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## *Causes of Inflation of France in the XVI Century Problems of Measurement and Interpretation*

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The term "inflation" describes two essentially different processes, the consequences of which are, however, closely connected. In broad terms, inflation is a spontaneous phenomenon which occurs when the money supply increases in relation to the supply of goods — and it is in this sense that the 16th century is described as a period of inflation. We shall return to this shortly. In the narrower sense the term refers to a systematic policy, the increase in the amount of "token-money", with no intrinsic value, issued by the state. The issue of large quantities of base coin in Spain in the early 17th century, or the issue of "*planche à billets*" in Revolutionary France, led to inflation of this sort. It is with the former type, however, that we shall be concerned in the present paper, in which we wish to consider how and why the historians of the 1930s attempted to "rediscover" the inflationary movements of the 16th century, the means they used to measure the scale of these movements, and the extent to which their theoretical and historical interpretations still remain valid in view of the information which has been collected. Finally we shall consider the lines of inquiry open to the contemporary historian who seeks to follow up some of the problems which appear the most pressing and debatable.

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The influence exerted by the destruction of the European monetary system after the first World War, and in particular by the crisis of 1920, on historical thinking and research hardly requires to be mentioned.<sup>1</sup> The

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<sup>1</sup> Cf. DENIS RICHEL, *Croissance et blocage en France du XVe au XVIIIe siècles*, in « Annales E.S.C. », 1969.

crisis found in Lord Keynes its historicist-theoretician and in Earl J. Hamilton its genealogist, to generalize at the risk of over-simplification. In a situation in which policy was based on monetary instability, because it was the source of profit, Keynes wrote in 1930<sup>2</sup>: « This book is designed to show that the wealth of nations is established not in times of revenue inflation but in times of profit inflation, when prices run ahead of costs ». Denying that gold or silver had any intrinsic value and assigning them an almost mystical role, Keynes argued: « It is not that monetizable metals constitute a more real wealth than other things, but because their effect on prices creates the driving force of profit ... Was not the long stagnation of the Middle Ages caused by the shortage of precious metals? » This pan-monetary outlook resulted from what was in fact a very ephemeral historical experience, but it greatly influenced historians of the 16th century. As far as Spain is concerned one need only think of the remarkable work of Earl J. Hamilton,<sup>3</sup> which is completely impregnated with the theme of profit inflation. In France as well the « price revolution » of the 16th century was also an issue of major interest amongst historians. When editing, in 1932, Jean Bodin's *Reply to the Sieur de Malestroit*, Henri Hauser<sup>4</sup> accorded Bodin the strange honour of having invented the quantitative theory of money, and the publication in 1934 of *Ecrits notables sur la monnaie*<sup>5</sup> came in response to a very genuine demand on the part of historians.

Since then research has followed two separate paths. The study of prices, based on official series of food prices or on the archives of charitable institutions, employing highly specialised methods, thanks in particular to the pioneering work of Jean Meuvret,<sup>6</sup> has made possible the collection of a very considerable amount of information, much of which has been analysed and interpreted.<sup>7</sup> In addition factors such as minting,<sup>8</sup> the relations between gold and silver,<sup>9</sup> and France's place in a changing world monetary system<sup>10</sup> have all been examined in a series of excellent studies.

But the connections between prices and money, between the coin circulating in France and American silver, have given rise to, and still give

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<sup>2</sup> KEYNES, *Théorie générale de l'emploi, du salaire et de la monnaie*, 1930.

<sup>3</sup> EARL J. HAMILTON, *American Treasure and the Price Revolution in Spain*, Cambridge, 1934.

<sup>4</sup> JEAN BODIN, *Response à M. de Malestroict*, Paris 1932; with a long preface by Henri Hauser.

<sup>5</sup> LE BRANCHU, *Ecrits notables sur la monnaie*, 2 volumes, Paris 1934.

<sup>6</sup> JEAN MEUVRET in « *Annales E.S.C.*, 1955.

<sup>7</sup> See below.

<sup>8</sup> FRANK SPOONER, *L'économie mondiale et les frappes monétaires en France*.

<sup>9</sup> F. BRAUDEL, 2e édition (1966) de *La Méditerranée et le monde méditerranéen à l'époque de Philippe II*.

<sup>10</sup> P. VILAR, *L'or dans le monde du XVe siècle à nos jours*, Paris, Flammarion, 1974.

rise to, a number of *theoretical* and *historical* problems which we must first enumerate before discussing:

1) Does the level of prices depend solely, or even principally, on the money supply? The vulgar quantitative equation employed by Irving Fisher (which is a tautology rather than an explanation) cannot withstand the critique of either the Classical liberal economists or of the Marxist economists<sup>11</sup> or of contemporary economic thought. It is necessary to give particular attention to the problems posed by the supply and demand of consumer goods, and in particular to the quantitative (population rates, living standards) and the qualitative (seigniorial, fiscal or "bourgeois" exactions from gross income) aspects of demand.

2) Have the studies of historians who have attempted to compare movements of prices with the influx of precious metals in specific periods served to strengthen or weaken the theory that the "price revolution" was related to the silver of Potosi? Let us be quite plain: everything suggests that the rise in prices had started well before American metals arrived in Europe, that the pattern was determined by extremely complex factors, and that its consequences owed more to peculiarly French and peculiarly rural circumstances than to any international or urban situation.<sup>12</sup>

3) There can be little doubt that it is quite erroneous to refer to Jean Bodin and the "French quantitativists". This involves a double error, first because Bodin had himself noted that the price rise predated the arrival of American silver, and also because he pointed to the importance of other factors contributing to inflation. One has only to reread his work carefully to be fully aware of this. Secondly, as Pierre Vilar has already brilliantly demonstrated, even before Bodin, Spanish observers, and especially the Dominicans of the Salamanca school, had already a much wider theory of the relations between Peruvian silver and the structure of production, exchange and trade in Europe.

We are then in 1974 still left with two principal questions: can the inflationary movement in France in the 16th century be measured and dated? Which explanations of this movement seem to be the most plausible?

## I. MEASUREMENT OF INFLATION IN 16th CENTURY FRANCE

On this there are four points that need to be considered:

### A. *Difficulties encountered in measurement*

These arise principally from the complexity of the monetary system

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<sup>11</sup> MARX, *Contribution à la critique de l'économie politique*.

<sup>12</sup> See above.

<sup>13</sup> VILAR, *Les primitifs de la pensée économique*, in « Mélanges offerts à Marcel Bataillon », 1963.

and from the very limited nature of the groups of commodities which may be studied.

a) *Complexities of the Monetary System.* In order to measure inflation it is essential to have a reliable *standard of measurement* (e.g. today, gold or the dollar). In this period however the choice of a reliable standard is made extremely difficult by the presence of two forms of coin (*livre-tournois* and metal coin), by the variations in the relationship between gold and silver (the bi-metallic ratio), the presence of foreign coin circulating with French coin (see the review by D. RICHEL, in *Revue Historiques*, 1961), the importance of the sectors where only small debased coin circulated (see J. MEUVRET, *Études d'histoire moderne et contemporaine*, 1948), and by the existence of areas of barter economy (*Ibid.*).

b) *The lack of quantitative information on commodity prices.* So far principal attention has been devoted to cereals (see: M. BAULANT & MEUVRET, *Prix des céréales extraits de la mercuriale de Paris*, 1960; E. LE ROY LADURIE, *Les Paysans de Languedoc*, II, 819; F. BRAUDEL, *La Méditerranée*, new ed., vol. I, p. 472, in which M. Baulant's figures are reprinted). But although cereals did constitute the bulk of popular purchases, they were not exclusive. The problem is to discover the contents of the « housewife's shopping-basket » (see: BAEHREL, *La Basse Provence au XVII<sup>e</sup> siècle*). Another major problem is to learn how certain rare articles could become market products (e.g. the book after the development of the printing press) because this implies a change in the structure of the market.

## B. Contemporary Observations

These have been studied for certain countries, such as Spain (see: P. VILAR, *Mélanges Offerts à Marcel Bataillon*, 1963). For France these have not been systematically examined and one could suggest certain points to follow up:

i) 1545 - Charles Desmoulins (*Tractatus commerciorum et usuarium*) estimated that prices had been rising since 1500 but that it was above all since 1524 that « coeperunt omnium rerum pretia valde non momentane sed perseverante augeri ». The observation is important because it suggests the prolonged and non-cyclical nature of the phenomenon.

ii) 1560 - a gentleman's complaint quoted by F. Braudel (*Civilisations matérielles et capitalisme*): « In my father's day there was always meat to eat and the dishes were always plentiful. Wine was drunk just as if it was water ».

iii) 1566 - Malestroit's famous paradox.

iv) 1569 - Bodin's *Reply*.

v) 1576-88 - The remonstrances of the Estates General.

C. *A Summary of the Statistical Literature*

a) *On France*

In place of the now outdated work of d'Avenel, and the methodologically suspect calculations of HENRI HAUSER (*Recherches sur l'Histoire des Prix*, 1936), the more limited studies of M. BAULANT & MEUVRET (*op. cit.*) and E. LE ROY LADURIE in particular are to be preferred. From these two conclusions can be drawn. First, in the long term: taking 25 year period in order to avoid the influence of exceptional increases resulting from shortages, the increase in prices between 1520-1545 and 1576-1600 (*expressed in money of account*) was of the order of 4.5 (we shall discuss the effects of currency depreciation in the 3rd section). This indicates a total contrast between the early (until 1545) and the later part of the century. In the earlier period there were several violent increases due to harvest failures and difficulties, which influenced the long term movement. The price of corn in Paris between 1520 and 1545 only once (1531-2) exceeded that of 1520. These increases were then due to shortages and had nothing to do with monetary factors. But after 1545 the violent short-term increases were no longer followed by a return to previous prices. This indicates that the long-term movement was beginning to establish itself, although in moderate form. It should be remembered that Du Moulin's remarks date from 1545. After 1572 there is a massive wave of increases which must be related to monetary developments.

b) *Comparisons with other European countries*

For Spain, Hamilton (whose findings are corrected by J. NADAL, *La Revolución de los precios españoles en el siglo XVI in Hispania*, Madrid 1959) confirms that the early years of the century witnessed violent but irregular price rises. The long-term price increases started earlier than in France however (from 1521-5).

For Florence see PARENTI, for Milan CIPOLLA (*Annales E.S.C.*, Oct.-Dec. 1955), for Rome DELUMEAU. Cipolla argues that the increases only became fully apparent between 1552 and 1560 and that it is not possible to talk of a revolution. It is interesting to note from this study that there was no correspondence between 1573 and 1590) and the main period of price increase. It was the attempts to rebuild the country after the wars and not the influx of silver which caused the price increases. This bears out the French example.

*Conclusion*

Although the 16th century was a period in which prices rose in France, as in the rest of Europe, one must nevertheless emphasize a number of

points. a) The necessity of distinguishing between increases arising from harvest failures or shortages, and those forming part of a continuous process. b) The monetary explanation of the inflation is weakened rather than strengthened. Let us now move on to the explanations of the inflation.

## II. EXPLANATIONS

Historians, like contemporaries, have attempted to explain the causes of the price rises, the chronology and effects of which they have now been able to establish. To understand the connections between inflation and the influx of new coin it is necessary to look closely at four factors: the devaluation of the money of account; the historical and theoretical limitations or purely quantitative theories of money supply; the actual use of American silver when coin was struck; the mechanism of supply and demand.

### 1. *The devaluation of the money of account*

This was a problem which did not occur in Spain (there was no devaluation of the *maravedis* throughout the 16th century) but it did in France, and was posed as early as 1566 by MALESTROIT in his *Paradoxes* on monetary matters. The general line of his argument is well known: inflation is only apparent because it is present only in prices given in *livres-tournois*, but if they are given in quantities of metal then they had not changed from the time of Philip the Fair. What had changed was the gold content of the *livre-tournois*. HARSIN (*Les doctrines monétaires et financières en France du XVI au XVIIIe siècle*, Paris 1928), who drew on the rather debateable calculations of P. RAVEAU (*Le pouvoir d'achat de la livre-tournois, in L'agriculture en Haut-Poitou au XVIe siècle*, 1926), has supported Malestroït against Bodin.

What should one conclude? It is necessary only to compare the depreciation of the *livre-tournois* on one hand (with the assistance of *Natalis de Wailly*) and the rise in nominal prices on the other (see Part 2 of this section), to establish that up until 1545 Malestroït's theory is not inaccurate. The depreciation of the *livre-tournois*, expressed in grams of pure gold, was of the order of 15% between 1513 and 1543, while the price rises did not exceed the same percentage. But after 1545, and until the official "stabilisation" following the Edict of Poitiers (Sept. 1577), the *livre-tournois* depreciated much more (it slid from 15 gm 62 of pure gold to only 11 gm 79) but the increase in nominal prices still greatly exceeded this depreciation. Monetary disorders then served to aggravate the effects of the price rise, but they did not cause it. While the *livre-tournois* depreciated by some 40% in the course of the century, nominal prices increased by 4. The price rise itself — even if expressed in metallic rather than nominal values — remains the essential phenomenon to be explained.

## 2. *The Limitations of Quantitative Theories of Money Supply*

### a) *Contemporaries*

Long before Bodin, the Salamanca theologians (see: P. VILAR, *art. cit.*; M. GRICE-HUTCHINSON, *The School of Salamanca*, Oxford 1952; LARRAZ, *La época del mercantilismo*, Madrid 1943) had shown the connection between the influx of American gold and inflation. But neither they nor Bodin were guilty of the crude quantitativism of which they were often accused in the 1930s. In the first place, Bodin refers to at least four subsidiary causes of the "dearness" of prices: the monopolies, dearths, the luxury of princes, and so forth. Nor did he look on the precious metals as a magical cause, but rather asked the very questions which the modern historian must also ask. Where did the metals come from? *When* did the increases start to be noticed? *In what ways* and, *chronologically, in what stages?* He dated the start of the dearer prices in France from the population expansion, and the revival of activity in general, which occurred in the late 15th century (« Following the six-score years that we had been giving chase to the English »). This is borne out by the fact that we now know that the economic revival antedated the search for new supplies of money (see: V. MAGALHAES-GODINO, *L'économie de l'empire portugais aux XVe et XVIe siècles*, Paris 1969; P. VILAR, *La Catalogne dans l'Espagne moderne*, vol. 1, Paris 1962). Bodin also provides us with both a map and a chronology of the price rises, emphasizing in particular certain exchange mechanisms (goods and metals, goods and wages etc.).

### b) *Theoretical criticism*

The theoretical criticism of the quantitative theory of money can only be sketched in this paper. From the political economists to Marx (e.g. *Contribution to the critique of political economy*) the relationship between the inflation of the 16th century and American silver has given rise to a whole series of theoretical considerations which need to be seriously re-examined (see especially: RICHARD CANTILLON, *Essai sur la nature du commerce en général*, new ed., Paris 1966). From this it is apparent that, on one hand, increase in monetary circulation is related to the *total economic structure* in which it occurs. The nature of production, the volume of domestic commerce, the level of wages, work in such a way that the same influx of metal may, at different times and in different places, have quite contradictory results. But precious metal is also a commodity just like any other. It is not so much its abundance, but rather a drop in its net cost (or of its *value* in the Marxist sense) which involves a readjustment of its equivalence with other commodities. This is an extremely important point for the historian, for it leads him to consider the development of mining *production* itself (see P. VILAR, *L'or dans le monde du XVIe siècle à nos jours*).

c) *Historical objections*

We have shown (see above Part I) that the statistical studies and literature demonstrate that the long-term price rise *pre-dated* (once the incidental increases caused by poor harvests etc. have been allowed for) the arrival of the American metals in really large quantities (see: P. CHAUNU, *Séville et l'Atlantique* and F. BRAUDEL, *La Méditerranée*).

3. *Back to Potosi*

The method of approach can also be changed, and instead of concentrating solely on the inflation, one can attempt to estimate the role of American metals in the production of money in the mints themselves. Using the techniques of *Neutron activation analysis* developed at the University of Michigan by A. Gordus, we have already begun (see A. & J. GORDUS, E. LE ROY LADURIE, D. RICHEL, *Le Potosi et la physique nucléaire*, « Annales E.S.C. », n. 6, Nov.-Dec. 1972) to test a sample of French and Spanish coins to trace the content of Peruvian metal. It appears that while a number of Spanish coins after 1556 certainly came from Potosi, none of the French coins which we have tested could possibly have come from there. When the study is finished we shall be able to say whether the silver in these coins came from Mexico or from the mines of central and eastern Europe.

At this early stage we cannot of course simply claim that no Potosi silver reached France. One can only suggest, as we have done, that « it did not submerge the old stock of silver like a layer of lava ». In these circumstances it also seems that its impact on the French inflation remains unproven.

4. *Inflation arising from macro-economic imbalances*

Let us now turn to the mechanisms of inflation in the general economic structure. Without attempting to outline a general theory, one can distinguish between *two types of inflation*, one affecting cereal prices alone, the other affecting commodities involved in both the trade between different regions and the trade different parts of Europe (see D. RICHEL, *Croissance et blocages en France du XVe au XVIIIe siècle*, « Annales E.S.C. », 1969).

a) The inflation of cereal prices must definitely be explained in terms of the change in the *population level* and the *volume of foodstuffs*. Until 1560 in the south of France, and until 1580-1600 in the north and the Paris region, the size of the population expanded, and regained the figures reached before the great crisis of the mid-14th century. « France is as full as an egg » (Montluc). The tithe returns (see J. GOY & E. LE ROY LADURIE, *Les fluctuations du produit de la dime*, Mouton 1972) show, however, that cereal production reached a ceiling in the years 1520-30. With no changes in productivity, and with increased marginal production costs (from the need to bring poor land under the plough), the cereal producers had to meet

a demand which had increased not only in quantity but also in quality (as a result of urban expansion).

b) Industrial goods and the commodities involved in international trade increased in price less than cereals, but were subject to the effects of the *international market*. Although these were limited simply to the items involved in international trade, it did necessarily bring their prices into line with others. Bodin noted this, and the influence of foreign prices (and Spanish prices in particular) on the map and chronology of the inflation in France can be assessed (see: D. RICHEL, *art. cit.*, *Revue Historique* », 1961).

### *Conclusion*

It is necessary to study the problem from three distinct angles. First, a quantitative study of the monetary situation, which involves going back to numismatics but with rather different interests from those of the traditional numismatists. Le Roy Ladurie, Gordus, and myself are hoping to widen our range of monetary tests and experiments. Secondly, a differential analysis of the different circuits of inflation, in terms of different products, milieu (town and countryside) and communications. Thirdly, a theoretical study jointly undertaken by economists and historians of the specific features of inflation in those societies where the mechanisms of contemporary capitalism are not present.

