

HUME AND ENDOGENOUS MONEY

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In 1752 David Hume published an essay titled "Of Money." Today the most diverse monetary theories claim this essay as their father.¹ Hume is indeed recruited both as a proto-quantity theorist and a proto-inflationist, as well as a proto-monetarist.² An impressive achievement for one essay! Without wishing to diminish the possible genius that is able to generate opposite theories within a few pages while remaining consistent, this paper presents an alternative way of reading Hume's essay on money. While modern interpretations of Hume attribute to his work modern and conflicting monetary theories,³ I attribute to Hume's work pre-modern monetary theories, making him consistent instead.

A common assumption in modern monetary theory is that money is exogenous.⁴ The supply of money is often modeled as being determined by a central agent, such as a central bank, in a more or less arbitrary way. The equilibrium in the money market is achieved by adjustment in the quantity of money demanded and in the price level. Changes in money supply would be responsible for either changes in aggregate output, in the price level, or a combination of both, depending on the rigidity assumptions and on the time horizon considered. However, in pre-modern times, money is often thought of as endogenous,⁵ as the quantity of money supplied would adjust to its demand. Indeed, the quantity of money in a country is often considered a function of domestic industry, and domestic industry a function of the domestic and foreign demand for domestic goods. Changes in the economy would therefore be due to changes in demand rather than in money supply. I claim that this discrepancy in assumptions is what makes the difference in reading Hume. Reading Hume's essays in this pre-modern framework, which reflects Hume's own knowledge and education, presents a strong and consistent picture of a demand-driven and endogenous money.⁶ It is when Hume's background and knowledge of money are ignored that his positions lose clarity, leaving him neither consistent nor original.

If my interpretation is sound, it may bring some new (or old?) insights on monetary policy and monetary theory. In my reading, Hume thinks that money demand is dependent on consumer tastes, which depend on commerce. The endogenation process is achieved through commerce, international trade, as well as hoarding, rather than through the banking system, of which Hume was very critical.⁷ He presents a view of money that not only differs from contemporary exogenous money theories, but also, partially, from modern endogenous theories. Today's emphasis on monetary policies may be tempered, if, as Hume claims, consumers would absorb changes in

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money supply so that neither price level nor aggregate output would change. Furthermore, Hume's complete, almost blind, reliance on commerce and trade *may* also imply that, today, economic growth could be achieved, despite a weak banking system, through a strong reliance on commerce and trade, as trade, and not sophisticated banking, would change consumer tastes, increasing demand, and therefore output.

The paper develops as follows. The first two sections show how Hume was in harmony with the knowledge of his time. The first section presents the Aristotelian view of money, which was still commonly accepted in the 18th century and, which I claim, was accepted by Hume as well. What appears to be modern money neutrality may be a (mis)reading of the traditional interpretation of money as having the same value as the goods for which it is exchanged. The second section describes the idea of money as a symptom of trade, common in the 18th century. What appears as the modern non-neutrality of money may be a (mis)reading of the traditional interpretation of money as a sign of the presence of trade. I then explain how for Hume the driving force of the economy is demand, rather than money. Finally, I present how Hume, in tune with other 18th century thinkers, describes price adjustments in the face of changes in demand and supply of money and in the absence of a banking system that allows credit. Hume claims that hoarding gold and silver, using the precious metals as commodities, and international trade help price stability by adjusting the quantity of money in circulation to its demand. A concluding section closes the paper.

MONEY AS THE "MEASURE OF EVERYTHING"

Hume follows the tenets commonly accepted in the mid-18th century according to which money is a sign of all the commodities in the world.⁸ Montesquieu expresses this semiotic understanding of money as follows:

Money is a sign representing the value of all commodities. Some metal is chosen, so that the sign will be durable, will be little worn by use, and can be divided many times without being destroyed... As silver is the sign of the values of commodities, paper is a sign of the value of silver, and when the paper is good, it represent silver so well that there is no difference in that effect. Just as silver is the sign of a thing and it represents it, each thing is a sign of silver and represents it... [O]n the one hand, the silver indeed represents all things, and on the other, all things indeed represent silver, and they are sign of one another; that is their relative value is such that one can have the first as soon as one has the other [Montesquieu, (1748) 1989, 399].

To understand this interpretation we have to reach back in the past, where the idea was first developed. The numerous examples of the ancient Greeks and Romans that Hume uses indicate this is a good starting point.⁹ We can exemplify their thought with Aristotle, in particular with his *Nicomachean Ethics*. Aristotle's link to the scholastics and the transmission of his thought to the 18th century also make him an

appropriate choice for analysis.¹⁰ In book V of *Nicomachean Ethics* Aristotle derives his economic theory from his theory of justice. Because of the differences between his thought and our own, we have to force ourselves to put aside what we now know and try to follow Aristotle's reasoning from his perspective.

Today we understand exchange as the result of inequality of subjective values. Aristotle did not: he understood exchange as possible only with *equality* of objective values. For Aristotle, a transaction will take place only if perceived as just. And since justice is achieved with "proportional equality," if what is exchanged is not equal in value, the transaction will not take place [Aristotle, 1982, 183].

Given the differences in goods, the consequent difficulties in comparing and equating things of different values, and the requirement of equality of value to exchange, a "measure of everything" is needed [Aristotle, 1982, 184]. A physical commodity—traditionally, but not exclusively and not necessarily, precious metals¹¹—is conventionally introduced as money to compare the value of the most diverse goods and to be exchanged for the value of any good. This is possible because the amount of money circulating in the world is considered to have the same value as all the goods circulating in the world.¹² Each good calls for a portion of money equal to its value, regardless of how money itself is measured, subdivided, or named. Money is therefore accepted as payment in place of other goods because it can be immediately transformed into goods of the same value. Hence, money becomes equivalent to all the goods, representing (the value of) all the commodities exchanged and exchangeable. And just as a representation stands in place of the substance it represents, money, standing in place of the goods it represents, becomes the symbol, the sign, of all the commodities in the world.¹³

The idea that a sign simply represents its substance implies that a sign has no autonomous life of its own, that a sign cannot change what it represents. So money, representing the value of a good, has no autonomous life of its own and cannot make things "grow."¹⁴ As Gervaise explains: "Whatever else bears a Denomination of Value, is only a Shadow without Substance, which must either be wrought for, or vanish to its primitive Nothing, the greatest Power on Earth not being able to create any thing out of nothing" [Gervaise, (1720) 1954, 10]. This means that, while money can change, changes in money cannot have real effects: increasing money supply cannot have stimulating effects on the economy.

Money can change either because its quantity may change, or because its name may change. If the quantity of money doubles and the quantity of goods stays constant, to maintain the same semiotic proportion between the value of goods and money, each good must be represented by double the amount of money, and change in the quantity of money will result only in a proportional change in prices. Furthermore, changing how a quantity of money is called does not change the fact that that quantity of money is equal in value to the same quantity of goods as before,¹⁵ just as changing only the label of a "size 8" dress into a "size 4" label does not make the wearer any thinner. Ferdinando Galiani [(1751) 1977, 168] explains how, if the unit of measurement changes, the measured thing remains unchanged by noticing that if the number of inches in a *palm* is declared no longer twelve but nine, "in just one night, all of his [a king's] soldiers who have already retired for the night, some of five, some of six

palmi in height, would awaken the next morning to find themselves miraculously extended to eight, some even to nine *palmi*”: a ridiculous idea.

In all Hume’s economic essays, money is referred to as a representation, a proportion, a sign, and prices as a reflection of the proportion of value of money and commodities.¹⁶ Hume’s idea brought about today as the flagship of the neutrality of money¹⁷ can be traced back to a distortion of the ancient ideas of proportionality and of measurement of the equality of values. To rephrase Hume: What a pity Lucas did not think of Aristotle when he wanted to show the intellectual origins of his work. Aristotle’s theory of *equality* of values to exchange would have served his purpose better than his accusation that, had Hume known more mathematics, he would have reached the same conclusions as Lucas [Lucas, 1996, 664]...

FROM (MORE) TRADE TO (MORE) MONEY

Many modern theories present a growing aggregate output as a consequence of an increased money supply, considering money to be exogenously determined by the local central bank. When money is exogenous, money can become a tool that drives the economy to specific performances. Inflationist or monetarist policies are possible only with exogenous money. But if the quantity of money is determined endogenously, the quantity of money cannot be modified at will to gain control over the economy and promoting its use as an economic stimulus becomes senseless. If Hume embraces the idea that money is endogenous, he cannot be an advocate of permanently or temporarily stimulating the economy with an increase in money supply.

According to pre-modern theories of money, which Hume seems to adopt, money is endogenous in the sense that the quantity of money is determined by the economic conditions, which in their turn are determined by the aggregate demand for goods.¹⁸ Indeed, where there is no demand there is no production and no exchange, and money is absent. On the other hand, with the development of demand, exchange begins to take place, as historically occurred, first in limited amount and without money. When, because of the increasing demand, exchanges increase in quantity and frequency, money emerges as a custom¹⁹ to facilitate trade. The causation goes from trade to money. To Hume, the presence of money indicates the presence of trade and industry:

...in the first and more uncultivated ages of any state, ere fancy has confounded her wants with those of nature, men, content with the produce of their own fields, or with those rude improvements which they themselves can work upon them, have little occasion for exchange, at least for money, which by agreement, is the common measure of exchange... But after men begin to refine on all these enjoyments, and live not always at home, nor are content with what can be raised in their neighborhood, there is more exchange and commerce of all kinds, and more money enters into that exchange. The tradesman will not be paid in corn; because they want something more than barely to eat [Hume, (1752) 1985, 291].

The vigorous 18th century debate over the causation between money and trade—stimulated by the introduction of a new form of money, paper credit—corroborates this interpretation of Hume. The debate centered on how a country could become wealthier. There were two leading economic answers. One, based on traditional concepts, was that it did so by increasing trade and therefore industry. The other, at the time relatively more innovative, was that a country's wealth grew by increasing the quantity of money, especially via paper money. The two answers are mutually exclusive. If money is the effect of trade and industry, it cannot be their cause. And, if money is the engine of trade and industry, it is their cause and not their effect.

Many thinkers beside Hume, among them Gervaise [1720], Montesquieu [1748], and de Pinto [1774] claim that people who promote an increase in money to stimulate the economy are confused. They see an increase in money supply (more paper credit,²⁰ or more gold) at the same time as an increase in output, and assume that there is a causal relation going from money to output. They are mistaken because the causation goes in reverse, from more output to more money. Hume claims indeed:

To these difficulties I answer that the effect, here supposed to flow from scarcity of money, really arises from the manners and customs of the people; and that *we mistake, as is too usual, a collateral effect for a cause* [Hume, (1752) 1985, 290. Emphasis added].

And again:

In the following essay ["Of Interest"] we shall see an instance of a like *fallacy* as that above mentioned; where a *collateral effect is taken for a cause*, and where a consequence is ascribed to the plenty of money; though it be really owing to a change in the manners and customs of the people [Hume, (1752) 1985, 294. Emphasis added].

So, money is not the engine of industry or the cause of trade. But increasing the amount of trade will generate an increase in the quantity of money, making money a symptom of trade, a sign of its presence. If there is a money equation in Hume, it must be read in reverse.

A DEMAND-DRIVEN ECONOMY

But if it is not money that causes the economy to grow, what causes it?²¹ Some scholars have recognized Hume's emphasis on the increase in industry as the engine of the economy.²² While it is true that Hume highlights how we go from industry and trade to money, Hume does not believe that everything depends on industry. Arbitrarily increasing output would not cause growth. Hume is explicit in identifying the cause of economic growth.²³ Every time he remarks that we ought not to confuse an effect for its cause, he also claims that the real cause is "a change in the manners and customs of the people"—the real cause of economic growth is a change in demand.

Hume introduces the relevance of demand for economic growth in the previous essays. In “Of Commerce” he describes how ancient people were able to have large armies because of their simple tastes [Hume, (1752) 1985, 258]. Indeed where demand for luxuries is deficient, “the superfluity of the land, instead of maintaining tradesmen and manufactures, may support fleets and armies to a much greater extent” [Hume, (1752) 1985, 257]. But, with commerce, people change their tastes and their demand.²⁴ People are exposed to new comforts and luxuries by merchants,²⁵ discover new desires,²⁶ and, rather than fighting, will increase their industry so that they can acquire what they want but do not have [Hume, (1752) 1985, 263].²⁷ Demand lights the spiral of economic growth.²⁸

Now let us consider the passages that are commonly used to show that Hume believes there is a positive effect going from money to output. The alleged effect is claimed to be either temporary—“In my opinion, it is only in this interval or intermediate situation, between the acquisition of money and rise of prices, that the increasing quantity of gold and silver is favorable to industry” [Hume, (1752) 1985, 286]—or permanent—“The good policy of the magistrate consists only in keeping it [money], if possible, still increasing; because, by that means, he keeps alive a spirit of industry in the nation, and increases the stock of labor, in which consists all real power and riches” [Hume, (1752) 1985, 288]—depending on which side of the barricade Hume is wanted. But when we read the entire passage from which these two sentences are extracted we find that the increase in money is due to increased export, which is due to the increase in demand coming from abroad, and not from an exogenous increase in money supply:

In my opinion, it is only in this interval or intermediate situation, between the acquisition of money and rise of prices, that the increasing quantity of gold and silver is favorable to industry. *When any quantity of money is imported into a nation*, it is not at first dispersed into many hands; but is confined to the coffers of a few persons, who immediately seek to employ it to advantage. *Here are a set of manufacturers or merchants, we shall suppose, who have received returns of gold and silver for goods which they sent to CADIZ ...* From the whole of this reasoning we may conclude, that it is of no manner of consequence, with regard to the domestic happiness of a state, whether money be in a greater or less quantity. The good policy of the magistrate consists only in keeping it, if possible, still increasing; because, by that means, he keeps alive a spirit of industry in the nation, and increases the stock of labor, in which consists all real power and riches [Hume, (1752) 1985, 286. Emphasis added].

Hume, therefore, differs from the several modern theories that claim his paternity. Inflationists and monetarists generally see an increase in output due to an increase in money supply. Those who embrace the idea of neutrality of money tend to see an increase in output due to a positive technological shock. Hume, on the other hand, believes that economic growth chiefly resulted from an increase in demand due

to refinements of the customs and manners of the people either at home or abroad. He follows the long tradition—common in the 18th century and accepted also by, among others, de Mandeville [1714] and Sir James Steuart [1776]²⁹—that sees trade and demand as the predominant driving forces of the economy.

WHERE DOES THE EXTRA MONEY COME FROM?

Hume's paternity test for the modern theories is not reassuring also because quantity theorists, inflationists, and monetarists predict that both an increase in aggregate demand, and an exogenous increase in money supply would increase prices. But for Hume, an increase in demand as well as an increase in money supply not caused by changes within the economy does not necessarily increase prices. Hume indeed claims that prices are relatively stable in face of these changes because the quantity of money adjusts and smoothes out otherwise wide price changes. More output by itself would "sink the proportion on the side of goods," making goods cheaper. More money would "raise the proportion" instead, increasing the price of the goods. But if it is an increase in output that generates an increase in money, prices may remain more or less the same.

To better understand the process, we need to take into account the different institutional contexts into which theories are developed. First, today government expenditures are financed predominately with debt, while in the 18th century and before than the practice was to use the riches (gold) accumulated in a treasury room. Moreover, pre-modern theories generally analyze money in its form of commodity money, as fiat money as we know it today did not exist yet. On the other hand, modern theories tend to analyze fiat money instead, as we do not use commodity money any longer. The form of money available in the 18th century and before then was basically only currency—the physical quantity of gold and silver coins. Note that the absolute quantity of gold and silver itself was not a measure of the quantity of money in a country, as not all of it was money. The quantity of money in a country was only the part of gold and silver that was coined and used as money. And this quantity could easily vary by melting gold commodities into coins and vice-versa.³⁰ Indeed when there is a commodity-money, the currency is linked to the market for the commodity used as money. Fiat money, not having any alternative uses, lacks this relation. When gold and silver coins are melted into, say, jewelry, vases, or silverware, the money supply is reduced. Similarly, melting gold and silver from their commodity uses into coins generates an increase in the quantity of money. Furthermore, given that prices are understood as the ratio of goods to money, the relevant quantities of gold and of goods are only the ones that "meet" [Hume, (1752) 1985, 291]. More specifically, for Hume, and in the 18th century in general, there is agreement that currency is only the *circulating* quantity of coins, just like the relevant goods are only the circulating goods, because if gold coins are locked into coffers or in treasury rooms, they will not "meet the goods," and will not have any affect on prices.³¹ Finally, the determinants of the circulating quantity of money are all the economic actors and their trips to a goldsmith. Not just the king or a governmental agency, but any private citizen could play a role, even if minimal, in expanding and contracting the

quantity of money by changing the amount of precious metals hoarded and used as commodity. And not banks and credit, but individual decisions on the alternative uses of the commodity used as money tended to endogenize exogenous changes in money supply.

Now, if there is an increase in demand that causes an increase in industry, which in its turn calls for an increase in money to represent it, where does the increased money come from? Hume has three possible answers. Money supply changes because of import and export, circulation, and bank-credit.

Hume strongly discourages and quickly dismisses the possibility of using bank-credit as a response to an increase in demand as a method too open to abuses [Hume, (1752) 1985, 318-320].³² Indeed, "to increase such a credit, can never be the interest of any trading nation...it must be allowed, that no bank could be more advantageous, than such a one as locked up all the money it receives, and never augmented the circulating coin" [Hume, (1752) 1985, 284]. His contemporaries, on the other hand, are not as critical of this method.³³

Also, Hume explains that changes in people's "taste for superfluities" or "manners and customs" stimulate the industriousness of the people, increasing domestic output and decreasing the price of domestic goods. But, as lower prices encourage exports, trade will increase, and, as a consequence, the quantity of money at home will increase as well, increasing prices. With international trade, a decrease in prices is counter-balanced by their increase, smoothing out possible major price changes [Hume, (1752) 1985, 290-294].

The other way to increase the money supply when industry increases, and therefore maintain more or less stable price level, is by opening the coffers and the chests, and melting the goods made out of the commodity used as money. Hume explains that, in a "rude society" tastes are simple, commerce is scarce and mostly in nature, and money is concentrated in few hands.³⁴ As commerce exposes "uncultivated people" to new comforts, more goods are brought to the market, and more payments are requested in money. Gold and silver will leave their chests in the form of coins to enter into circulation. But the increase in the quantity of money does not increase prices because, due to this increase in commerce, the "sphere of circulation is enlarged," which causes prices to decrease [Hume, (1752) 1985, 292], more or less canceling out their potential increase.³⁵ Demand generates its supply and prices are more stable than otherwise.

AND WHERE DOES THE EXTRA MONEY GO?

The pre-modern theories that Hume adopts and the modern theories that claim Hume as their father differ also in describing how output and price would respond to changes in money supply. Inflationists and monetarists believe that an increase in money supply would generally lead to higher prices and higher output, whether permanently or temporarily. Advocates of the neutrality of money believe that an increase in money supply would generally lead to an increase in prices, but not to an increase in output. But, if everything in an economy is driven by the demand for goods, and not by the supply of money (or of output), how would an economy respond

to an increase in the supply of money? Throughout the 18th century the answer was: it depends—predominantly on demand. Hume does not present all the details of the analysis. Nevertheless, it is possible to infer them from his essays and from his contemporaries who have positions similar to his.

History showed that money increased with the discovery of the mines of the New World as well as with the introduction of paper money – “passive increases” as the Italian admirer of Hume Pietro Verri [1771] defined them. History also showed that we can expect three behaviors. In the long run as well as in the short run, prices and output will stay constant, increase, or decrease, depending on whether the increase in money is proportional, more than, or less than the increase in industry, which was due to a change in demand for goods.³⁶

On the one hand, a passive increase in money will increase industry *only* if accompanied by an increase in demand for goods. The change in prices will depend on the relative magnitude of the changes.³⁷ Simply increasing the domestic quantity of money, without a change in “the passions of men”, will not bring any desirable effect on the domestic economy.³⁸ Indeed the quantity of money, not only does *not* stimulate production and trade but actually inhibits domestic production. With an increase in prices, industry will tend to *decrease*, as demand will be satisfied by foreign production. The extra quantity of money will eventually leave the country, bringing prices back to their “natural proportion.” But in the meantime, the decrease in domestic production means misery rather than prosperity. This was considered true both for an increase in money due to more gold and silver [Hume, (1752) 1985, 286] as well as for an increase in the quantity of money due to the increasing presence of paper.³⁹

Similarly, even if there is the possibility that in a closed economy, a “passive” increase in the quantity of money, if domestic demand is constant, will be reflected in a simple nominal increase in prices, it is also possible that the effect of a “passive” increase in the quantity of money is to leave everything more or less untouched. A disturbance in the money supply, if not accompanied by a change in demand, can be perfectly endogenized, taking the increased money out of circulation by using gold and silver as commodities. Churches and palaces will be covered and filled with gold and silver; money will be melted into silver-plates and silverware, and in some instances this practice will be encouraged by forbidding the import of china, since porcelain would substitute silver [Hume, (1752) 1985, 318] in the making of some household utensils. Money will also be melted into jewelry, locked in treasury rooms, or even buried underground.⁴⁰ So, “[i]f the simplicity of the times furnished no assistance to his own invention, in diversifying them, the consequence was that, the money was not spent, but locked up” [Steuart, (1776) 1966, 382].⁴¹ If the simplicity of customs and manners takes out of circulation the increased supply of money, money not only does not increase output but does not increase prices either.⁴²

The idea that the quantity of money in a country is regulated by the demand for money, rather than by its supply, is restated by some authors also in their analysis of the presence of paper money. Domestically, paper is a close substitute for metals. The demand for money for domestic transactions can be satisfied equally well by either coins or paper. But, unlike gold, paper cannot travel abroad because it is not accepted as a means of international payment. The demand for money for interna-

tional transactions can therefore generally be satisfied only by gold or silver. Now, if there is an increase in paper money, the modern reading of Hume would predict some effect in the economy, either on the price level or on output. But Hume, like many of his contemporaries, believes that nothing much would happen. Increasing the quantity of paper will simply decrease the quantity of gold in that country, if demand does not change. Demand, being like a container, will accept only a certain amount of money. If more money is introduced, it will overflow [Hume, (1752) 1985, 312].⁴³ Gold, used to pay foreigners, will leave the country while domestic markets will be covered by the equivalent amount of paper, which cannot leave.⁴⁴ Similarly, Hume claims, banning paper as in France would lead to an increase in gold. Demand for money does not necessarily increase (decrease) with increases (decreases) in its supply [Hume, (1752) 1985, 317]. The quantity supplied of money adjusts to its demand.

The specie-flow mechanism described in "Of the Balance of Trade" is indeed a statement of how money is endogenous and demand-driven⁴⁵ so that any attempt to control its supply is futile [Hume, (1752) 1985, 326]. The specie-flow mechanism works indeed to "preserve money nearly proportionable to the art and industry of each nation" [Hume, (1752) 1985, 312]. Hume states again that when there is an increase in population, there is an increase in industry, "and consequently more money" [Hume, (1752) 1985, 315], adding that the level of money is always "its proportional level to the commodities, labor, industry, and skill, which is in the several states. And I assert, that where these advantages are double, triple, quadruple, to what they are in the neighboring states, the money infallibly will also be double, triple, quadruple" [Hume, (1752) 1985, 315, footnote 11]. Government should therefore simply care about maintaining demand and the production that derives from it. Money will follow [Hume, (1752) 1985, 326].

CONCLUSION

In this paper I offer an alternative to the standard reading of David Hume's views on money. In my reading Hume is neither a monetarist, an inflationist, nor a quantity theorist, but he is part of a longer tradition of monetary thinking that understands money as endogenous and output as demand-driven. This reading presents a picture of Hume consistent with both his essays and with the 18th century general thinking. Hume adopts the view of money as a proportion, which was still predominant during the 18th century, and describes money as endogenous and demand-driven. Hume's endogeneity of money differs in part also from modern endogenous theories, such as Post-Keynesian, as Hume does not rely on banks and credit, which he distrusts, but on international trade and on the alternative uses of money to endogenize changes in money supply. For Hume, the only engine of an economy is commerce. Countries that wish to grow should not protect their industry or worry about minor economic disruptions. They should simply let commerce and international trade develop the tastes of consumers and increase output demanded.

NOTES

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1. For some recent literature on Hume's monetary thinking see among others: Duke [1979], Fausten [1979], Mayer [1980], Hont [1993], Rashid [1984], Perlman [1987], McGee [1989], Berdell [1995], Velk and Riggs [1995], Gatch [1996], Cesarano [1998].
2. For example Keynes [1936], Johnson [1937], Vickers [1959], Friedman [1987], Hutchison [1988], Viner [1991], Skinner [1993], Blaug [1995], Lucas [1996].
3. Rotwein [1955], for example, defines the lack of consistency in Hume as an "unresolved ambiguity." See also Perlman [1987, 274].
4. Post-Keynesians model money endogenously instead. See Paul Davidson [(1972) (1978); 1994].
5. For a model of the classical idea of money see Levy [1979].
6. For a general reading of Hume's coherence and adherence to his pre-modern context see Paganelli [2002].
7. In "Of Public Credit" Hume expresses strong skepticism regarding a positive role of credit and of banks. He accepts the presence of banks but proposes that banks would keep 100 percent reserves, being for deposit only. In "On Interest" he states that the credit market is independent from the money market.
8. Schumpeter [1954, 291 footnote 7] claimed: "Its position [of Hume's "Of Money"] in the history of economics, while not undeserved, is due to the force and felicity with which it formulated the results of previous work rather than to any novelties." For an historical account of endogenous money see Wray [1990].
9. Hume's knowledge and partial use of the ancients' philosophy and understanding of the world do not imply that he adopts them indiscriminately. And his rejection of part of the ancients' philosophy and understanding of the world does not imply a complete rejection of all that was ancient.
10. For a treatment of money from the Aristotelian roots of the Scholastic understanding of it to the 18th century see in particular Pribram [1983, 1-135].
11. "The development of money is a striving toward the ideal of pure symbol of economic value which is never attained. At first, as we must clearly remember, money belongs to the same series of other objects of value, and its concrete material value is balanced against these" [Simmel, (1900) 1990, 157-8].
12. In the 17th and 18th century there is a clear analytical distinction between the absolute quantity of money present in a country and the quantity of money in circulation. For Hume the relevant quantity of money is the circulating and not the absolute one.
13. For an analysis of the relation between sign and substance in monetary thinking see among others Shell [1982; 1995].
14. In this framework, money must be stable and barren. The stability of any unit of account was considered indeed "sacred" (for example, Dutot [(1738) 1974, 2] and, as a consequence, the "raising of the coins" was generally condemned. A sign which changes will cause virulent confusion in the interpretation of its substance, confusion and instability that damages trade and the economy. If the standard is not fixed, it loses its measurement ability and must be changed. See Law [1705] and his project of replacing unstable gold with more stable land-money. Cf. Hume [(1752) 1985, 228, footnote 7], where he distinguishes between real and perceived stability. One of the expressions of the idea of sterility of money is the general aversion to interest, experienced from the Babylonian code of Hammurabi of 1800 BC [Blitz and Long, 1965; see also Homer, 1963] through Christianity [Nelson, 1969] to modernity. The prohibition of interest could be justifiable, following the ancient tradition, as an "illicit modification of a standard of valuation," and therefore, in Scholastic wording (which relies heavily on the Aristotelian works), as a *logical* sin [Pribram, 1983]. When the idea of money as a sign disappears, it will be more difficult to offer solid explanations of this general aversion to interest.

15. For an overview of pre-modern authors who presented similar positions see among others Vickers [1959], Monroe [1966], Pribram [1983].
16. Just a couple of examples: "But as these metals are considered chiefly as a representation, there can no alteration arise, from their bulk or quantity, their weight or color, either upon their real value or their interest" [Hume, (1752) 1985, 297]; "[A]rtificially to increase such a credit...must lay them under disadvantages, by increasing money beyond its natural proportion to labor and commodities" [Hume, (1752) 1985, 284].
17. Lucas [1996] cites: "[It was a shrewd observation of ANARCHARSIS the SCYTHIAN, who had never seen money in his own country, that gold and silver seemed to him of no use to the GREEKS, but to assist them in numeration and arithmetic.] It is indeed evident, that money is nothing but the representation of labor and commodities, and serves only as a method of rating or estimating them. Where coin is in greater plenty; as a greater quantity of it is required to represent the same quantity of goods; it can have no effect, either good or bad, taking a nation within itself; any more than it would make an alteration on a merchant's books, if, instead of the ARABIAN method of notation, which requires few characters, he should make use of the ROMAN, which requires a great many" [Hume, (1752) 1985, 285; also 296; and, 308-312].
18. "This standard is really demand, which is conveniently represented by money. There must therefore be (as we said above) one standard by which all commodities are measured. This standard is in fact demand, which holds everything together (for if people had no needs, or needs on a different scale, there could be no exchange, or else it must be on different lines); but by a convention demand has come to be represented by money. This is why money is so called, because it exists not by nature but by custom" [Aristotle 1982, 184].
19. The Greek word for money is *nomisma*. Its etymological root is *nomos*, which means "laws by custom."
20. On the expansion of public credit cf. Hume's "Of Public Credit" and see Paganelli [2003].
21. On Hume's growth theory see Brewer [1995; 1998].
22. For example, with discontent: "As Josiah Tucker was to note, he overlooks that, under the stated conditions, 'every Augmentation of such Money [would be] a Proof or a preceding Increase of Industry" [Rotwein, 1955, lix]. And "Certainly, Hume's analysis of the secular division of labor, his treatment of the theory of population, and his consideration of international trade separately and severally prompt a conclusion which, in the words of Say, "may at first sight appear paradoxical; viz. that it is production which opens a demand for products" [Skinner, 1993, 247].
23. Favorable political conditions are an implicit requirement for economic growth in Hume. See Haakonssen [(1993) 1999]. On a way to achieve political stability in Hume see also Farrant and Paganelli [2005].
24. Hume continues his account of the role of demand in stimulating the economy in "Of the Refinement in the Arts." "Of the refinement in the Arts" was originally called "Of Luxury." For Hume, the desire of luxury is a driving force for the economy and should not be condemned. He defends luxury in terms of increase in demand and therefore in industry, which would make everybody better off.
25. On the role of merchants see Marx [1877] and Skinner [1996].
26. See Buchanan and Vangberg [1991] on the role of discovery in the market.
27. For a contemporary application see Cowen [2000].
28. "Thus men become acquainted with the *pleasures* of luxury and the *profits* of commerce; and their *delicacy* and *industry*, being once awakened, carry them on to farther improvements, in every branch of domestic as well as foreign trade" [Hume, (1752) 1985, 264. Emphasis in original].
29. "We cannot therefore say, that trade will force industry, or that industry will force trade; but we may say, that trade will facilitate industry, and that industry will support trade. Both the one and the other however depend upon a third principle; to wit, a *taste for superfluity*, in those who have an equivalent to give for it. This taste will produce *demand*, and this again *will become the main spring of the whole operation...It is more, therefore, through the taste for superfluity, than in consequence of the quantity of coin*, that trade comes to be established; and it is in consequence of trade only that we see industry carry things in our days to so high a pitch of refinement and delicacy" [Steuart, (1776) 1966, 151-156. Emphasis added].
30. The cost of converting gold and silver goods into coins and vice-versa was commonly debated, especially in the 17th century. Hume, though, seems to ignore this problem, and the more general

- problem of the constraints due to cost of production in producing new money. I thank an anonymous referee for noticing it.
31. "It is also evident, that prices do not so much depend on the absolute quantity of commodities and that of money, which are in a nation, as on that of the commodities, which come or may come to market, and of the money which circulated. If the coin be locked in chests. It is the same thing with regard to prices, as if it were annihilated; if the commodities be hoarded in the magazines and granaries, a like effect follows. As money and commodities, in these cases, never meet, they cannot affect each other" [Hume, (1752) 1985, 290].
 32. See Paganelli [2003].
 33. See for example Law [1705], Wallace [1758], and de Pinto [1774].
 34. A similar situation takes place in case of war. See in particular the essay "Of Public Credit."
 35. "It is the simple manner of living which here hurts the public by confining the gold and silver to few hands, and preventing its universal diffusion and circulation. On the contrary, industry and refinements of all kinds incorporate it with the whole state, however small its quantity may be. They digest it into every vein, so to speak; and make it enter into every transaction and contract. No hand is entirely empty of it. And...the prices of everything fall by that means" [Hume, (1752) 1985, 293-294].
 36. See for example, Vanderlint [1734], Montesquieu [1748], Galiani [1751], Hume [1752], Cantillon [1755], Steuart [1776], Verri [1771], etc.
 37. "And no other satisfactory reason can be given, why all prices have not risen to a much more exorbitant height, except that which is derived from a change of customs and manners. Beside that more commodities are produced by additional industry, the same commodities come more to market, after men depart from their ancient simplicity of manners" [Hume, (1752) 1985, 292. Emphasis added].
 38. Hume sees the interest rate as a real rather than a monetary phenomenon. In "Of Interest" Hume describes how changes in money supply will not have any effect on the real interest rate.
 39. See Hume's "Of Public Credit." "And again, I believe our Paper-Effects have contributed as much to this Decay of Trade, as all the rest put together, by enhancing the Price of every Thing amongst us, above the Rates our real Specie would have supported them at, in such Proportion as the Paper-Effects amongst us are greater than the real Specie we have circulating; for this is the natural and unavoidable Effect of any Thing operating as Cash, which is not such" [Vanderlint, (1734) 1970, 165].
 40. "But I can't pass over this Fact without remarking, that it must be beneficial to Trade, that our Princes, Nobility, and Gentry, should wear the richest Gold and Silver Clothing, and use such Utensils, and adorn their Palaces and Houses with these shining Metals...I am induced to make this Remark, from the Practice of the East-Indians, who, as I have often heard, carry this Matter so far, as to bury the Money they get by Trade" [Vanderlint, (1734) 1970, 93-94].
 41. Steuart describes this 18th century idea of "neutrality" of money as not working through a nominal change in prices but through a complete endogenization of money. "What then will become of the additional quantity of coin, or paper-money? I answer, that in both cases it will enter into circulation, in proportion to the rise or augmentation of demand" [Steuart, (1776) 1966, 344]. Money is still a sign of trade rather than its engine, even when an increased quantity of money is not taken out of circulation. If money is not endogenized, its increase will increase prices, as money was seen simply as a unit of account, as presented above.
 42. See for example Hume [(1752) 1985, 317]; Steuart [(1776) 1966, 374]; and generally Vanderlint [1734], Cantillon [1755].
 43. Hume discourages the introduction of paper among other reasons because if gold leaves the country, the kingdom will weaken *militarily*, as soldiers are paid only in metal. A detailed explanation of the negative effects of the introduction of paper is in his essay "Of Public Credit."
 44. "What a pity LYCURGUS did not think of paper-credit, when he wanted to banish gold and silver from SPARTA! It would have served his purpose better than the lumps of iron he made use as money; and would also have prevented more effectually all commerce with strangers, as being of so much less real and intrinsic value" [Hume, (1752) 1985, 318].
 45. While the specie-flow argument, as Hume himself recognized, can be used in a mechanical way, as if the economy was simply a balancing of different quantities, Hume immediately reminds his readers the real cause of these adjustments is demand. Money is endogenized through demand

and the "passions of men" that it represents. "We need not have recourse to a physical attraction, in order to explain the necessity of this operation. There is a *moral attraction, arising from the interests and passions of men*, which is full as potent and infallible" [Hume, (1752) 1985, 313].

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