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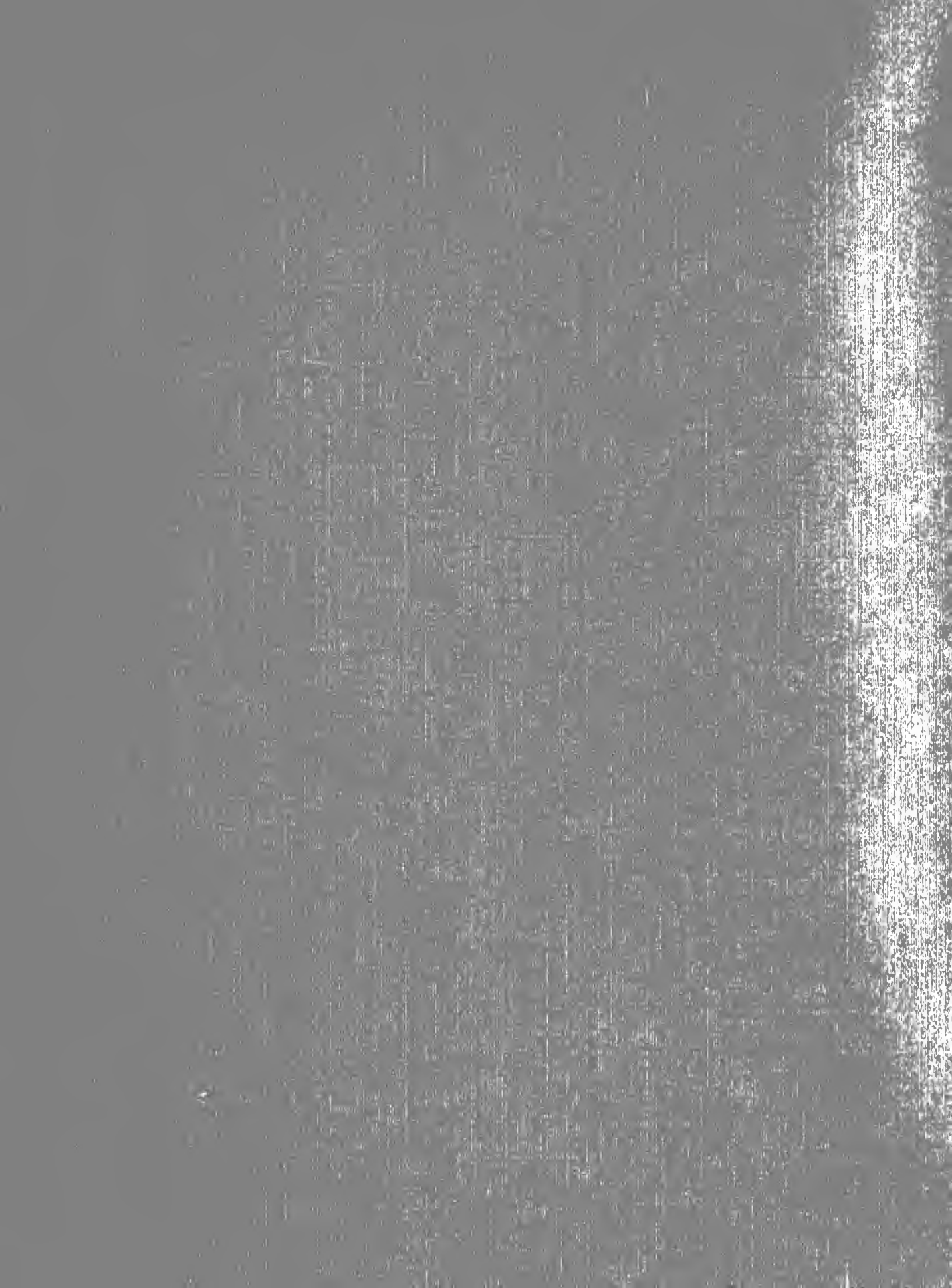
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Early Fiscal Theory
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Early Fiscal Theory

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EARLY FISCAL THEORY

By Hans Brems

Abstract

Theory is simplification, and our crudest simplification is macroeconomic theory. Simplifying means leaving things out of account, and for three centuries theorists have failed to agree on which particular things are too important to be left out. Some say physical output, some say price. Two schools of thought, i.e., unemployment theory and inflation theory, have asserted themselves with varying weights over the centuries.

The paper traces Keynesian unemployment theory back to Sir William Petty, Thomas Mun, Andrew Yarranton, Sir James Steuart, James Maitland Lauderdale, and Bertil Ohlin, and traces monetarist inflation theory back to David Hume, Anne Robert Jacques Turgot, Jean Baptiste Say, David Ricardo, and Irving Fisher.

EARLY FISCAL THEORY

By Hans Brems*

Körper und Stimme
leiht die Schrift
dem stummen Gedanken,
durch der Jahrhunderte Strom
trägt ihn
das redende Blatt¹

Friedrich Schiller

Inherently, theory is simplification, and our crudest simplification is macroeconomic theory. Macroeconomics is the branch of economics interested in the aggregated volume of output rather than its composition and in the price level rather than relative prices. In practice, macroeconomic models imagine an economy producing a single good. Here physical output as well as price are well-defined variables expressible as single numbers.

Simple algebra and simple estimation are welcome results of such crude simplification. A less welcome result is the greater scope for subjectivity. Simplifying means leaving things out of account, and for three centuries theorists have failed to agree on which particular things are too important to be left out. Some say physical output, some say price. With yet another simplification, two schools of thought may be said to have asserted themselves with varying weights over the centuries. They are unemployment theory and inflation theory, respectively.

I. UNEMPLOYMENT THEORY

Unemployment theory is the oldest of the two schools. Here, physical output is seen as bounded by demand. Supply is no problem: Demand will create its own supply. There is always excess capacity. Monetary or fiscal policy may stimulate demand, and the result will be larger physical output and better utilization of resources. In its extreme form the school has ideological overtones: Left to itself, capitalism is incapable of utilizing its own resources. Government action is the remedy.

Economics, a latecomer among sciences, emerged together with the nation state in the seventeenth century. Its practitioners were consultants, invited or uninvited, to the absolute monarch. The monarch wanted to know how to finance the mercenaries of his wars, the splendor of his court, his promotion of science and the arts, and his subsidies to new industries.

But there was more to seventeenth-century economics than the narrow problem of public finance. Technological progress in agriculture has released labor and generated unemployment.

1. Fiscal Policy: Petty (1662)

In a neat piece of sector analysis Sir William Petty estimated unemployment as follows: Out of a total labor force of 1,000, on an average of good and bad years only 900 will be employed:

Agriculture	100
export	200
luxuries	400
services	200

or, in Petty's own words (1662: 29):

... if there be 1000 men in a Territory, and if 100 of these can raise necessary food and raiment for the whole 1000. If 200 more make as much commodities, as other Nations will give either their commodities or money for, and if 400 more be employed in the ornaments, pleasure, and magnificence of the whole; if there be 200 Governours, Divines, Lawyers, Physicians, Merchants, and Retailers, making in all 900 the question is, since there is food enough for this supernumerary 100 also, how they should come by it? whether by begging, or by stealing ... now if they beg, they may pine for hunger to day, and be gorged and glutted to morrow, which will occasion Diseases and evil habits, the same may be said of stealing; moreover, perhaps they may get either by begging or stealing more than will suffice them, which will for ever after indispose them to labour ...

Petty's remedy was public works satisfying two conditions. The first condition was high labor intensity:

But what shall these Employments be? I answer ... making all High-wayes so broad, firm, and eaven, as whereby the charge and tedium of travelling and Carriages may be greatly lessened. The cutting and scouring of Rivers into Navigable; the planting of usefull Trees for timber, delight, and fruit in convenient places ...

I pitch upon all these particulars, first, as works wanting in this Nation; secondly, as works of much labour, and little art; and thirdly, as introductive of New Trades into England ...

The second condition was low import requirement:

... let it be without expence of Foreign Commodities, and then 'tis no matter if it be employed to build a useless Pyramid upon Salisbury Plain, bring the Stones of Stonehenge to Tower Hill or the like; for at worst this would keep their mindes to discipline and obedience and their bodies to a patience of more profitable labours when need shall require it.

So much for fiscal policy.

2. Monetary Policy: Mun (1664) and Yarranton (1677)

Public works were one way of employing the unemployed; private investment was another. Private investment would be encouraged by a low rate of interest. To Petty, the rate of interest was determined by the money supply, and to Petty, money was metal. Now under a metal standard where does money come from? Thomas Mun (1664: 134-138) gave the simple answer:

... I will take that for granted which no man of judgment will deny, that we have no other means to get treasure but by forraign trade, for Mines wee have none ... mony is gotten ... by making our commodities which are exported yearly to over ballance in value the forraign wares which we consume ...

In England money was metal, but Andrew Yarranton (1677) called attention to the practice of Dutch banks of extending credit with mortgages as collateral [Dove (1854: 38)]:

Observe all you that read this, and tell to your children this strange thing, that paper in Holland is equal with moneys in England ...

and believed that following the Dutch example would lower the rate of interest from six to four per cent.

3. Were They Keynesians?

Keynes may not have been the first Keynesian. To Keynes himself (1936: 336) all elements of mercantilist doctrine fell neatly into place:

... At a time when the authorities had no direct control over the domestic rate of interest or the other inducements to home investment, measures to increase the favourable balance of trade were the only direct means at their disposal for increasing foreign investment; and, at the same time, the effect of a favourable balance of trade on the influx of the precious metals was their only indirect means of reducing the domestic rate of interest and so increasing the inducement to home investment.

Was Keynes, the theorist, putting words into the mouths of the mercantilists? Heckscher, the historian (1955: 353) thought so:

It seems to me to be symptomatic of present-day tendencies that Keynes does not mention anywhere, as far as I can discover, the real reason for the excess of currency which has been characteristic of such a large part of the history of Western civilization. This was of course quite simply that governments needed money to finance wars and other state expenditures ... The effects on general economic life were generally unexpected and only intended in exceptional cases.

If Heckscher is right, what to Keynes looked like a monetary policy deliberately trying to reduce the rate of interest was simply a pragmatic way of financing large fiscal deficits caused by wars and preparations for war. If so, our sec. 2 is mislabelled. Like sec. 1 it should be labelled "fiscal policy". The disagreement between Keynes and Heckscher has to do with the motivation rather than the effects of what the mercantilists did. To Keynes, the mercantilists had a Keynesian model; to Heckscher they were pragmatists.

4. A Balanced Budget Multiplier: Steuart (1767)?

After the Physiocrats and immediately before Adam Smith, mercantilism finally found its codifier in Sir James Steuart. On taxes he said (1767, 272):

... I conclude that taxes promote industry; not in consequence of their being raised upon individuals, but in consequence of their being expended by the state; that is, by increasing demand and circulation ...

... In proportion, therefore, as taxes draw money into circulation, which otherwise would not have entered into it at that time, they encourage industry; not by taking the money from individuals but by throwing it into the hands of the state which spends it ...

It is no objection to this representation of the matter, that the persons from whom the money is taken, would have spent it as well as the state. The answer is, that it might be so, or not: whereas when the state gets it, it will be spent undoubtedly.

With Steuart's distinction between the propensities to consume of taxpayers and government, the balanced-budget multiplier was ready for formalization. But the times became unfavorable to interventionist views, and the formalization had to wait for 174 years before it was accomplished by Gelting (1941) and Haavelmo (1945) within a straight Keynesian framework of a single equilibrating variable, i.e., physical output.

5. Debt Management: Lauderdale (1804)

A few English classicists, too, were concerned with oversaving and unemployment. James Maitland Lauderdale was, perhaps, the most clear-headed among them.

The government budget constraint is usually applied to the case of fiscal deficits. But to understand Lauderdale, we must run it in reverse and apply it to a fiscal surplus. Thus applied, it says that a government surplus may be financed in two ways. Either the government destroys noninterest-bearing claims upon itself called money, or

the government buys back interest-bearing claims upon itself called bonds. The government budget constraint will still be of the form to be used in our chs. 6, 7, and 8, i.e.,

$$(1) \quad GP + iQ - R = \frac{dM}{dt} + \Pi \frac{dQ}{dt}$$

where

G \equiv physical government purchase of goods and services

i \equiv interest payment per annum per government bond

M \equiv supply of money

P \equiv price of goods and services

Π \equiv price of bonds

Q \equiv physical quantity of government bonds outstanding

R \equiv tax revenue

t \equiv time

Between "the glorious revolution" of 1688--establishing the rule of William and Mary--and 1804 the British public debt had grown almost a thousandfold, from 0.66 million to 556 million pound sterling [Alvin Hansen (1951: 230)]. Debt management was widely discussed, and the government planned, upon the return of peace, to run fiscal surpluses

large enough to buy back its own bonds and retire the entire debt in forty-five years. In other words, the dQ/dt part of the budget constraint (1) was under debate.

Lauderdale saw such rapid retirement in terms of what Keynesians would call the consumption function and the marginal efficiency of capital. Huge tax collections would lower the consumption function and put huge sums into the hands of bondholders. Would the bondholders be disposed to consume those sums? No way, said Lauderdale (1804: 242):

... it would have been difficult to persuade the proprietors of stock, from whom such extensive purchases would have been made by the Commissioners of the Sinking Fund, all at once to spend ... that which habit had taught them to regard as capital.

If bondholders were not disposed to consume the sums, the latter would become investment-seeking funds at the very moment investment outlets were being closed by the depressed consumption. In Lauderdale's (1804: 261-262) own words:

We already know, that the value of capital may be reduced from 6 to 3 per cent by forced accumulation; and it is impossible to say how low it may be brought by the continued progress of accumulation, which increases the quantity of capital; whilst, far from increasing, (by the effect it has of abstracting revenue from expenditure in consumable commodities, and consequently of abridging consumption,) it inevitably diminishes the demand for it.

6. Keynes Anticipated: Ohlin (1934)

Immediately preceding Keynes, the most complete anticipation was Bertil Ohlin's. Ohlin (1934) used four Keynesian tools of analysis, i.e., physical output as a variable, the propensity to save, liquidity preference, and the multiplier. His Keynesian tools led him to Keynesian policy conclusions. One of them was that in times of excess capacity, the government should undertake investment projects--say highway construction or the electrification of state railroads--which would not compete with private investment and which should be allowed to generate fiscal deficits: Tax financing would reduce consumption and thus defeat the purpose of public works. According to a government budget constraint like our (1) such deficits may be financed by expanding either the money or the bond supply. Sale of government bonds, Ohlin said, would depress bond prices and thus discourage private investment, again defeating the purpose of public works. That left central-bank discounting of treasury bills as the only way which would not deprive private investment of finance. Thus financed, public works would generate income, and the income generation would be magnified by the multiplier.

7. Summary of Unemployment School

Mainstream mercantilists, their codifier Steuart, and the classicist Lauderdale undoubtedly anticipated elements of a Keynesian equilibrium in which physical output and the rate of interest are the equilibrating variables in the goods and money markets, respectively. Prices are, in effect, frozen and ignored. Diagnosis: The propensity to consume may be too low and the inducement to invest too weak to allow full employment. Prescription: Monetary policy may expand the money supply, depress the rate of interest, and strengthen the inducement to invest. Fiscal policy may reduce tax rates and thus stimulate consumption. Fiscal policy may finance public works by deficit spending and thus generate new income.

II. INFLATION THEORY

In the eighteenth century, inflation theory emerged. Here, physical output is seen as bounded by supply. Demand is no problem: Supply will create its own demand. There is never excess capacity. Monetary or fiscal policy may stimulate demand but to no use: Monetary stimuli will merely generate inflation, fiscal stimuli merely crowding-out. In its extreme form the school has ideological overtones: Left

to itself, capitalism is fully capable of utilizing its own resources. Government action, however well meant, is the problem.

1. A Static Quantity Theory of Money

No static model can determine anything else than the level of its variables. David Hume (1752) unfroze price within a static framework, simply asking how high prices would be. His answer was a strict proportionality between prices and the money supply:

Suppose four-fifths of all the money in Great Britain to be annihilated in one night, and the nation reduced to the same condition, with regard to specie, as in the reigns of the Harry's and Edward's, what would be the consequence? Must not the price of all labour and commodities sink in proportion...?

Again, suppose, that all the money of Great Britain were multiplied fivefold in a night, must not the contrary effect follow?

In conclusion: Mun's, Petty's, or Yarranton's prescriptions would not work. Neither a positive balance of trade bringing in more precious metals nor an expansion of mortgage-backed bank credit could have any effect other than inflation, hence would be redundant as well as harmful. Hume's prescription: Keep the money supply under control.

2. Supply-Side Economics: Say (1803)

Formally no part of a quantity theory of money, Say's Law was a neat supplement to it. In all its brevity, Jean Baptiste Say (1803: 141) expressed it:

Il est bon de remarquer qu'un produit terminé offre, dès cet instant, un débouché à d'autres₂ produits pour tout le montant de sa valeur...

What Say saw was what we would now call the national product-national income identity. Generation of product is generation of value added, and value added is somebody's income. To the firm, value added is a cost; to the worker, landlord, capitalist, or corporation, value added is income. Modern economists doubt neither that product and income are the same thing seen from two different angles, nor that income is a necessary condition for demand. But is it also a sufficient condition? As soon as it is earned, will income become demand? Say (1803, 141) had no doubts:

L'argent ne remplit qu'un office passager dans ce double échange; et, les échanges terminés, il se trouve toujours qu'on a payé des produits avec des produits.₃

Say's friend and colleague, David Ricardo (1951: 290) had no doubts either:

No man produces, but with a view to consume or sell, and he never sells, but with an intention to purchase some other commodity, which may be immediately useful to him, or which may contribute to future production. By producing, then, he necessarily becomes either the consumer of his own goods, or the purchaser and consumer of the goods of some other person.

The doubts were expressed by Marx (1904):

Das Geld ist nicht nur 'das Medium, wodurch der Austausch bewirkt wird', sondern zugleich das Medium, wodurch der Austausch von Produkt gegen Produkt in zwei Akte zerfällt, die von einander⁴ unabhängig und räumlich und zeitlich getrennt sind.

3. A Dynamic Quantity Theory of Money

It is one thing to tell how high price would be. It is quite a different thing to tell how rapidly price is changing--which is what inflation is all about. Only a dynamic theory can do that. Any model admitting inflation as an equilibrating variable will immediately have two additional ones, i.e., the nominal and the real rate of interest.

Just as we ran the government budget constraint in reverse and applied it to the case of a fiscal surplus in order to understand Lauderdale, we shall have to run the distinction between a nominal and a real rate of interest in reverse and apply it to the case of

deflation in order to understand Fisher. Writing in the closing years of the price decline of the last fourth of the nineteenth century, Fisher (1896: 8-9) distinguished between a rate of interest in gold (the nominal rate of interest) and a rate of interest in wheat (the real rate of interest):

a being ... the rate of appreciation of gold in terms of wheat. Let the rate of interest in gold be i , and in wheat be j . Our result ... is
 $1 + j = (1 + a)(1 + i)$.

Perhaps the distinction between a nominal and a real rate of interest was first seen more than one hundred years earlier. Anne Robert Jacques Turgot (1769-1770) must have caught a glimpse of it when he wrote:

... la cause même qui augmente la quantité de l'argent au marché et qui augmente le prix des autres denrées ... soit précisément celle qui augmente le loyer de l'argent ou le taux de l'intérêt.

4. Summary of Inflation School

Hume, Turgot, Say, and Fisher may be seen as forerunners of a monetarist model of inflation in which the equilibrating variables are three rates, i.e., the rate of inflation, the nominal rate of interest, and the real rate of interest--but not a fourth one, i.e., the rate of unemployment.

Do extreme monetarists wish to revive Hume's strict proportionality between prices and the money supply? If monetarists wish to travel all the way back to 1752, some rather severe surgery would be necessary.

First, the interest sensitivity of the demand for money would have to be amputated. If the demand for money is the lower, the higher the rate of interest, then the velocity of money is the higher, the higher the rate of interest. If so, Hume's strict proportionality would be lost. It could be restored only by assuming a complete insensitivity of the demand for money to the rate of interest, as Friedman once (1959) did but no longer (1966), (1972) does.

Second, either the unemployment sensitivity of the rate of growth of the money wage rate, inherent in a Phillips (1958) curve, would have to be amputated, or a larger money supply would not be entirely absorbed by higher prices but would be partly dissipated in reduced unemployment, and again Hume's simple proportionality would be lost. It could be restored only by a vertical Phillips curve--ruling out the rate of unemployment as an equilibrating variable, as Friedman (1968) does.

With that done, the monetarist diagnosis is simple: There is inflation, because the money supply is growing too rapidly. Prescription against inflation: Keep the money supply under control. Prescription against unemployment: None, and none is called for. In the long run, the rate of unemployment will seek its "natural" level regardless of monetary or fiscal policy.

FOOTNOTES

*In preparing the present chapter, I have benefited from the late Mogens Boserup's (1976) superb anthology.

¹ Scripture lends
body and voice
to silent thoughts.
The articulate page
conveys them
through the passage of centuries.

(Translation by H. B.)

² It is well worth mentioning that the very moment it is completed, a product offers a market for other products to the full amount of its own value. (Translation by H. B.)

³ Money merely plays a transitory role in this double exchange, and once the exchanges have been completed it will always be found that products have been paid with products. (Translation by H. B.)

⁴ Money is not merely 'the medium accomplishing the exchange' but also the medium breaking up the exchange into two acts, independent of each other and separated in space and time. (Translation by H. B.)

⁵ The very cause which augments the quantity of money in the market and raises the price of other goods ... is precisely the one which raises the rental of money, i.e., the rate of interest. (Translation by H. B.)

REFERENCES

- M. Boserup, Deres egne ord, Copenhagen, 1976.
- P. E. Dove, Account of Andrew Yarranton, Edinburgh, 1854.
- I. Fisher, "Appreciation and Interest," Publications of the American Economic Association, Aug. 1896, 11, 331-442.
- M. Friedman, "The Demand for Money: Some Theoretical and Empirical Results," J. Polit. Econ., Aug. 1959, 67, 327-351.
- _____, "Interest Rates and the Demand for Money," J. Law Econ., Oct. 1966, 9, 71-85.
- _____, "Comments on the Critics," J. Polit. Econ., Sept.-Oct. 1972, 80, 906-950.
- J. Gelting, "Nogle bemaerkninger om finansieringen af offentlig virksomhed," Nationaløkonomisk Tidsskrift, 1941, 79, 293-299.
- T. Haavelmo, "Multiplier Effects of a Balanced Budget," Econometrica, Oct. 1945, 13, 311-318.
- A. H. Hansen, Business Cycles and National Income, New York, 1951.
- E. F. Heckscher, Mercantilism, London, 1955.
- D. Hume, Of Money. Political Discourses, Edinburgh, 1752.

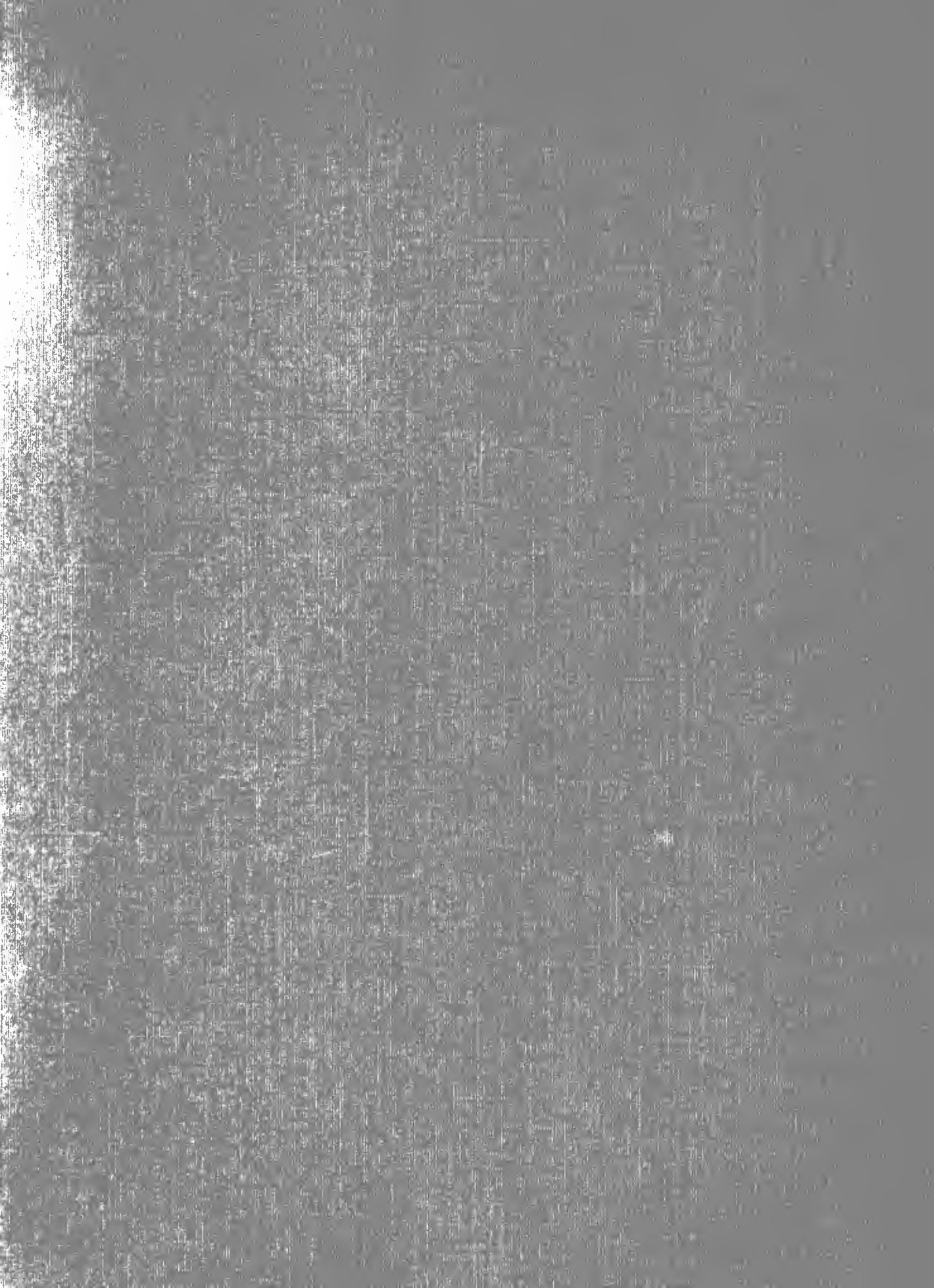
- J. M. Keynes, The General Theory of Employment, Interest, and Money, London, 1936.
- J. M. Lauderdale, An Inquiry into the Nature and Origin of Public Wealth and into the Means and Causes of Its Increase, second edition, Edinburgh, 1819.
- K. Marx, Theorien über den Mehrwert, K. Kautsky (ed.), Stuttgart, 1904.
- T. Mun, England's Treasure by Forraign Trade, London, 1664.
- B. Ohlin, Penningpolitik, offentliga arbeten, subventioner och tullar som medel mot arbetslöshet, Stockholm, 1934.
- W. Petty, A Treatise of Taxes and Contributions, London, 1662.
- _____, Political Arithmetick, London, 1676.
- A. W. Phillips, "The Relation between Unemployment and the Rate of Change of Money Wage Rates in the United Kingdom, 1861-1957," Economica, Nov. 1958, 25, 283-299.
- D. Ricardo, Principles of Political Economy and Taxation, Works and Correspondence, P. Sraffa (ed.), I. Cambridge, 1951.
- J. B. Say, Traité d'économie politique, Paris, 1803.
- J. Steuart, An Inquiry into the Principles of Political Economy, London, 1767.

A. R. J. Turgot, "Réflexions sur la formation et la distribution des richesses," Ephémérides du citoyen, Nov. 1769-Jan. 1770.

Reflections on the Formation and the Distribution of Riches,
New York, 1898.

A. Yarranton, England's Improvement by Sea and Land. To Outdo the Dutch without Fighting. To Pay Debts without Moneys. To Set at Work all the Poor of England with the Growth of Our Own Lands ...,
London, 1677.

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