)	Fineness (in carats)	Pure marcs of Troyes	Taille	Rate of seign- orage (in groats/marc)	Seignorage receipt (in £ parisis)	No. of days	per diem out- put (in marcs of Troyes)
11.3.57-4.11.57	mouton	28	24	13,336 4 oz.	52	28	18,671 5/3	239	55.801
19.9.57-12.10.57	écu			594 5 oz.				24	24.776
11.11.57-24.8.58	mouton	28	24	7,269 1½ oz.	52	14	5,088 7/11	287	25.328
24.8.58-22.10.59	mouton	28	23½	11,200 ½ oz.	52½	14	8,836 5/3	425	26.353
22.10.59-1.2.60	mouton	28	23¼	2,900 2 oz.	52½	14	2,092 9/6	71	40.849
9.11.59-8.2.60	royal		24	272 5 oz.	66	1½ roy.	490 19/-	90	3.029
8.2.60-14.3.60	mouton	28	22¼	1,915 3 oz.	53	38	3,639 6/-	36	53.205
14.3.60-25.7.60	mouton	28	22¼	3,670 6 oz.	53	28	5,539 4/6	133	27.600
25.7.60-16.9.61	mouton	28	22¼	8,638 7 oz.	53	20	8,638 16/6	396	21.815
16.9.61-4.12.61	mouton		21½	557 6 oz.	53	36	1,003 19/-	80	6.972
16.9.61-13.9.62	franc	27	24	13,602 4½ oz.	63⅓	36	24,484 12/7	363	37.473
12.-27.9.62	franc	27	24	300	63⅓	40	360 -/-	16	18.750
A 15.10.62-22.12.62	franc	27	24	742 ½ oz.	63⅓	27	1,001 16/6	69	10.755
7.1.63-14.3.63	franc	27	24	442 1 oz.	63⅓	18	397 18/3	67	6.599
14.3.63-21.7.63	franc	27	24	1,665 6 oz.	63⅓	27	2,248 14/9	161	10.346
A 22.7.63-12.9.63	franc	27	24	4,982 ½ oz.	63⅓	18	4,483 7/-	53	94.001
12.9.63-23.10.63	mouton		19½	1,925 2 oz.	53½	35	3,369 2/-	42	45.839
23.10.63-11.11.63	mouton		19½	212 5 oz.	53½	63	818 6/-	20	10.631
11.11.63-29.1.64	mouton		19½	2,186 7 oz.	53½	28	361 13/-	80	27.325
29.1.64-4.3.64	mouton		19½	1,009 3 oz.	53½	14	706 11/-	36	28.038
4.3.64-11.5.64	franc	27	24	418 3 oz.	63⅓	18	376 13/-	69	6.063
A 10.2.65-17.12.67	lion	40	24	30,622 6 oz.	45¼	20	30,622 £10/-	1039	29.473

(contd.)

Table 6 continued

Period	Coin	Currency (in groats)	Fineness (in carats)	Pure marcs of Troyes	Taille	Rate of seign- orage (in groats/marc)	Seignorage receipt (in £ parisis)	No. of days	per diem out- put (in marcs of Troyes)
A 10.2.65-28.6.65	$\frac{1}{2}$ lion		24	320 $3\frac{1}{2}$ oz.	$90\frac{1}{2}$	20	320	8/- 139	2,305
A 8.2.66-12.3.67	lion (b)		18	1,543 $1\frac{1}{2}$ oz.	$45\frac{1}{4}$	8	616	5/6 398	3,878
19.12.67-18.6.68	heume	54	24	9,673 7 oz.	$35\frac{1}{4}$	60	11,885	4/7 182	53,153
19.12.67-21.1.68	$\frac{1}{3}$ heume	18	24	47 4 oz.	$(105\frac{3}{4})$	60	85	10/- 34	1,397
22.9.69-5.8.70	Flanders		24	5,316 $1\frac{1}{2}$ oz.	$58\frac{1}{2}$	16	4,252	19/4 318	16,718
2.4.70-5.8.70	lion		24	210	$45\frac{1}{4}$	22	230	18/6 126	1,666
A A 18.6.17.22.11.73	écu		24	55 4 oz.	$54\frac{1}{2}$	$21\frac{1}{2}$	59	14/- 159	21,583
				238 4 oz.		44	333	16/4	
A 22.11.73-28.3.75				3,137 5 oz.		$130\frac{1}{2}$	12,942	13/-	
M	écu		24	10,541 2 oz.	$54\frac{1}{2}$	$108\frac{1}{2}$	36,153	17/- 472	22,333
29.3.75-26.6.76	écu	A	24	5,036 6 oz.	$54\frac{1}{2}$	$80\frac{1}{2}$	12,214	-/8 456	11,046
A 6.11.76-27.6.77	écu		24	2,027 4 oz.	$54\frac{1}{2}$	$48\frac{1}{2}$	3,294	14/- 234	8,665
A 30.1.80-7.8.80	écu		$23\frac{1}{2}$	421 $7\frac{1}{2}$ oz.	$54\frac{1}{2}$	40	606	18/- 220	1,918
A 30.1.80-28.4.81									
M	écu		23	1,832 $4\frac{1}{2}$ oz.	$54\frac{1}{2}$	102	3,361	14/6 453	4,045
28.4.81-18.8.83	écu		23	4,139 7 oz.	$54\frac{1}{2}$	82	5,819	15/- 844	4,905
7.9.83-29.2.84	écu		$21\frac{1}{2}$	2,309 $3\frac{1}{2}$ oz.	$54\frac{1}{2}$	180	12,471	11/- 176	13,122
Totals				199,657 marcs = 48,866.649 kg			263,249	13/7	

(a) Half and quarter écus included.

(b) "fais des moutons de Brabant"

Table 7. Silver coinage and seignorage under Louis de Male, 1346-1384

Period	Coin	Fineness	Pure marcs of Troyes	Taille	Rate of seign- orage (in		Seignorage receipt (in £ parisis)	No. of days	Per diem out- put in marcs
					groats/marc)	groats/marc)			
24.11.1346-27.5.51	groat	6 d. 23½ g.	121,030 2 oz.	66	2	2,019	16/6	1646	74
7.8.50-27.7.51	1/3 groat	6 d. 12 g.	3,534 3 oz.	195	4	706	18/-	307	12
28.5.51-1.1.52	groat	6 d. 12 g.	16,818 6 oz.	66	2	1,681	17/6	218	77
28.5.51-1.1.52	1/3 groat	6 d. 12 g.	1,137 4 oz.	195	2	113	15/-	218	5
15.1.52-5.9.53	groat	6 d. 12 g.	50,461	66	4	10,092	6/6	598	84
7.9.53-24.10.54	groat	6 d. 8 g.	2,543 7 oz.	?	5	635	19/-	413	6
20.12.54-24.11.55	groat	6 d. 4 g.	30,297 2/3 oz.	69	4	6,059	10/-	339	89
20.2.56-3.12.56	groat	6 d. 4 g.	31,857 2½ oz.	69	4	6,331	10/-	285	112
10.12.56-4.11.57	groat	6 d. 4 g.	41,316 5 oz.	69	5	10,329	3/8	330	125
4.11.17-18.10.59	groat	6 d. 4 g.	54,834 ½ oz.	69	3	8,120	4/7	714	77
22.10.59-4.12.61	groat	6 d.	58,627	70	3	8,793	15/-	774	76
4.12.61-27.9.62	groat	6 d.	13,812 4 oz.	72	3	2,071	17/6	331	42
12.4.65-8.2.66	lion	8 d.	71,666 5 oz.	57	3	10,750		303	237
8.2.66-11.12.67	lion	8 d.	99,542	57	2	10,954	3/-	671	148
21.1.68-28.3.68	lion	7 d. 12 g.	5,125	57	8	2,050	-/-	67	76
28.3.68-18.6.68	lion	7 d. 12 g.	9,718 6 oz.	57	4	1,943	15/-	83	117
21.4.69-9.8.69	lion	7 d. 4 g.	8,719 3½ oz.	57	3	1,289	5/-	111	79
22.9.69-25.5.70	groat	6 d.	62,725	72 ?	4	12,545	-/-	246	255
18.6.73-27.6.77	lion	6 d. 12 g.	54,368 2½ oz.	57	2	5,437	-/-	1470	37
30.1.80-28.4.81	double groat	6 d.	18,495	58	8	7,420	-/-	454	41
28.4.81-3.5.82	double groat	6 d.	15,787 4 oz.	58	6	4,736	5/-	370	43
22.5.82-11.9.83	double groat	6 d.	21,775	58	4	4,355	-/-	477	46
12.9.83-29.2.84	double groat	5 d. 18 g.	6,588 4 oz.	58	10	3,294	5/-	171	39
Total			800,781½ marcs						
			= 195,993.67 kg						

Table 8. Coin output and seignorage receipt for gold and silver per year, 1334-1384

	Gold		Silver	
	coin output in pure marcs of Troyes	seignorage receipt in £ parisis	coin output in pure marcs of Troyes	seignorage receipt in £ parisis
1334			8,010	400
5	?	?	27,071	1,354
6	1023	460	27,145	1,357
7	2029	1070	20,520	8,376
8	398	283	40,349	4,894
-	-	-	-	-
43	27	16	3,768	377
-	-	-	-	-
46			9,763	434
7			26,838	448
8			26,912	449
9	3326	998	26,838	448
50	4687	1406	28,680	816
1	4687	1406	19,649	2,314
2	4631	1872	29,534	5,907
3	3294	1332	21,641	4,364
4	336	202	2,902	672
5	9193	5516	29,225	5,845
6	8677	14791	34,611	7,020
7	18729	27421	43,016	4,300
8	9403	6887	28,031	4,151
9	10828	8504	27,726	4,116
60	9173	12860	27,723	4,158
1	9869	13522	26,695	4,004
2	10148	17752	11,267	1,690
3	14114	11548	?	?
4	2219	1214	?	?
5	9869	9870	62,442	9,366
6	12026	11264	57,586	6,706
7	11300	11308	51,180	5,632
8	9012	11089	14,843	3,994
9	1688	1351	34,472	6,440
70	3838	3133	36,972	7,394
1	?	?	?	?
2	?	?	?	?
3	4325	16400	7,286	729
4	8152	27958	13,500	1350
5	4567	12578	13,500	1350

(contd.)

Table 8 (continued)

	coin output in pure marcs of Troyes	seignorage receipt in £ parisis	Silver	
			coin output in pure marcs of Troyes	seignorage receipt in £ parisis
1376	2451	5556	13,537	1354
7	1542	2506	6,546	655
8	?	?	?	?
9	?	?	?	?
80	1777	3093	13,689	5,491
1	1698	2593	15,346	5,090
2	1790	2517	15,428	3,747
3	2650	9806	15,872	4,613
4	787	4252	2,312	1,156

NOTES

1. The greater part of the documentation for this paper was assembled during the years 1960-2 by my father, the late Professor Frans Blockmans. My contribution has consisted mainly in writing the interpretation, taking into account recent views on this subject. I must add, that the opinions expressed here are in several respects adverse to those of my father, due to the criticism which has been formulated during the last decade against the purely voluntary approach to medieval devaluations. I am very much indebted to Dr. Maurice Vandermaesen who helped me substantially with the consultation of the chancery register for the period 1331 to 1332 (A.D.N., B 1595/2), which was unknown to previous students.
2. H. van Werveke, "Currency manipulation in the middle ages: the case of Louis de Male, Count of Flanders," in Transactions of the Royal Historical Society, 4th series, XXXI, 1949, 115-127, reprinted in his Miscellanea mediaevalia, Ghent, 1968, 255-267; De Muntslag in Vlaanderen onder Lodewijk van Male, "Mededelingen van de Koninklijke Vlaamse Academie voor Wetenschappen, Letteren en Schone Kunsten van België, Klasse der Letteren", XI, 5, Brussels, 1949, 27 p.
3. P. Spufford, Monetary problems and policies in the Burgundian Netherlands, 1433-1496. Leyden, 1970, 14-15; J. H. Munro, Wool, cloth and gold. The struggle for bullion in Anglo-Burgundian trade 1340-1478. Brussels-Toronto, 1973, 5-6, 39-41.
4. M. Vandermaesen, Lodewijk II van Nevers, in Nationaal Biografisch Woordenboek, 5, Brussels, 1972, 523-534.
5. V. Gaillard, Recherches sur les monnaies des comtes de Flandre depuis les temps les plus reculés jusqu'à l'avènement de la maison de Bourgogne. Ghent, 1857, Pièces justificatives XVII-XXIII, 31-63.

6. J. Ghysens, "Le monnayage d'argent en Flandre, Hainaut et Brabant au début de la Guerre de Cent Ans," in Revue belge de Numismatique, CXX, 1974, 109-191.
7. Brussels, Algemeen Rijksarchief, Rekenkamer, Rolrekeningen (ARA, RR) 788-793; H. Nelis, Chambres des Comptes de Flandre et de Brabant. Inventaire des Comptes en rouleaux. Brussels, 1914, 54.
8. Lille, Archives départementales du Nord, série B, (ADN, B) 1595², 1565, 1566.
9. Brussels, ARA, RR 4 and 5; Nelis, op.cit., 9.
10. Lille, ADN, B 1569; this important document has been discussed by P. Thomas, "Une source nouvelle pour l'histoire administrative de la Flandre. Le registre de Guillaume d'Auxonne, chancelier de Louis de Nevers, comte de Flandre," in Revue du Nord, X, 1924, 5-38.
11. Lille, ADN, B 1565, nr. 404, f^o 63r^o.
12. Lille, ADN, B 1565, nr. 456 f^o 70 v^o.
13. A first indication is the duration of three years; furthermore, the total absence of formality or personal details in the contract of 28 June, 1335 concerning Falco da Lampaggio ("nostre amé F.L."), whereas seven months earlier the appointment of the master of the mint for silver was for a period of one year only, formulated more precisely: "nostre amé vallet Perchival du Porche de Lukez." Most important are the two fragments of the survey of the Count's finances in 1332 (see Note 10) where coins are described as "tiercelet de Faucon" and "Faucon for", (ADN, B 1569 f^o 62). They probably point to the mintmaster's first name, the latter quotation suggesting a strong coin dating from either before the devaluation of August 1331, or after the revaluation of March 1332 (see p. 71). In any case, the florins had, since mid-August 1331, the same value of 12 groats tournois as in the contract of 28 June 1335. (J. Vuylsteke, Gentsche stads- en baljuwsrekeningen 1280-1336. II. Ghent, 1900, 746 l. 1-2 and 750, l. 39-40).
14. Lille, ADN, B 1592² f^o 82v^o-83r^o: instructions to the master and the warden of the mint at Aalst and to the local bailiff to ensure the application of the new ordinance.
15. J. Day, in Past and Present, 1978.
16. Vuylsteke, op.cit., II 805 l. 4-8 and 17-18.
17. On 11 February 1332, the Count informed the Abbot of Saint Nicholas at Tournai, at the request of the Dean of Saint Donatian at Bruges, about these exchange rates which were to be applied to all debts to the Count (ADN, B 1592² f^o 117r^o).
18. Vuylsteke, op.cit., II 746, 750 and A. Van Werveke, idem, III Register, 1256-7, 1269.
19. E. Fournial, Histoire monétaire de l'Occident médiéval. Paris, 1970.

20. See table 1 and T. H. Lloyd, The English wool trade in the Middle Ages. Cambridge, 1977; also his "Overseas trade and the English money supply in the Fourteenth Century," in N. J. Mayhew (ed.), Edwardian monetary affairs (1279-1344), British Archaeological Reports, 36, Oxford, 1977, 104.
21. Lille, ADN, B 1569, f^o 60r^o-70v^o; Thomas, op.cit., 12 and 27; F. Blockmans, "Le contrôle par le prince des comptes urbains en Flandre et en Brabant au Moyen âge," in Finances et Comptabilité urbaines du XIII^e au XVI^e siècle. Pro Civitate. Brussels, 1964, 307-8, 315-319.
22. Brussels, ARA, RR 5; to achieve a yearly income, the sum of the account of 7.9.1335-7.11.1336 has been reduced to 12/14.
23. The 'transport' is a general tax of £ 8,000 parisis per year on the county of Flanders due to the Count on the occasion of the restitution to the King of France of the Castelries of Lille, Douai and Bèthune in application of the treaties of Athis-sur-Orge (1305) and Pontoise (1312).
24. Lille, ADN, B 1595² f^o 84r^o.
25. Placcaerten ende ordonnantien van de hertogen van Brabant, 1, Antwerp-Brussels, 1648, 546.
26. Vandermaesen, op.cit.
27. Description by Ghyssens, op.cit., 130-5.
28. Ibid., 123-4, 132.
29. Ibid., 186-7.
30. On 8 August, 1331 Jacques de Beernem was appointed as the warden of the mint at Aalst; his instructions then concerned both gold and white silver coins. The instructions addressed to him on the 13th of March, 1332, however, do not mention gold. His appointment as the warden of the mint in Ghent on 24 November, 1334 is for silver, black and white (ADN, B 1595² f^o 83r^o and 84r^o; 1565 nr. 475 f^o 74v^o).
31. Louis de Nevers urged the masters of the mint Jehan de Septare and Percheval du Porche on 8 August 1331 and 13 November 1334 in the same terms: "Et est assavoir que de petites mailles noires dessus nommées li maistres dessus diz ne sera tenu de nous rendre nulle chose, mais il sera tenu de faire ent et ouvrer convenablement, tant qu'il devra souffire à nostre dit pays." Lille, ADN, B 1565 nr. 474 f^o 74r^o and 1595² f^o 82v^o.
32. Van Werveke, De muntslag, 27.
33. Munro, op.cit., 23-4, 34.
34. J. Craig, The Mint. A history of the London mint from A.D. 287 to 1948. Cambridge, 1953, 61-4 and 410-1; Lloyd, "Overseas trade," 98.
35. E. B. Fryde, "Financial resources of Edward III in the Netherlands, 1337-40," in Revue belge de Philologie et d'Histoire, XLV, 1967, 1157-69.

36. Ghyssens, op.cit., 136.
37. Craig, op.cit., 65-7.
38. Ghyssens, op.cit., 127 and 135.
39. Lloyd, "Overseas trade," 98.
40. Ghyssens, op.cit., 167-71.