Abstract: Friedman (1950) championed a shift from a fixed exchange rate regime (Bretton Woods) to a world of central bank issued floating currencies. Following Menger (1892) and Mises (1971), we see that the exchange-value of money lies in the original use-value of a commonly accepted medium of exchange. However, actors also incorporate their inter-temporal preferences in choosing a money. Not only their present exchange needs, but also their expected future ones will dictate what type of money is preferred. As exchange-value is only partly determined by the underlying base-commodity, we see that differing values for the same nominal currency may arise on the free market. To accommodate this factor, and stabilize the financial system, fluctuating rates are a necessary condition.

1. Introduction

No individual has done more to put in motion the regime of flexible exchange rates currently prevalent in the world than Milton Friedman. As Bernanke (2003: 214) points out, “one can hardly overstate the influence of Friedman's monetary framework on contemporary monetary theory and practice.” However, Austrian economists have generally been opposed to Friedman's prescriptions. A world of competitive, central bank issued fiat currencies, fluctuating against each other is in stark contrast to the global fixed-exchange gold standard that many Austrians espouse.

It is time that Austrians sit back and reassess their thoughts on the topic. A general underdevelopment in the realm of Austrian monetary theory has contributed to this misunderstanding. After Menger (1892) and Mises, (1912) little has been done to further explain the actual process through which a good becomes money. The role of time in the money adoption process has been generally neglected, with far-reaching and detrimental results. It is only by looking at how time-preference and the inter-temporal element function that we can gain better theoretical understanding of how and why currencies emerge.
Additionally, a look at the origin of value in money must be reassessed. Following Rothbard (1962), we take must note that commodity money will always remain a subset of that commodity.\(^1\) With this in mind, we see that value derived from money is not identical to factors inherent in the commodity element, but also in the monetary element. Private issuers of money will contribute to this value-adding process through increasing amounts of availability, ease of identification, reputation, probity, or other specific features. It is only with this insight that we can see how commodity monies, though sharing a potentially common commodity, will not necessarily share a common value. The case for fluctuating exchange rates thus becomes apparent.

The following paper is divided into seven sections. The second and third will take a brief look at contrasting mainstream thoughts on monetary adoption, with the Austrian viewpoint highlighted. Particular attention is afforded the three most prominent and influential members of each camp: Friedman, Menger, and Mises. Section four will explain the time-preference trade-off that exists when adopting a medium of exchange. As this is a very individual element, actors will try to balance their preferred money with the time element in which they wish to use it. A brief note on the separation of two roles of money – medium of exchange and store of value – will be assessed next. Medium of exchange is found to be the prime role money fulfills, however, this is conditioned by its store of value function. The sixth section introduces the concept of search costs that Alchian added to the literature. The case for the private production of money to economize on these costs will be made. The true origin of the value of money will be discussed in section seven. The Rothbardian distinction between a money and the commodity it is based on will be stressed. Additional sources of value added through money producers will make evident the need for a system of fluctuating exchange rates, despite the identical underlying commodity backing of distinct monies. We will conclude with a note on the lessons each respective camp of economic thought could learn from one another.

2. Friedman on money
Friedman, long a defender of free-markets, would bear the weight of a significant inconsistency throughout his whole career. While generally eschewing a positive government role in the economic sphere, he would adamantly defend the creation of a government controlled central bank with a monopoly on the creation of money. In his (1950) seminal article, *The Case for Flexible Exchange Rates*, he would go against the grain of a world mired in a tired Bretton Woods system and argue the

\(^1\) Previously Hayek (1941, 360-361) pointed out that value for monetary uses is independent of the industrial use value that the money is derived from.
case for a shift to freely-floating, individually managed currencies. The reasons given to justify this move were threefold: (1) the promotion of unrestricted multilateral trade, (2) the harmonization of monetary and fiscal policies, and (3) to feed the rearmament drive. Although from a normative perspective we may call questionable some of these motives, the call for a promotion of trade seems to be an unobjectionable one.²

The prime motive for Friedman distancing himself from the, then prevailing, commodity standards, were the costs involved. In fact, he would later argue that it lacked sense to spend resources “[digging] gold out of the ground in South Africa – in order to rebury it in Fort Knox” (1962: 40).³

Additionally, the adoption of freely-floating fiat currencies would not only save resources, but would offer a simplification as well. In his well-known analogy to daylight saving time, it would be forwarded that instead of each individual resetting their clocks individually as they saw appropriate, it made sense to simplify the process by mandating a specific time to change all the clocks together. Likewise, “[i]t is far simpler to allow one price to change, namely, the price of foreign exchange, than to rely upon a multitude of prices that together constitute the internal price structure” (1950, 173).⁴

That the new flexible regime should be fiat based was seen as a necessary step, although one whose justification received little formal attention in Friedman's writings. The shift to an essentially costless currency via paper would entail the loss of any possibility of a competitive equilibrium:

So long as the fiduciary currency has a value greater than its cost of production – which under current conditions can be compressed close to the cost of the paper on which it is printed – any individual issuer has an incentive to issue additional amounts. A fiduciary currency would thus probably tend through increased issue to degenerate into a commodity currency – into a literal paper standard – there being no stable equilibrium price level short of that at which the money value of currency is no greater than that of the paper it contains. And in view of the negligible cost of

² Friedman's support of free-trade is puzzling when two years earlier he had also stated that the banking system must be reformed to eliminate all private creation or destruction of money. See Friedman (1948: 135).
³ Insightfully, in a 1984 televised interview with then Icelandic president Ólafur Ragnar Grímsson, Friedman would point out the essence of costs as being entailed in every action, the only pertinent question is who is to bear those costs. This idea of cost-bearing seems to be lost in many of his monetary thoughts.
⁴ The most common cost associated with the gold-standard, or any commodity standard from the majority viewpoint of today's economists, is the cost imposed on production. The relatively inelastic supply of commodities is seen as being a detrimental factor, as well as a heavy cost on productivity. Mises (1949: 471) would view this as “not a defect of the gold standard; it is its main excellence.” Mises would also add however that should the production costs of gold be reduced low enough to make money production destabilizing elastic, that a new commodity would have to be found (ibid: 473). See also Huerta de Soto (1998: 262) and Hülsmann (1996: 10).
adding zeros, it is not clear that there is any finite price level for which this is the case. (Friedman 1959: 7)

Competition can be seen as not only being inappropriate to such a system, but a near-impossibility (Friedman 1951, 216; 1959: 7). In effect, a tragedy of the commons in the monetary sphere would result lacking the supply-side “restraint” a central bank would affect. Klein (1974: 431), however, dismantles Freidman's argument, pointing out that his conclusion of an infinite price level is based on a “misleading assumption” that all monies are indistinguishable. In fact, as we will see in section 6, monies issued in a competitive setting are distinct of each other, giving rise to continually fluctuating exchange rates, in opposition to the fixed rates Friedman implies. Likewise, Dowd (1989: 85-90) points out the three common externalities that lead to the medium of exchange to be viewed as a public good: transaction, confidence, and information externalities. These are summarily shown to rest on faulty assumptions breeding erroneous conclusions.

The problem of what would happen to the gold reserves of the world was summarily dismissed. The new flexible system of fiat currencies would be wholly incompatible with the concept of more than one country adopting a fixed nominal price gold-standard, and having its currency fully-convertible between money and gold. Friedman's (1950: 191) solution was a separate gold market, where the metal could be freely traded with the result of relegating it from monetary to commodity status.

Friedman exhibited a complete ignorance as to the origin of money in writing these prescriptions. Menger (1892) and Mises' (1912) earlier explanations provided a basis from which to explain the foundation of a monetary system. Although seeing the issues arising from a centralized monopoly monetary system (for example see, Friedman 1959: 4), it was still, in Friedman's eyes, the lesser of the two evils. In contrast to the earlier Austrian thinkers, there was no need for a precedent to be set by a good's use-value prior to becoming money; it could be created at will from thin air. Additionally, Friedman lacked a “micro-vision” when looking at monetary phenomena. Frequently he would make speak in terms of “national monetary policies”, or a nation's “own interests” (1950: 187; 1951: 210). In contrast, as we now turn our attention to the early Austrians and the foundation of

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5 Selgin and White (1994: 1734) argue that this viewpoint ignores the enforceable brand name that each product enjoys, including money. They offer an alternative solution – a “goods back guarantee” - whereby money holders will be reimbursed in a good other than the money in question, to combat against future purchasing power losses through inflation.

6 Huerta de Soto (1998) remarks that, due to poorly defined property right in the monetary sphere, a tragedy of the commons exists regardless in the modern banking industry. Additionally, Hoppe (1994: 57) writes of the impossibility of a paper-money, except when mandated through government fiat. Hoppe concludes that only commodity-based money (i.e., gold coins) can sustainably exist in the long run. See also Dowd (1996: 247) on the evolution of fiat currency.
money, we find that money is, at its core, a micro-phenomenon.

3. Menger and Mises on money

One of Menger's greatest contributions to the science is found in writings on the origin of money. He, concurrent to Jevons' (1876) analysis, viewed money arising from the “double coincidence of wants” problem. Two individuals wanting to engage in trade each hold goods that the other may not want. This single issue gives rise to generally accepted commodities that came to be used not only for their direct use-value, but their exchange-value in trade as well. Hence, for Menger, the emergence of money stems from spontaneously finding a commonly accepted medium of exchange. The end goal would be to find a medium that would reduce the bid-ask spread on goods to the maximum realizable amount. For instance, it is true that every good is tradable to some extent. Approaching a butcher to buy a steak with only a hammer at your disposal for exchange may still result in a trade; the question would be at what price. The discount offered for your hammer may be so great so as to dissuade the trade at all, or place you at a considerable bargaining disadvantage.

While recognizing that money emerges as a spontaneous order (1883: 131), Menger would also note that the precious metals have taken on the role of money, but this is only an historical fact. Hence, diametrically opposed to Friedman’s conception, for Menger (1892) we find that, “[m]oney has not been generated by law. In its origin it is a social, not a state institution.” Precious metals were adopted due to their particular qualities; however, these have always been particular historical facts, never time-invariant axioms we could use to deduce where future money is to be produced from.

Mises (1912) would add considerably to Menger's insight with his “regression theorem.” The adoption of money requires two specific individual components: use-value and exchange-value. For general commodities, it makes no difference if they contain exchange-value. However, as Mises (ibid: 97) pointed out, for money to have a use-value, it must have exchange-value. To develop this concept

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7 Say (1803) would also write of the double coincidence of wants problem. In fact, Say was one of the primary influences on Menger's thoughts on money. See Rothbard (1995: 37), for a further elaboration on this prehistory. Also, see Wu (1939: 126) for the view that Mises was heavily influenced by both Ricardo and Nassau Senior, as well as Menger, while formulating his own theory of money.

8 See also Rothbard (1962: 192) for the actual physical medium of exchange being a historical realm, and outside the realm of pure economic theory as such. We can compare Menger's spontaneous emergence view of money in distinction to his contemporary Walras where he stated, “[l]a monnaie est une affaire d'Etat” (1898, 169). For a closer look at the differences between Menger and Walras' conceptions of money and monetary evolution see Arena and Gloria-Palermo (2008).

9 Interestingly, a later Menger (1909) viewed the state as being able to “perfect” money. Once money had previously emerged as a market institution, the state, primarily through legal tender laws, could improve upon its acceptance and increase its demand as a medium of exchange. This, however, relied on a pre-existing, market established money.
one step further, there is no subjective use-value in money, unless it contains an objective exchange-value.

Mises' regression theorem explains why some monies that seem to have no use-value have come into existence. Their demand today is sourced from their demand the prior day, and onward, in a continual regression to the past. At some definite point in the past this regress must end, and at this point, money's exchange-value would be derived from the use-value available at that given moment. The result is that a given money might have no direct use-value in the present, however, for it to have demand in the present, it must have derived its exchange-value from some concrete use-value in the past. The direct implication of this is that no money can originate \textit{ex novo}, or more appropriately, no money can emerge from something which has no use-value. The consequences for Friedman's thoughts on the origin of money are evident.\footnote{Hayek (1976) would later advocate a system of competing currencies operating alongside the current government fiat money. In his view, the competing currencies could also be fiat in nature. For a critique of this view point, see Herbener (2002: 6), who argues that all a state can achieve in this is to ratify an existing medium of exchange. This would refute earlier criticisms of the Misesian theory of money by Gilbert (1953: 149) and Patinkin (1956: 71) who argued that fiat money introduced after a monetary collapse could not be explained by Mises' regression theorem. However, we can see that fiat money can never be introduced \textit{ex novo}, but must always be offered for exchange with an existing currency (Rothbard 1976).See Tullock (1957) for a discussion of the historical failure of a spontaneously introduced paper money in ancient Persian civilization. He concludes the failure was due to the fact that the Persians had no prior use-value in fiat money, hence, they held no reason to believe it would have an exchange-value.}

Later, Mises clarified his position on exchange-value and money:

The purchasing power which we explain by referring to the extent of specific demand is not the same purchasing power the height of which determines this specific demand. The problem is to conceive the determination of the purchasing power of the immediate future, of the impending moment. For the solution of this problem we refer to the purchasing power of the immediate past, of the moment just passed. \textit{There are two distinct magnitudes} [emphasis added]. (1949: 405)

The relationship between demand and purchasing power is thus a complex one. The purchasing power of the immediate past that Mises writes about is conditioned by two things. First is the relationship that exists between goods available at that point in time for purchase and the amount of money outstanding with which to purchase them. Second is where his regression theorem plays a pivotal role. The demand for money at that particular moment existed due to the finite regression of demand the money had previously experienced. Hence, we can say that demand for a given money was
determined in the past by its previous demand and purchasing power thereof.

However, the demand and purchasing power of the “impending moment” is of a slightly different nature. Demand for the future is conditioned by the demand that exists due to the past purchasing power of the money. The purchasing power of the future will be tempered somewhat by the expected purchasing power it will contain at the moment it is expected to be used. Mises’ distinction between the two “magnitudes” takes on great significance when viewed in light of this.

4. Time preference and the adoption of currency

The primary focus that is operative in the adoption of a currency is hence finding a suitable medium of exchange to minimize the problem of the double coincidence of wants. Menger (1871: 208) however, noted that money is given two ancillary roles: (1) measure of value, and (2) store of value.\footnote{Menger (1892) would allude to the temporal element discussed in this section, although fail to expand upon it accordingly. The recognition that, “[t]he interval of time, moreover, within which the disposal of a commodity at the economic price may be reckoned on, is of great significance in an inquiry into its degree of saleableness” points to the fact Menger realized that media of exchange are not only used in the present, but also held for expected future exchanges. Elsewhere Menger (1871) would downplay the significance of this temporal factor, stating that historically, commodities have been used for exchange value, and not as stores of value. This historical tendency does not negate the fact that humans must consider this temporal element when choosing their exchange medium. See also Menger (1909) where he views the store of value function as being derived from money's medium of exchange role.} A measure of value (or unit of account) is incidental to money. Indeed, we could not think of the concept of money without also thinking of its inherent measure of value. Menger would downplay the significance of the “store of value” component, stating its existence is of “merely accidental nature” \(\text{\textit{ibid}}: 208; \text{also 1909: 7}\). This viewpoint had somewhat detrimental consequences for later economists, as the focus was shifted solely to the static exchange-value money contains.\footnote{These other specific uses take on increased importance when the value of money is under assault. Röpke (1937: 103-104) notes that in the Weimar hyperinflation, money lost its roles in the following order: first it ceased to be a store of value, second it failed to be a unit of account, and lastly it ceased to be a medium of exchange. However, in the adoption of a currency, we can see different circumstances will dictate the relative importance of each metric. My gratitude to Prof. Philipp Bagus for pointing out this passage.}

A store of value, however, is another form of exchange, although with an inter-temporal twist. When an individual requires a store of value, they require a medium of exchange to be used in the future. Indeed, actors must always choose between exchange in the impending moment, and at some future point (Böhm-Bawerk 1889: 260; Rothbard 1962: 767). This finite amount of time will therefore entail the money having an exchange-value at some future point. Noting that a precondition for money's emergence was a steady (not necessarily stable) value, Wicksell (1935: 23) summed money's role:
The money he acquires then remains in his hands both as ready money for anticipated future purchases or payments, and as a reserve for unforeseen liabilities. His money thus becomes his means of storing value (though usually only for a shorter period), his potential purchasing power, or future medium of exchange. In other words, it becomes a pledge or guarantee – *de facto* not *de jure* – for the future performance of counter-services to which he is economically entitled by virtue of the services he has performed.

In this way, we can see that an individual's choice of a medium of exchange is tempered by the exchange value of the present, and the expected exchange value of the future. Although it is foreseeable that one commodity may satisfy both wants simultaneously, it is impossible to state this *a priori*. In fact, the future suitability as a medium of exchange will be assessed individually through expectations of the conditions surrounding a given commodity.

An illustration may be helpful. We will consider two commodities. Commodity A exhibits great variability in its exchange-value in the short-term, having wild swings in purchasing power. However, in the long-term the historical precedent, and the future expectation, is that the purchasing power will remain relatively constant. Contrast this with commodity B, whose short-term valuation remains relatively constant. However, the historical precedent and future expectation will be that it will continuously experience a decline in purchasing power, making its future exchange-value greatly reduced compared to its present exchange-value. These two options can be compared in Figure 1:

<Insert Figure 1 here.>

Two suppositions can be drawn at this point. The first is that, for purchases to be made in the near future, the superior medium of exchange would be commodity B. It experiences relatively minor short-term volatility, aiding the exchange process by adding an element of predictability to the future purchasing power inherent in the money. In terms of lowering the bid-ask spread of prices, we can say that a commodity that is relatively non-variable in purchasing power will reduce the short-term risk that changes in purchasing power can add to exchange. In contradistinction, commodity A has experienced, and more importantly, is expected to experience, a relatively higher level of short term volatility. This will not aid in reducing the bid-ask spread in the short-term that is a requisite condition for the choice
of a medium of exchange. Given the binary choice between the two, we can state that the commodity exhibiting lower short-term purchasing power volatility (B) will be the preferred medium of exchange for transactions temporally closer to the actors.

Let us now look at a transaction expected to take place at a defined point in the future. This time, we can see that commodity A has historically set an example as having long-term purchasing power stability, despite its short-term fluctuations. Commodity B on the other hand, experiences a continual erosion of its purchasing power. Over any small period of time this may not seem significant, but given a longer time horizon the losses prove quite significant. Hence, for expected transactions of a distant future, commodity A, despite its short-term volatility, will act as a relatively good store of value, thus making its purchasing power stable for the long-term. The result on the bid-ask spread is that it can be expected to be reduced in the future, as contrasted with commodity B's greatly reduced future purchasing power, and hence, larger inter-temporal bid-ask spread.

What commodity is preferred to use as a medium of exchange will depend on the individual actors' time preference scales. Hayek (1980: 33) demonstrated that people wish to reduce the uncertainty of future prices through the use of a stable medium of exchange. The inevitability of future price changes means that although this uncertainty can never be eliminated, it can be mitigated through differing time preferences dictating how far into the uncertain future the money will be used. Two individuals will never share an identical time preference horizon. Some will prefer to exercise their ability to save for the future, and others will prefer to be net-consumers in the present. The result is that some people will prefer having a medium of exchange that exhibits short-term price stability to aid in their present-oriented spending habits. Others may prefer a commodity that acts as a superior store of long-term value, despite the short-term volatility it may experience. In fact, an older Menger would identify the trade-off that exists between these two functions, adding that they may exist in a mutually exclusive form concerning their respective attainabilities (Menger 1909: 6). Heterogeneous expectations (stemming from different capital endowments, knowledge, etc) increase incentives for product differentiation in the market for exchange media (Cowen and Kroszner 1994: 35).

To a relatively more present oriented actor, the long-term store of value is a non-sequitur in the choice of money adoption. They may never think, nor act, in the long-term, thus this general criteria may prove to not be a criteria for their individual needs.\(^\text{13}\) Likewise the future oriented individual, as they plan on using their medium of exchange in the future, they may not be availed by the relatively

\(^{13}\) Keynes may have forwarded that we are all dead in the long run. But we may require a store of wealth until that point, and possibly even longer.
short-term price stability afforded by commodity B. The difference however lies in the fact that exchange is a necessary precondition of developed society – it would be difficult to imagine an actor in today's world not partaking in some sort of exchange. Hence it becomes apparent that as much as an individual may be future oriented, a certain degree of exchange must take place in the present.

Mises (1949: 417) would also view money as only existing due to uncertainty as to the future. If there was no inherent uncertainty, there would be no need to hold money. Money is necessarily a creation to deal with the element of change, an element removed in the certain world of his evenly rotating economy. Goods could be directly exchanged against one another as their full use, and hence value, would be known with certainty. Samuelson (1947: 123) would take a similar approach, noting that “in a world involving no transaction friction and no uncertainty, there would be no reason for a spread between the yield on any two assets ... in such a world securities themselves would circulate as money and be acceptable in transactions.” Samuelson, however, was incorrect in assuming that in a fully certain world, anything would be money. In a fully certain world, nothing would be money – it would serve no role.¹⁴

Furthermore, differing degrees of price stickiness apparent in different exchange media will give rise to different demands placed on them. Individuals will have different inter-temporal commitments regarding their risks and returns. This heterogeneity will give rise to different actors demanding different exchange media depending on the expected time horizon, or duration, of their liabilities or receipts. As expectations and personal knowledge will serve a large role in determining these demands, we can see a plethora of separate media arising to satisfy these exchange demands.

Time preference will not only dictate when people will use their money, but the actual type of money that will emerge. As inter-temporal trade-offs dictate when individuals believe they will partake in exchange, the type of commodity held to be used as exchange will differ. Variations in the expected exchange-value of money may cause money to not be adopted, or used further, if they are too severe (Mises 1949: 422). This will also be tempered by the time preferences of the individuals they will be exchanging with. A medium of exchange is only valuable if it can be exchanged to a willing partner. This implies that the two parties to an exchange are equally important in determining what will be exchanged.

5. A brief note on the separation of medium of exchange and unit of account functions

¹⁴ Leontief (1947: 238) would criticize this viewpoint originally by pointing out that demand for money must necessarily be zero in equilibrium, the same formal conclusion Mises had earlier drawn.
Jevons (1876: 16) first discussed separating two functions of money: the medium of exchange role could be uniquely performed by a money different than the unit of account. Hence, a unit of account could be used for longer-term (i.e., greater than three month) contracts which is of a more steady value. The advantage of this separation of duties would be a stable store of value for exchanges in the future and savings, with a readily accepted exchange medium for present oriented exchanges.

This viewpoint enjoyed a resurgence with the new monetary economists who viewed the central defect of the current monetary system as the instability of the unit of account (see Yeager 1983). Black (1970), Fama (1983), and Hall (1983) have all proposed systems aiming to rectify this issue and lead to greater price stability. In essence, money could, under these forwarded systems, be held in two forms: deposits in banking institutions, or currency. The former would represent a unit of account, and hence, store of value function. This role would be fulfilled by a separate medium than the exchange media used for the second role of currency.\(^{15}\)

Greenfield and Yeager make a compelling argument that, on the free market, media of account and exchange would be separate roles, performed by unique monies. They forward that:

> Market clearing forces do not work very well to maintain or restore equilibrium between money's supply and demand because money does not have a single price of its own that can adjust on a market of its own. Instead, the medium of exchange has a fixed price in the unit of account (each dollar on the money market has a price of exactly $1). With no specific price and market to impinge upon, imbalance between money's supply and demand must operate on the dollar's purchasing power, that is, on the whole general price level. (1983: 309)

However, as Dowd has demonstrated, this argument does not apply to money in general, only to non-interest bearing money. On the market, the rate of interest acts as an equilibrating factor on this force.

Doubts have been raised as to if such a separation of monetary roles is possible in practice. Rothbard argues that money cannot be solely viewed as an abstract unit of account, “divorceable from a concrete good” (1981: 4). It cannot represent a mere claim, nor a guaranteed fixed price level. Instead, in Rothbard's eyes, money must remain a commodity, and as such, a involve itself as a medium of

\(^{15}\) Cowen and Kroszner (1987) and Summer (1990) provide reviews of the history of new monetary economics, and the separation of money's roles.
exchange to have value. Following the original Mengerian line of thought, Shostak (2000: 71) argues that while the roles of unit of account and store of value are important, they are not fundamental to money. Instead, serving as a medium of exchange is what gives rise for these ancillary roles of money to emerge. In fact, as money is saved in order to be used at a future date, separating the two roles only pushes the problem back one step. A unit of account distinct from the exchange medium will be forced to be converted to a medium of exchange in order to be used at a future date.

We find that it is impossible to separate the roles of money, their values all regress back to money's prime role: that of an exchange medium. We find, however, that these ancillary roles serve to temper the value money has in exchange. Its emergence is not brought about in absence of these considerations, instead it is due to these ancillary roles that a monetary system develops to fill these needs the best.

6. Search costs and adoption of a currency

If Menger stressed the cost savings of reducing the bid-ask spread of exchange, Alchian (1977) stressed the costs involved in searching for a medium that would achieve this. Menger assumes that search costs are of minimal importance for locating suitable media of exchange. However, as Alchian points out, the existence of search costs is what leads to intermediaries in the exchange process; individuals who specialize in reducing the search costs associated with finding suitable media of exchange. With the recognition of these costs, we see that individuals will not only exchange with a mutually agreed media between themselves, but will likely turn to the services of a provider. A common provider contributes other benefits as well.

It is not solely the existence of a suitable commodity to exchange that brings rise to its use. A commodity must also be readily identifiable and of increments conducive to being exchanged. Metals

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16 Niehans (1978: 118) points out that, in any case, money should not be referred to as a unit of account, as money is not a unit. Instead, if one were to take this line of reasoning, money should be thought of as a medium of account. A unit of account is a specific quantity of a good representing a medium of account. For instance, silver may be considered a medium of account, but a 'ducat', defined as a weight of silver, represents the units of account. We see that a unit of account can never be removed from the medium of account, which in turn evolves from the medium of exchange. White (1986) also provides a view of money with the unit of account being a necessarily ancillary role to the medium of exchange function.

17 See Baird (2000) for a comparison of these two different approaches to monetary evolution. Shackle would treat the emergence of the monetary system in a similar light, remarking that “[m]oney is a medium of search” (1972: 207). However, the stress in Shackle's eyes was laid upon the search for goods to trade for money, not the search for a commonly accepted exchange medium. Brunner and Meltzer (1971), Jones (1976), and Niehans (1978) all treat the emergence of money as focused on the economization of search, information and transaction costs.

18 Somewhat explaining this downplay of search costs is the fact Menger (1909: 15) notes that attempts to find an exchange medium of stable value in the past had “proved futile.”
were historically adopted as they were fungible (and hence divisible) and easily identifiable. However, it was not only the metal's natural qualities that were importance, but two additional innovations also contributed. Archimedes' specific gravity test and the serrated edge on coins helped to create commonly accepted exchange media from the metals (Banerjee and Maskin 1996: 958). Metals have a specific gravity, hence the ability, with the proper technology and knowledge, to test their purity. As intermediaries appeared offering media for exchange, coins were often produced of metal and stamped with their purity and weight. Once these were commonly accepted it became unnecessary to check these measures each time they were exchanged. However, the temptation to inflate became apparent, and this was typically achieved through “coin clipping,” the reduction of weight by removing metal. The introduction of the serrated edge allowed individuals to see quickly and easily that coin edges were still within their original range and hence, the coin's total value was still approximately given by its face value.

We have already seen that competition exists among the commodities to be exchanged regarding what will ultimately be chosen as the agreed upon medium. With the introduction of intermediaries a new competitive element is created as the role of privately coinage money becomes more important. Huerta de Soto (2004: 63) points to the fact that the provision of money is a fundamentally entrepreneurial function, necessitated by the unknown and dynamic future needs of its users.

A commodity for exchange is not the same as a commodity existing in nature. If we look at the example of gold, it is not physical gold ore that is exchanged, but gold that has been transformed into a monetary element. Non-standard coins would circulate at a discount owing to the computational difficulties they impose (Selgin and White 1987: 442). This will lead to standardization of monetary measures to aid the commodity's acceptability as a medium of exchange (Howden 2008). When we view money creation in light of Alchian's search costs, we can see the prominent role that would be played by organizations aiding in the creation and exchange money.

The problems inherent in selecting a medium of exchange are two-fold in nature. First, along the Mengerian line of thought, we see the emphasis on choosing a good that eliminates, or reduces, the bid-ask spread arising from the double coincidence of wants problem. The second, aligned with Alchian's reasoning, is the cost associated with searching and finding that medium of exchange. The

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19 A clarification should be made between the concepts of private coinage and free coinage. The former competition of production between multiple companies, the latter is still a form of government monopoly forbidding the use of engraved weights or measures on coins. See Nataf (2002: 23) for the dichotomy.
The first problem is one that we can only solve by looking at our own conditions, and comparing them to the requirements of others we wish to exchange with. The second problem is one for the market to solve, through the competitive process providing solutions for individuals in need of exchange media.\(^{20}\)

7. Money and value
Mises (1912) stressed that exchange and use-value are identical for money; there could be no other possibility. However, the daunting question that must be answered is where the true value of money derives from. It is easy to see that it derives value from the commodity it is composed of, but this is only half the story.

The distinction between commodity money and the commodity contained in money should be made. Although they may be chemically identical, they are different entities to the valuing mind. A commodity proper derives its value from its use-value. It can have varied uses, each with differing ultimate values. It is the economizing actor that values a given commodity among the multitude of choices that may be available for it to be used.

Commodity money, in distinction, will also be valued for its industrial use-value. However, this factor is only one part contributing to its total value. Money's value is always conditioned by expected exchange-value at the time it is to be used (Hazlitt 1978: 75). Exchange-value is determined by many factors, among them the industrial demand that led to the original rise of a given commodity as money.\(^{21}\) However, we can also see that the degree of acceptability will influence the value of money. Money will be offered through an intermediary, as was previously established. Dowd (1988: 645) points out that private suppliers of money will derive their profits through three main avenues: (1) competitive minting fees, (2) innovation, and (3) a reputation for probity to insure its customers that they are not cheated. This profit will depend on the value customers place on their issued money, and hence, the degree to which they are willing to pay to use it.

Commodity money will enjoy a value, or seigniorage, in excess of its commodity counterpart. This is due to the added use-value it will contain.\(^ {22}\) As providers of money modify a commodity into an exchangeable medium, they add value to it. As more people accept a given money in exchange, its use-

\(^{20}\) For examples of historical competitive notes issuers, see Selgin and White (1987), (1994) and Linde (2005). For a look at some theoretical issues with the competitive issuance, see Rothbard (1962: 1144).

\(^{21}\) Thus exchange-value is strongly influenced by the next most valuable use-value the market may have for the commodity.

\(^{22}\) Garrison (1992: 62) comes very close to this insight stating, “there is an Austrian preference for gold as money, not due to its specific qualities, but also to the historic precedence that has been set over time of people preferring this as their standard” (emphasis added). What Garrison fails to explicitly mention is that some of the specific qualities in gold (or commodity) money will be human added.
value (through exchange-value) grows. As Dowd points out, private producers will work toward increasing innovation in the monetary realm. This could have the effect of increasing consumer confidence in a given commodity money, and hence, increase its value.\(^{23}\) The conclusion is that two commodities, both made of the same commodity and having the same content, may have different values on the market. Money production on the free-market would operate under the same constraint as any other good – the profit and loss motive (Herbener 2002: 7; Hülsmann 2003: 39).

An example will clarify the matter. Assume Company A and Company B both produce a gold coin of one ounce nominal weight. In both circumstances, the value placed on their gold coins will be more than that of raw gold in a natural state. This is immediately due to the added exchange value that monetary gold would have. A store, for example, would be more apt to accept payment in a readily identifiable gold coin, or known weight, than a random amount of gold ore. This would stem from the ease of identification, as gold ore would necessarily need to be checked for weight and purity before being accepted. Additionally, once it was accepted by the store, the problem would compound in the future of who would accept it from them in exchange. In fact, as McCabe (1989) shows, money reduces the subjective risk each exchange partner has, as each no longer must worry about the future value or acceptability of their received good (i.e., money).

But what of the exchange value between our two companies' coins; what will be the relation there? We can see that it would be a rare occurrence that both companies would issue monetary gold in an identically identifiable manner. For instance, one company may have a reputation for purity, ease of delivery, or any number of ancillary features that would contribute to the monetary gold's exchange value.\(^{24}\) Further, as competing issuers would derive profit from the value of the money they provide, we can see the emphasis they would place on providing additional value-adding features to their money. Commodity money will always be a subset of a particular commodity (Rothbard 1962: 169). As such, although it is possible that two competing commodity monies may have identical value, it is more likely the value spread will be time-variant.\(^{25}\)

\(^{23}\) Increasing consumer confidence in the purity of money may be the largest source of seigniorage, and has historically been a prominent concern of money issuing groups. See Cowen and Kroszner (1994: 50), Ritter (1995: 134), Garrison (1992: 62) or Howden (2008) for more on the importance of seigniorage creating attributes to money's value.

\(^{24}\) Economists must realize their limitation in assigning reasons for seigniorage. Market providers will create this value in ways that the economist could never predict; it is a market result that requires a market process for discovery.

\(^{25}\) If the reader would like a concrete example, they should ask why Scottish pound notes were exchanged at a discount in England for many years, despite representing the same purchasing power. Or why Scottish, Irish or Welsh pound notes regularly trade at a discount to English notes with street exchangers in many European countries. Additionally, we can see that not all debit card providers charge the same amount for services. Instead of letting this influence consumer prices, however, stores often absorb these costs as a business expense, thus mitigating a flexible rate between using company A's debit machine and that of company B, for the end consumer.
Some may argue that Gresham's law would take effect at this point with competing currencies with identical bases. We can see this is decidedly not an issue with our gold issuers. If a gold currency existed of greater value than a competing gold currency, their exchange rate would fluctuate, but this would be separate of the fluctuation of the exchange rate they would share with gold ore. Also, the higher valued gold currency company would never purchase the lower valued currency and homogenize it with their own. The reason is that the cost of doing so would be higher than the cost of buying gold as ore on the market directly. Also, as different individuals will have differing needs for media of exchange, we can see the possibility of competing suppliers operating concurrently and independently on the market. Indeed, in the existence of fluid consumer preferences, more than one type of exchange medium may be the norm (Banerjee and Maskin 1996: 989).

Grubel (1969: 270) argues that the amount of seigniorage that exists will be relative to the degree of competition available. In the existence of perfect competition, seigniorage would disappear completely. Dynamically however, we can see that perfect competition can never exist (Block, Barnett II, and Wood 2002). Consumer preferences will constantly be shifting. As a result, a product, or currency, demanded will also be ever changing, with continual profit opportunities to be had through seigniorage. We can note however that the organizations enjoying a monopoly privilege through fiat will enjoy the largest seigniorages. It is only through competition of money production that excessive seigniorage can be mitigated (Hülsmann 2003).

8. Some concluding remarks
The origin of money is primarily viewed as a two-fold issue. One the one hand, actors search for a medium of exchange, on the other, a store of value for the future. The Austrian viewpoint, following Menger (1892) and Mises (1912), has focused primarily on the former at the neglect of the latter. Menger's theory on the adoption of money through the search to find a commonly accepted exchange medium to reduce the bid-ask spread of exchange was an instrumental turning-point for monetary theory. Mises' regression theorem would later almost complete the puzzle. By demonstrating that money must always come into use due to some previous use-value, we can see that the case for the ex novo emergence of fiat currencies is non-existential.

However, the much neglected store of value component needs to be addressed. Although all exchange takes place in the fleeting temporal present, actors hold expectations of exchange in the future. To the degree that their time-preference dictates when this expectation will materialize, they will
search for a store of value to sustain their purchasing-power until that point, as well as reduce the expected future bid-ask spread of exchange. Due to the subjective and personal nature of time-preference trade-offs, this expectation will vary among individuals.

If Menger’s concern in currency adoption was minimizing the bid-ask spread on exchange, Alchian (1977) emphasized the costs associated with searching for a suitable medium of exchange. These search costs give rise to the natural development of a system of private and competitive money production. As companies specialize in the production and distribution of money, additional qualities can be added such as standardization, reputation, or probity. These features will reduce search costs, and increase the efficiencies thereof. This coincides with the common Austrian viewpoint of private production of money through competing providers.

However, many Austrians also assume that these companies will offer a homogeneous commodity money, of equal value. As was shown, due to the personal nature of the time-preference trade-offs inherent in the choice of exchange media, it is likely that no one commodity would be used as money, but several simultaneously. This would provide and enable individuals to choose monies coherent with their personal time-preference scale. It is foreseeable that the same individual may prefer holding multiple monies of differing time-preference satisfying features, thus increasing the need for competition among money producers.

Furthermore, as the necessary precondition of a money is the existence of an underlying medium that is wanted in exchange, we should take care to note this medium is likely not to be unique. In fact, as different regions prefer different commodities, regional tendencies will emerge for preferred media of exchange. Although it is possible that the whole world may function on a common commodity standard, the more likely reality is that several currency-blocks would form, each utilizing a specific commodity for its monetary base.

Friedman (1950) was the driving force eliminating the world from the constrictive Bretton-Woods fixed-exchange system, and ushering in a monetary system based on individually fluctuating fiat currencies. However, what Friedman lacked was the proper theoretical foundation to establish the true origin of money. Money does not enter existence through government decree, as he thought, but through a spontaneous order of trial and error bringing the exchange needs of individuals together. Friedman was correct in challenging the fixed-regime paradigm of the era, but his reasoning was faulty.

The true value of a money comes from its exchange value. This is distinct from the underlying base commodity utilized. Additional features such as the issuer’s reputation, probity, availability, and
ease of use all add to this value metric. Under a system of privately issued, competitively circulating currencies, the value inherent in each may not be identical, as determined by weight or purity. Instead, the value will be dependent on many other factors as well. The fact that these factors will be in a constant state of flux, as demand to hold these currencies, as well as demand to accept them in exchange, are continually revised. Only a system of flexible exchange rates among these competing currencies will ensure that Gresham's law does not take effect, and wreak havoc on the monetary system.

One of the starkest divides that exists in economics today is in the monetary realm. Austrians with their general belief in a common gold-standard contrast with the general mainstream view of individual, fluctuating exchange-rate, area-specific fiat currencies. Both schools have some to learn from one another. The mainstream treats the origin of money almost as an after-thought – a barter exchange system is created, and money added as a final step. In actuality, money is the reason that our complex economic systems arise. The Austrians benefit from having a correct theoretical foundation on the origin of money. By expanding upon it, and recognizing the roles that individual choice and time-preference trade-offs serve in establishing a medium of exchange, we can see that fluctuating rates among competing commodity currencies are essential for the smooth functioning of the financial system.

REFERENCES


[18]


[20]


[22]
Comparison of expected purchasing power

Expected Value

Time

Figure 1