Axiomathes (2022) 32 (Suppl 2):S593–S606
https://doi.org/10.1007/s10516-022-09620-8

ORIGINAL PAPER

Hume on the Monetary Fallacy of Monotonic Counterfactuals

Paolo Maffezioli[1]

Received: 29 November 2021 / Accepted: 27 March 2022 / Published online: 15 April 2022
© The Author(s) 2022, corrected publication 2022

Abstract
I focus on the commonly shared view that Hume's monetary theory is inconsistent. I review several attempts to solve the alleged inconsistency in Hume's monetary theory, including the consensus interpretation according to which Hume was committed to the neutrality of money only in the long run, while he conceded that money can be non-neutral in the short run. Then, building on a monetary version of the logical fallacy of monotonic counterfactuals in the essay *Of the Balance of Trade*, I argue for the consistency of Hume's theory of money by ascribing to Hume a distinction between money as collectively neutral and distributively non-neutral.

Keywords Counterfactuals · David Hume · Monetary theory

1 Introduction

Since its inception brought about in the *Political Discourses* (1752), Hume's monetary theory has been challenged as inconsistent.[1] On the one hand, Hume endorses a forerunner of the quantitative theory of money for which an increase in the money supply of a nation only causes all prices to increase proportionally; in other words, more money only means higher inflation—a position known as *neutrality of money*. On the other hand, for Hume an increase of money in a nation can also stimulate people's industry and undoubtedly people's industry is the real cause of a nation's wealth and power. Thus, money qualifies as non-neutral, too.

To save Hume's monetary theory from inconsistency, scholars have long settled on a consensus interpretation according to which Hume was committed to the neutrality of money in the long run, whereas he conceded that money can be non-neutral

[1] All references are to Miller's edition of David Hume, *Essays Moral, Political, and Literary*, Liberty Fund, 1985 and will be cited parenthetically in the text.

✉ Paolo Maffezioli
paolo.maffezioli@gmail.com

[1] Department of Philsophy and Education, University of Torino, Turin, Italy

in the short run. Hence, for Hume an increase of money does have beneficial effects, but only temporarily. Admittedly, the consensus interpretation is confirmed in many passages throughout the economic essays of the *Political Discourses* and it can hardly be denied that Hume's monetary theory has no temporal connotation at all. That the consensus view is to be taken as the conclusive interpretation of Hume's monetary theory is, however, more contentious. For example, Schabas argues that attributing to Hume a clear distinction between short and long run is anachronistic (Schabas 2008b), whereas for Wennerlind the consensus interpretation is plainly false and should be rejected altogether (Wennerlind 2005). Finally, Paganelli argues that Hume never held that money is neutral, at least not in the sense of a fiat money, exogenously produced by a central bank (Paganelli 2006).

In this paper I contend that there is another way to account for the consistency of Hume's theory of money.[2] My interpretation is centered around a rather neglected passage of the the essay *Of the Balance of Trade*, where Hume warns his readership against what I understand as monetary version of the *logical fallacy of monotonic counterfactuals*. While it is true, says Hume, that I (or you, or anyone else) would be much richer, if my money doubled, it is not at all true that I would still be much richer, if my money doubled *and* so did the money of everybody else. For when money increases for everybody, the prices increase proportionally and I would be brought back to the same condition as before. Thus, Hume denies that when it comes to monetary reasoning we can correctly infer from the fact that a proposition p (my money doubled) entails a proposition r (I would be much richer), the fact that p together another proposition q (the money of everybody else doubled) still entails r.

From the analysis of the monetary fallacy of monotonic counterfactuals, it appears that for Hume money is neutral when it increases for the nation as a whole (or 'in itself', as Hume often says), namely for *all* citizens. When money increases in this way, I say it increases *collectively*. Hume's famous of example of the five pounds slipped overnight in the pocket of everyone in Great Britain is an example of such a collective increase of money. A collective increase of money occurs when the stock of money is artificially expanded through issued paper money or debasement, i.e., a recoinage of metallic money—a practice that Hume firmly opposed.

This is not, however, the only way in which Hume thought money can increase. In fact, money typically increase for some individuals and not for others. In this case, I say that money increases *individually*. An individual increase of money normally comes about through trade, when initially it increases only for the merchants who first receive it. In case of an individual increase, money is not neutral and we shall see that we Hume speaks of money as non-neutral he always adopts the perspective of the individuals. Thus, as long as money increases individually, it can trigger a real-growth effect. When money increase collectively, it will only heighten the prices. A fundamental mistake in monetary policy for Hume was to conflate the

[2] It should be noted that my analysis is purely exegetical. I am only interested in arguing that Hume's economic doctrines are consistent. Assessing whether they are true far exceeds the scope of the present work.

two levels, as explicitly diagnosed in the monetary fallacy of monotonic counterfactuals. My general conclusion is that the central tenet of Hume's monetary theory (money is neutral) is only ambiguous, but neither paradoxical nor contradictory, as it remains to be decided, on a passage-by-passage basis, whether Hume is considering money collectively or individually.

2 The Neutrality of Money

There is a large scholarly consensus that Hume's neutrality thesis is "the core premonetarist theorizing" Murphy (2009, p. 101) and one of the major contributions of Hume to economics.[3] The thesis is put forward by Hume at the very beginning of the essay *Of Money* (p. 281) and restated invariably throughout the *Political Discourses*. In brief, it states any increase in the money supply will only cause a proportional increase in the price of manufactures and wages. Therefore, the quantity of money is irrelevant for the wealth and power of a nation. In other words, a nation can never become richer by expanding its stock of money: surely, there will be more money within the nation, but everything will become proportionally more expensive. Governments, concludes Hume, should better devote all their energies to improving people's industry which is the real strength of the nation.

Notwithstanding the adherence to the neutrality thesis, Hume also concedes that an increase in the quantity of money is not always followed by a proportional increase of the prices (p. 292). For example, gold and silver started to inflow in great abundance into Europe after the discovery of America. The prices, however, did not increase proportionally to that quantity; in fact, they increased less. (Hume speculates that prices increased at most four times since the discovery of America, while money increased much more).

To account for this anomaly, Hume first recalls as "maxim almost self-evident" (p. 290) that while prices increase with an increase in the quantity of money, they fall with an increase in the quantity manufactures produced. More precisely, Hume assumed the commonly shared view that the price level P is the ratio of money supply M and aggregate output Y, namely $P = \frac{M}{Y}$. From this it follows that P increases if M increases and it decreases if Y increases.[4]

On the basis of this definition of price level, Hume explains that while money from the New World certainly increased the price level in Europe, it also boosted a production expansion by pushing people away from "their ancient simplicity of manners" (p. 292).

> It is certain, that, since the discovery of the mines in America, industry has encreased in all the nations of Europe, except in the possessors of those mines;

[3] For Hume's economic thought, the interested reader is referred to the recent monograph Schabas and Wennerlind (2020).

[4] The definition of price level is also restated verbatim in the essay *Of Interest*, in the example of the nation in the Pacific Ocean (p. 303). Paganelli traces the roots of such a view in the Aristotelian theory of justice (Paganelli 2006).

> and this may *justly* be ascribed, amongst other reasons, to the encrease of gold and silver" (p. 286, emphasis added)

At this point, the question naturally arises as to whether money can still be considered neutral. Is not the power to spark additional industry and output in open violation of the neutrality law for which money influences only the price level?

Not only was Hume aware of the non-neutrality of money; he also provided a quite accurate description of it. In the famous example of the merchants returning from Cadiz, he thoroughly analyzes the multiplier effect that an inflow of money from Cadiz has on output and employment in Great Britain, ultimately showing that more money does not only mean higher inflation, but also more output and higher wages.[5]

> It is easy to trace the money in its progress through the whole commonwealth; where we shall find, that it must first quicken the diligence of every individual, before it encrease the price of labour (pp. 286–287).

The passage has received "repeated contradictory interpretations" Arnon (2011, p. 17) and it is by far the most controversial of the *Political Discourses* Perlman (1987, p. 274). Here, I deliberately choose not to enter into the subtleties of these interpretations, and I simply take for granted that for Hume money can indeed have real-growth effects, against the neutrality thesis.[6]

3 The Consensus Interpretation

Aware of the difficulties in his neutrality thesis, Hume seemingly subscribes *ex ante* to the consensus interpretation of his own thought, according to which the vitalizing effect of money is only temporary.

> To account, then, for this phenomenon, we must consider, that though the high price of commodities be a necessary consequence of the encrease of gold and silver, yet it follows not immediately upon that encrease; but some time is required before the money circulates through the whole state, and makes its effect be felt on all ranks of people (pp. 286–287).

Many interpreters have concluded that for Hume the neutrality thesis holds only in the long run: although an increase of money in a nation will eventually result in higher inflation, such an increase can nonetheless have temporary beneficial effects. If so, the alleged inconsistency is resolved temporally: money for Hume qualifies as neutral in the long run and non-neutral in the short run.

[5] It is important to notice that the multiplier effect of money can only take place if the economy is not in a state of full employment. For money to be non-neutral not everybody must already be employed. More generally, Hume assumes, if only unwittingly, the economy does not work at full capacity. Hume's assumption of non-full employment has been analyzed in Perlman (1987).

[6] For a detailed analysis of the passage see Wennerlind (2005) which also provides a formal model of it.

The influence of this interpretation is so vast that over the years it became common knowledge Wennerlind (2005, p. 225). Indeed, Hume is often credited not just for applying the long-short run distinction to monetary theory, but also for being the first to introduce such distinction into economics, a distinction that "did not enter the mainstream of economic thought until the present age of Keynes" McGee (1989, p. 189).

Nonetheless, the consensus view has recently undergone some criticism. On the one hand, Hume is quite inconsistent in estimating how long a nation can keep hoarding money before the rise of the prices. As Schabas convincingly argues, "while Hume appeals to an array of temporal dimensions, ranging from 15 minutes to 1500 years, for us to impose the contemporary distinction between the short run and the long run would seriously mislead" Schabas (2008b, p. 148).

To resolve Hume's alleged inconsistency, Schabas suggests thinking of Hume's neutrality thesis "as a propensity, which is never fully instantiated" Schabas and Wennerlind (2011, 2019). More precisely, for Schabas the neutrality thesis is a thought experiment and as such it was never intended by Hume to describe real-life situations. Arguably, some scenarios imagined by Hume can hardly be taken to represent the real world (although they are good approximation of it). For instance, in *Of Interest*, he imagines that all men in Great Britain are given five extra pounds overnight and he wonders whether such a miraculous increase of money would lower the interest rate (p. 299). A few pages later, he imagines a Pacific island which keeps growing in terms of people's industry and claims that, as long as money does not increase, the prices there would gradually fall. For Schabas, these are monetary thought experiments. On the contrary, the Cadiz passage (where money is manifestly non-neutral) was never intended by Hume as a thought experiment; it was a rather accurate description of a real-life situation. Schabas concludes that for Hume money is neutral only in the context of thought experiment; in practice it may be non-neutral.[7]

According to Wennerlind, the consensus interpretation is plainly false as it fails to account for a distinction, explicitly made by Hume, between an artificial increase of money and an increase of money originating from a trade surplus (Wennerlind 2005, 2008). In the Cadiz passage, for example, money is not created *ex nihilo* by the government, but it originates from a trade surplus. When money inflows into a nation in this way (endogenously, in Wennerlind's terms), it truly contributes to promoting people's industry and the wealth of the nation; therefore, it is not neutral.

Wennerlind notices that an endogenous increase is not the kind of increase that Hume had in mind in expounding his neutrality thesis. When Hume argues that an increase of money only causes an increase of the prices, he rather refers to an

[7] Wennerlind (2008, p. 124) points out that around the composition of the *Political Discourses*, Great Britain was really running a substantial trade surplus with Spain. Notice that Cesarano (1998) touches briefly on Hume's monetary thought experiments when he says that "Hume is not analyzing the actual adjustment mechanism but simply a thought experiment describing the forces underlying a stable equilibrium" Cesarano (1998, p. 179). Finally, also the analysis of the essay *Of Public Credit* in Paganelli (2012) seems to rely on a distinction (similar to Schabas') between ideal and real level. Schabas' analysis remains, however, entirely original.

exogenous increase of money, namely to a situation where the stock of money is artificially expanded through issued paper money or debasement, i.e., a recoinage of metallic money. “The only certain consequence of using such an artificial means to expand the money stock would be to increase the price level, reduce net exports, and thus trigger a consequent outflow of money-negating the initial increase in the money supply” Wennerlind (2008, p. 114).

Wennerlind’s distinction between exogenous and endogenous money should not be confused with the one proposed in Paganelli (2006) under the same name, where ‘exogenous’and ‘endogenous’mean roughly ‘supply-driven’ and ‘demand-driven’, respectively.[8] According to Paganelli, the inconsistency in Hume’s monetary theory vanishes as soon as we realize that the concept of exogenous money is simply alien to Hume. More precisely, we cannot attribute to Hume the much modern view of an exogenous money, namely the idea of a fiat money, completely controlled by the central bank. On the contrary, Hume’s idea of money of money squares with the typical 18th century view that money is chiefly a unit of account and medium of exchange. The numerous passages in which Hume seemingly subscribes to the neutrality thesis are not to be understood as the description of an inflationist policy of some sort; what Hume is stating in those passages is simply that more money yields higher inflation because money is “the measure of everything” Paganelli (2006, p. 534).

On the other hand, Hume believed that money is endogenously created by its demand: the more manufactures go to the market, the more money goes into circulation to facilitate the exchanges. The main difference with respect to modern theory of endogenous money is that Hume did not think that money is generated by the banking system, of which Hume was very skeptical; it is rather a blind faith in free trade that brought Hume to think that money can increase only through commerce. Thus, one way to increase the quantity of money is to increase the level of industry. For if industry increases, then production is expanded, the prices fall and money inflows from abroad.

At this point it remains to assess Hume’s notoriously controversial claim that “the good policy of the magistrate consists only in keeping it [money], if possible, still encreasing; because, by that means, he keeps alive a spirit of industry in the nation, and encreases the stock of labour, in which consists all real power and riches” (p. 288). Traditionally, this passage has been interpreted as “an advocation for a policy of maintaining a gradually increasing money supply” Wennerlind (2005, p. 231). In other words, the passage reveals that Hume was an inflationist.

Since such an inflationist position is clearly inconsistent with the neutrality thesis, the supporters of the consensus interpretation concluded that a temporal clause has been left implicit in the passage; what Hume really meant was that money can stimulate people’s industry temporarily. Wennerlind rejects this reading and suggests that Hume intends to exhort the magistrate to “improve conditions for industry and, in that way, generate an increase in the money stock through increased exports” Wennerlind (2005, p. 232). Along the same lines, Paganelli suggest that we read

[8] The two approaches are clearly related but, as far as I know, have not been compared.

Hume's passage as advocating a deflationary policy of hoarding money (Paganelli 2006). For if money is hoarded, it is as if it was annihilated. This inevitably leads to a decrease in the prices and hence an inflow of money from abroad. Thus, far from being an inflationist, Hume would have been in favor of a deflationist policy of sinking prices through money hoarding.

All these interpretations, as well as the consensus view, are compelling in some respects. I contend, however, that there is another distinction that is worth considering to show that Hume's theory of money is consistent. This distinction is explicitly introduced by Hume in a relatively overlooked passage of the essay *Of the Balance of Trade*, where he charges mercantilist thinkers of committing a monetary version of a logical fallacy extensively investigated in the literature on counterfactuals and known as the fallacy of monotonic antecedent.

4 The Monetary Fallacy of Monotonic Counterfactuals

In the essay *Of the Balance of Trade*, Hume observes that nations and citizens respond differently to variations in the money supply. The context in which the observation appears is a discussion of what Wennerlind calls an exogenous increase of money, namely a situation where governments and bankers expand the stock of money by issuing paper money and other forms of non-metallic money. Once again, Hume goes a long way to show that such an artificial increase of money can never increase the power of the nation as it will only heighten the prices. The interesting point is that now he resorts to a monetary version of logical fallacy, known as the *fallacy of monotonic counterfactuals*.[9]

> We fancy, because an individual would be much richer, were his stock of money doubled, that the same good effect would follow were the money of every one encreased; not considering, that this would raise as much the price of every commodity, and reduce every man, in time, to the same condition as before (p. 316).

This seemingly marginal observation has been largely overlooked by the existing scholarly literature on Hume's economic thought. Those who actually considered it thought that it is one of the first examples of the fallacy of composition in economics.[10] Here I argue that the monetary fallacy should, in fact, be thought of as the failure of the monotonicity property for counterfactuals. At any rate I believe that the argument deserves further scrutiny as it can help to resolve the alleged inconsistency in Hume's monetary theory.

[9] In the literature on non-monotonic logic, the argument is also known *left weakening*. A classic discussion on the failure of monotonicity of counterfactuals can be found in Lewis (1973, p. 10).

[10] For example, according to Arnon "the is argument is of utmost importance. First, it is an early argument against the fallacy of composition and in favor of the need to think differently when analyzing private and general cases (Arnon 2011, p. 19).

As I understand the passage, Hume believe that the following argument is fallacious.

If my money doubled, then I would be much richer. Therefore, if everybody's money doubled, then I would be much richer.

I conveniently rephrase the argument in the following slightly different, but equivalent, version.

If my money doubled, then I would be much richer. Therefore, if my money doubled and so did the money of everybody else, then I would be much richer.

The second formulation may sound a little odd, but it makes it clear what I take to be the salient ingredient of Hume's reasoning, namely the fact that the conclusion is obtained from the premise by supplementing a proposition in the antecedent of the conditional.

Regarding the second formulation, we see that the argument consists of three propositions: *my money doubled*, *I would be much richer* and *the money of everybody else doubled*. I take Hume's use of past tense as a clear indication that both the premise and the conclusion are are conditionals of a certain type—counterfactual conditionals (Lewis 1973). Moreover, both have same consequent (its then-clause), *I would be much richer*. While the antecedent of the premise (its if-clause) is simply *my money doubled*, that of the conclusion is obtained from the antecedent of the premise by supplementing *the money of everybody else doubled*. If we allow, as customary in logic, the three propositional variables p, r and q to be a schematic representation of the three propositions, then the structure of Hume's argument is a follows:

If it were the case that p, then it would be the case that r. Therefore, if it were the case that p and q, then it would be the case that r.

In logic, a conditional conforming to this patter is normally called *monotonic (with respect to its antecedent)*, in the sense that once we have established that the consequent holds, we can always supplement the antecedent with an arbitrary proposition and be sure that the consequent still holds.

Some conditionals such as material conditional and strict conditional are monotonic. Counterfactuals hardly at all. In fact, it is a key semantic feature of counterfactuals that they are *non-monotonic*. The reason for the failure of monotonicity is the arbitrariness of the supplemented proposition. For a counterfactual conditional is true (or false) not solely in virtue of the truth values of its antecedent and consequent, but also in virtue on some background facts and laws. For example, what makes true the counterfactual conditional *if I had struck this match, it would have lit* is not merely its antecedent; it is rather its antecedent together with some background facts, like the presence of oxygen. Now, if the supplemented proposition is in open violation of these background facts, then clearly the counterfactual may become false, like in *if I had struck this match and done so in a room without*

oxygen, it would have lit.[11] Thus, adding more information to the antecedent of a true counterfactual, can turn it into a false one.

I am convinced that Hume thought that something similar happens in reasoning about money. My becoming richer after receiving more money does not depend solely on me receiving more money. It depends on me receiving more money and some background facts, including crucially the fact that not everybody does the same. Consequently, I would be much richer, if my money doubled, everything else being equal. In particular, we cannot supplement the antecedent with an arbitrary extra piece of information. For if that piece of information is the fact that everybody else receives more money, then my conclusion that I would be much richer is no longer granted.

In order to be faithful to Hume's texts, we need to make sure that Hume was committed really thought that money is neutral collectively and non-neutral individually. Only in this way we can claim that the premise of the argument is true, while the conclusion is false. In the next sections I shall review several passages and I argue that Hume mainly adopts the collective perspective when he expounds the neutrality thesis and price-specie flow mechanism in the essays *Of Money* and *Of the Balance of Trade*, respectively. Some other time, however, Hume abandons the collective perspective and considers money from the standpoint of individuals; and for them money is not neutral.

5 Individually Non-neutral, Collectively Neutral

Ascribing to Hume the idea that the monetary fallacy is an instance of a fallacy of monotonic antecedent requires that we find textual evidence to show that for Hume the conclusion does not follow from the premise, namely that the premise is true and the conclusion is false. Referring to the first formulation of the fallacy, we need to show that for Hume money is individually non-neutral and collectively neutral.

In fact, Hume does not provide any justification whatsoever for the truth of the premise. He just takes it as a self-evident. There is no need to provide a justification for the fact that for a single individual money is not neutral, in the sense that, while increasing, it can truly make anyone richer. However, it is perhaps significant that Hume always takes money to be non-neutral when he looks at it from the perspective of private citizens. For example, in the Cadiz passage Hume conducts the analysis of the inflow of money from the perspective of the merchants who first receive it. In particular, before giving the example (which notoriously begins with "Here is a set of manufacturers or merchants"etc.), Hume had already made clear the switch of perspective.

> 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 (p. 286).

[11] The example is taken from Goodman (1947).

Later, *Of Interest*, against the mercantilist credo, Hume insists that private citizens would benefit from an increase of money, although such an increase can never alter the ratio of lenders and borrowers, on which the interest rate ultimately depends:

> the prodigal landlord dissipates it, as fast as he receives it; and the beggarly peasant has no means, nor view, nor ambition of obtaining above a bare livehood (p. 299).

It is much harder to argue that for Hume money is collectively neutral. Clearly, given that money is individually non-neutral, it is tempting to conclude that we can make everybody richer by simply giving them more money. But this conclusion, argues Hume, should be resisted. If an increase if money is such that everybody receives a share, then money becomes neutral, i.e., it triggers a proportional increase in the prices, with the consequence that each individual is just as rich as they were before receiving the money.

There are at least two reasons why I think we should understand Hume's neutrality thesis to hold collectively, namely from the aggregate perspective of the nation (understood as the collection of individuals). Firstly, in phrasing the neutrality thesis, Hume regularly points out that the thesis holds for the nation "in itself" or "within itself". Secondly, in the numerous and often-quoted passages in which Hume imagines a sudden increase or decrease of money (ultimately to show that this would be irrelevant for wealth), he always considers the consequence that such increase or decrease would have on a nation-scale and never refers to what would happen to the citizens considered in isolation. These choices, I argue, are deliberate and indicate that we should understand Hume's neutrality thesis to hold collectively. I will consider first the issue of wording and discuss later the use of examples.

At the beginning of the essay *Of Money*, right after the famous metaphor of the oil of the wheels of commerce, Hume's formulation of the neutrality thesis is explicitly restricted to the nation in itself.[12]

> If we consider *any one kingdom by itself*, it is evident, that the greater or less plenty of money is of no consequence; since the prices of commodities are always proportioned to the plenty of money, and a crown in Harry VII.'s time served the same purpose as a pound does at present (p. 281).

Shortly after, in the same essay, Hume insists again that the neutrality thesis holds true when a nation is considered in itself.

> 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* (p. 285).

Even when he undertakes to reconcile the neutrality thesis with the evidence that money have the power to stimulates industry, he makes it fully explicit that the neutrality thesis itself holds, once again, for the nation in itself.

[12] Until further notice, the emphasis in Hume's texts is added.

> This is not easily to be accounted for, if we consider only the influence which a greater abundance of coin has *in the kingdom itself*, by heightening the price of commodities, and obliging every one to pay a greater number of these little yellow or white pieces for every thing he purchases (p. 286).

Right before his alleged support of inflationist policies, Hume specifies the abundance of riches is irrelevant as far as the "domestic happiness of a state" is concerned.

> 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" (p. 288)

Moreover, when Hume claims that the real wealth of the nation consists in people's industry (and not in the abundance of gold and silver), he again refers to the nation.

> It appears that, the want of money can never injure any state within itself: For men and commodities are the real strength of any community"(p. 293).

Later in the essay *Of Interest*, while insisting on the conventional nature of money, Hume comes back to the neutrality thesis and, once again, he crucially remarks that this is to be understood to hold in the aggregate.

> Money having chiefly a fictitious value, the greater or less plenty of it is of no consequence, if we consider *a nation within itself*; and the quantity of specie, when once fixed, though ever so large, has no other effect, than to oblige every one to tell out a greater number of those shining bits of metal, for clothes, furniture or equipage, without encreasing any one convenience of life (p. 297).

Another indication that the neutrality thesis is to be taken collectively is that Hume's thought experiments (in the context of which according to Schabas the neutrality thesis is developed) involve for most part nations, typically Great Britain. For example, in the essay *Of the Balance of Trade*, Hume famously imagines a situation where nearly all money of Great Britain disappears, and he wonders what the consequence such a sudden annihilation would have on foreign trade.

> 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 Harrys and Edwards, what would be the consequence? (p. 311).

In *Of Interest*, in trying to show that the quantity of money is irrelevant for lowering interest rate, Hume imagines again an instantaneous annihilation of all gold in England and claims that this would have no influence on the interest rate.

> Were all the gold in England annihilated at once, and one and twenty shillings substituted in the place of every guinea, would money be more plentiful or interest lower? (p. 296).

The contrast between individual non-neutrality and collective neutrality of money becomes more evident in the discussion on artificial monetary stimuli. Hume

offers, I think, a good deal of textual evidence for the idea that he regarded such economic policies to be beneficial for the private citizens and totally irrelevant for the nation as a whole. In discussing paper-money in *Of Money*, for example, Hume conceded that, should we really opt to use such "a counterfeit money," it would be better if it is managed by a public bank, for

> [i]f the public does not provide a bank, private bankers will take advantage [...]; as the goldsmiths formerly did in LONDON, or as the bankers do at present in DUBLIN (p. 284).

Clearly, if goldsmiths and bankers can take advantage of the newly issued paper-money, then *for them* money is not neutral. However, Hume quickly adds that *for the nation* things are radically different, since

> to endavour artificially to encrease such a credit, can never be the interest of any trading nation" (p. 284).

Thus, the nation does not appear to benefit from the exogenous money. In fact, for the nation exogenous money would be a disadvantage. As noted by Wennerlind, "while Hume was fully accepting of privately issued paper-money, he did not endorse the practice of using this form of money to expand the overall money stock" (Wennerlind 2008, pp. 113–114). I conclude that the expressions like "as a whole" or "in itself" suggest that Hume's neutrality thesis is applicable only when we consider all citizens. When Hume analyses money from the perspective of a single individual his attitude towards money radically changes.

6 Conclusions

Despite their differences in motivation and approach, all attempts to show that Hume's theory of money is consistent agree that his concept of money needs further specified. I have discussed three interpretations to save Hume's monetary theory from inconsistency: the consensus interpretation, for which money is neutral in the long run, Schabas (2008a) where money is neutral ideally, i.e., in the context of a thought experiment, and Wennerlind (2005) where the neutrality of money is to be understood as the neutrality of the paper money, often irresponsibly over-issued by governments. Then I have suggested an alternative interpretation based on a seemingly marginal observation in *Of the Balance of Trade*, where Hume explicitly makes a distinction between money as collectively neutral and distributively non-neutral and warned his readership against the risk of committing a monetary fallacy of monotonic counterfactuals when the collective neutrality of money is inferred from its distributive non-neutrality. I provided textual evidence to show that, when Hume describes money as neutrally operating, he always intends money collectively, while the non-neutrality of money appears when money is individually understood. The three major interpretations and mine are summarized in the table below.

Money is	Consensus int.	Schabas	Wennerlind	Here
Neutral	Eventually	Ideally	Exogenously	Collectively
Non-neutral.	Temporarily	Practically	Endogenously	Individually

What is then Hume's final suggestion to policy makers? From the analysis it emerges that Hume's was particularly concerned that the beneficial effects of monetary policies such as the artificial expansion of paper-money could be perceived only by "private bankers and money jobbers" (p. 285), with no or little influence on the nation. Thus, Hume shared the same worries of Locke who, as early as 1692, observed in his famous memoir on interest that a reduction of the interest rate from 6% to 4% "will mightily increase the advantage of bankers and scriveners, and other such expert brokers" Locke (1692, p. 212). Like Locke, Hume was convinced that it was not in the best interest of the nation to implement such artificial policiess. Therefore, he tried to convince his readership that nations and individuals respond differently to monetary stimuli and hence they demand distinct analytical tools; and the risk of conflating the two level was explicitly theorized by Hume as a logical fallacy.

Funding Open access funding provided by Università degli Studi di Torino within the CRUI-CARE Agreement.

Open Access This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if changes were made. The images or other third party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit http://creativecommons.org/licenses/by/4.0/.

References

Arnon A (2011) Monetary theory and policy from Hume and Smith to Wicksell. Money, credit, and the economy. Cambridge University Press, Cambridge

Cesarano F (1998) Hume's specie-flow mechanism and classical monetary theory: an alternative interpretation. J Int Econ 45:173–186

Goodman N (1947) The problem of counterfactual conditionals. J Philos 44:113–118

Lewis D (1973) Counterfactuals. Blackwell, Oxford

Locke J (1692) Some consideration of the consequence of the lowering of the interest, and raising the value of money. In: Kelly P (ed) Locke on money. Clarendon Press, Oxford

McGee R (1989) The economic thought of David Hume. Hume Stud 15:184–204

Murphy A (2009) The genesis of macroeconomics. New ideas from Sir William Petty to Henry Thornton. Oxford University Press, Oxford

Paganelli MP (2006) Hume and endogenous money. East Econ J 32:533–547

Paganelli MP (2012) David Hume on public credit. Hist Econ Ideas 20:31–43

Perlman M (1987) Of a controversial passage in Hume. J Polit Econ 95:274–289

Schabas M (2008a) Hume's monetary thought experiments. Stud Hist Philos Sci 39:161–169

Schabas M (2008b) Temporal dimensions in Hume's monetary theory. In: Wennerlind C, Schabas M (eds) David Hume's political economy. Routledge, Milton Park, 127–145

Schabas M, Wennerlind C (2011) Hume on money, commerce, and the science of economics. J Econ Perspect 25:217–230

Schabas M, Wennerlind C (2020) A philosopher's economist: Hume and the Rise of capitalism. Chicago University Press, Chicago

Wennerlind C (2005) David Hume's monetary theory revisited: was he really a quantity theorist and an inflationist? J Polit Econ 113:223–237

Wennerlind C (2008) An artificial virtue and the oil of commerce: a synthetic view of Hume's theory of money. In Wennerlind C, Schabas M (eds) David Hume's political economy. Routledge, Milton Park, pp 105–126

Publisher's Note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.