Reviewing the boundary between valuables and financial assets in SNA 2008 in the light of Bitcoin and similar crypto-assets and the UK experience of non-monetary gold

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Executive Summary

Gold and certain crypto-assets, such as Bitcoin, have several clear similarities. Both are highly liquid, demonstrating volatile quantities of trade and prices, but do not have a corresponding liability. At the current time under SNA08, non-monetary gold is treated as a Valuable, as a produced non-financial asset. During the process of developing propositions for updating the SNA it was proposed that crypto-assets without corresponding liability should be classified in the same way. This argument in the case of crypto-assets was rejected, partly as a result of an earlier draft of this paper, so these crypto-assets are instead recommended to be classified as a financial asset. This paper argues that non-monetary gold used for investment purposes should be similarly classified as a financial asset, both because the existing guidance is incomplete but also because by its nature it is a better conceptual match to being treated as a financial asset without corresponding liability, in the same way as monetary gold. This paper then proposes that if a wider category of financial assets without corresponding liability is being considered, this would form the natural home for crypto-assets without corresponding liability.

Introduction

The System of National Accounts (SNA), adopted by the United Nations, is the internationally agreed standard set of recommendations on how to compile measures of economic activity on a consistent basis. The methods contained in the SNA are subject to routine updates and revisions, so concepts can and do change through time. Changes are based on negotiation and the latest research reflecting changing needs, new data sources and improved methodological techniques.

These changes are broadly generational: the SNA, based off an initial report published in 1947 has been revised in 1953, 1960, 1964, 1968, 1993 and 2008. These revisions have updated and amended key concepts and the recommended methods used to measure them.

The 2008 SNA put in place definitions of valuables and financial assets. In the intervening period, two factors cause this paper to review whether the existing definitions still meet user need in a world of fast-changing technology and changing financial instruments and their use. These factors are the

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emergence of Bitcoin and other crypto-assets which exist without corresponding liability, and the UK experience of non-monetary gold.

The 6th edition of the Balance of Payments Manual (BPM6) is aligned to SNA 2008 and would be commensurately affected by the proposals contained in this paper. This paper is structured as follows:

- The existing definitions of valuables and financial assets
- The implication of these definitions for Bitcoin and similar crypto-assets without corresponding liability
- The current treatment of non-monetary gold
- The UK experience of non-monetary gold and its practical impact on the production and communication of its national accounts,
- The implications of the UK's gold experience for crypto-assets without corresponding liability
- Proposed alternative treatments with proposed new definitions of valuables and financial assets, mapping the impact through the national accounts
- Conclusions

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The existing definitions of valuables and financial assets

Referring to SNA 2008, we can review the existing definitions. All underlining is the authors to highlight specific key points. Bold text replicates the SNA. Starting with the definition of an asset, we can see that paragraph 10.8 states:

"An asset is a store of value representing a benefit or series of benefits accruing to the economic owner by holding or using the entity over a period of time. It is a means of carrying forward value from one accounting period to another."

Assets are divided into non-financial and financial assets. Paragraph 10.9 provides the definition of non-financial assets, distinguishing between produced and non-produced non-financial assets:

"*Two different categories of non-financial assets are distinguished from each other: produced assets and non-produced assets.*

> *a. Produced assets are non-financial assets that have come into existence as outputs from production processes that fall within the production boundary of the SNA.*
> *b. Non-produced assets are non-financial assets that have come into existence in ways other than through processes of production."*

Paragraph 10.10 then breaks down produced non-financial assets into three types. This is where we first see a definition of 'valuables':

"*There are three main types of produced assets: fixed assets, inventories and valuables. Both fixed assets and inventories are assets that are held only by producers for purposes of production. <u>Valuables may be held by any institutional unit and are primarily held as stores of value</u>."*

The actual definition of valuables is articulated across two separate paragraphs in the SNA, one covering the production concept and one the expenditure concept.

Paragraph 10.13: "***Valuables are produced goods of considerable value that are not used primarily for purposes of production or consumption but are held as stores of value over time.*** *Valuables are expected to appreciate or at least <u>not to decline in real value</u>, nor to deteriorate over time under* *normal conditions. They consist of precious metals and stones, jewellery, works of art, etc. Valuables may be held by all sectors of the economy."*

Paragraph 10.149: *Valuables include precious metals and stones, antiques and other art objects and other valuables. However, not all items that may be described by one of these titles should necessarily be included as a valuable in the balance sheet of the owner. <u>The intent of the heading is to capture those items that are often regarded as alternative forms of investment. At various times, investors may choose to buy gold rather than a financial asset and pension funds have been known to buy "old master" paintings when the prices of financial assets were behaving in a volatile manner.</u> Individuals (households in SNA terminology) may also choose to acquire some of these items knowing that they may be sold if there is a need to raise funds.*

These two paragraphs highlight a key feature of an asset to qualify as a valuable is that it acts as a store of value. Para 10.13 stresses that the value of such assets should '*not…decline in real value'* whilst 10.149 views them in a comparative fashion against financial assets whose '*prices…were behaving in a volatile manner',* which we take to imply is relative to market conditions.

This does not make an argument that price volatility is a characteristic of a financial asset; merely that relative price stability, or at least an upwards price trend is a defining characteristic of a Valuable. Interestingly, this argument is symmetric to one deployed whilst initial considerations were given to the classification of crypto-assets without liability: in short, their price was considered 'too volatile' to permit them to be classified as 'currency'[2]. Therefore, we need to consider where to appropriately place assets which are considered too price volatile to be placed in either of these categories. Whilst we generally do not consider price volatility as a defining factor, what other factors can be used to determine an appropriate classification for such assets?

We will return to this issue later in this paper where we consider the UK's experience in relation to non-monetary gold. This, and recent experience in relation to crypto-assets indicate both demonstrate noticeable price volatility.

Paragraph 10.13 also makes clear that gold to be used as a commodity as intermediate consumption into the production of a finished good (for example, the production of jewellery, dental fillings or in electronics[3]), what we will term 'commodity gold', should be considered as inventory rather than a valuable.

Turning now to financial assets, paragraph 11.8 provides the required definition, and provides an illustration around gold:

"Financial assets[4] consist of all financial claims, shares or other equity in corporations plus gold bullion held by monetary authorities as a reserve asset. *Gold bullion held by monetary authorities as a reserve asset is treated as a financial asset even though the holders do not have a claim*

[2] The authors agree with this assessment.

[3] The dominant industrial use of gold is in the manufacture of electronics. Solid state electronic devices use very low voltages and currents which are easily interrupted by corrosion or tarnish at the contact points. Gold is a highly efficient conductor that can carry tiny currents whilst remaining free of corrosion as it neither rusts nor tarnishes.

[4] SNA 1993 provides an alternative definition which was superseded by the text above:

Paragraph 11.16: *A financial asset is an economic asset involving a relationship between units (usually an unconditional creditor/debtor relationship) that provides economic benefits by generating interest income, providing claims on the net income of other units, serving as store of value, or providing holding gains or losses.*

Paragraph 11.17*:* *A financial asset entitles the creditor to receive payment from a debtor in circumstances specified in a contract between them, or specifies between the two parties certain rights or obligations, the* *on other designated units. Shares are treated as financial assets even though the financial claim their holders have on the corporation is not a fixed or predetermined monetary amount."*

Where financial claims are defined in paragraph 11.7:

"A financial claim is the payment or series of payments due to the creditor by the debtor under the terms of a liability.

Where a liability is defined in paragraph 11.5:

"A liability is established when one unit (the debtor) is obliged, under specific circumstances, to provide a payment or series of payments to another unit (the creditor)."

In relation to gold in terms of its inclusion as a valuable, the SNA further defines its treatment in paragraph 11.45 and helps us delineate between monetary gold, which is classed as a financial asset and non-monetary gold, which is a non-financial asset:

"***Monetary gold is gold to which the monetary authorities (or others who are subject to the effective control of the monetary authorities) have title and is held as a reserve asset. It comprises gold bullion (including gold held in allocated gold accounts) and unallocated gold accounts with non-residents that give title to claim the delivery of gold****. All monetary gold is included in reserve assets or is held by international financial organizations. Only gold that is held as a financial asset and as a component of foreign reserves is classified as monetary gold. Therefore, except in limited institutional circumstances, gold bullion can be a financial asset only for the central bank or central government. Transactions in monetary gold consist of sales and purchases of gold among monetary authorities. Purchases (sales) of monetary gold are recorded in the financial account of the domestic monetary authority as increases (decreases) in assets, and the counterparts are recorded as decreases (increases) in assets of the rest of the world. Transactions in non-monetary gold (including non-reserve gold held by the monetary authorities and all gold held by financial institutions other than the monetary authorities) are treated as acquisitions less disposals of valuables (if the sole purpose is to provide a store of wealth) and otherwise as final or intermediate consumption, change in inventories, exports or imports. Deposits, loans, and securities denominated in gold are treated as financial assets (not as gold) and are classified along with similar assets denominated in foreign currencies in the appropriate category. A discussion on the treatment of allocated and unallocated gold accounts appears under currency and deposits.*

11.46 Gold bullion takes the form of coins, ingots, or bars with a purity of at least 995 parts per thousand; it is usually traded on organized markets or through bilateral arrangements between central banks. Therefore, valuation of transactions is not a problem. Gold bullion held as a reserve asset is the only financial asset with no corresponding liability.

As such, in UK National Accounts, non-monetary gold is treated as a 'store of wealth' classified to the SNA capital account as valuables alongside precious stones and works of art etc.

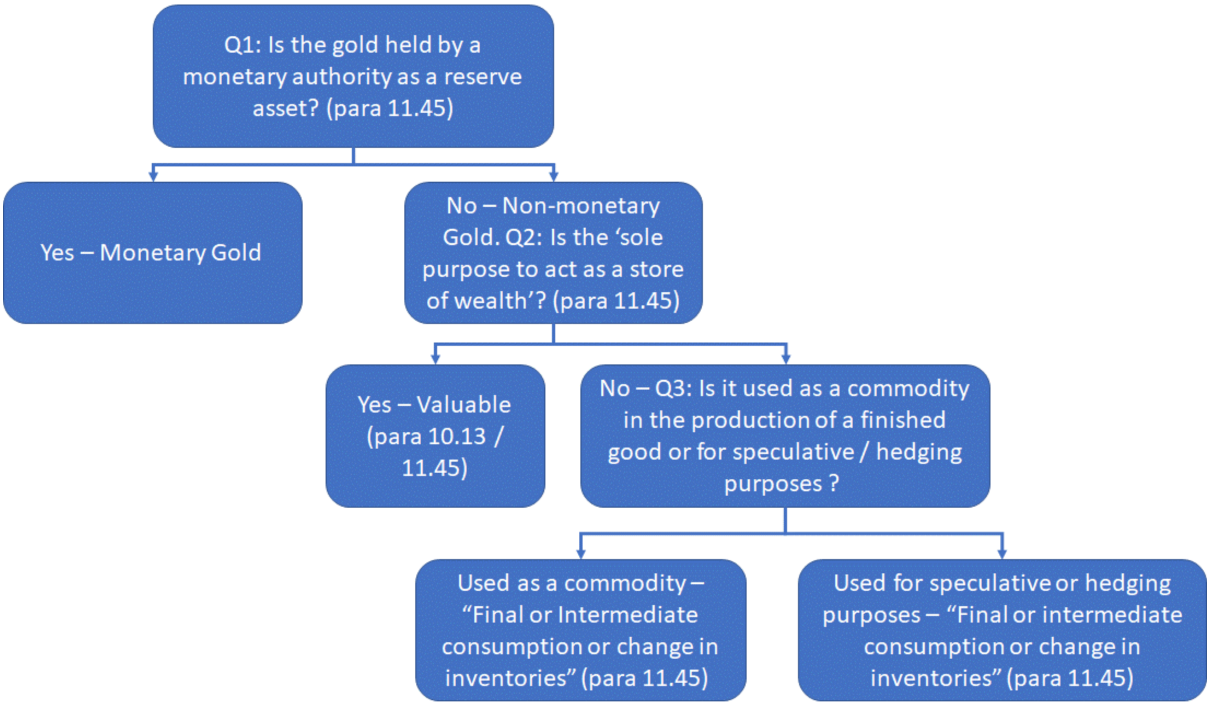
We can describe the treatment of gold in the SNA in the following figure[5], within which we flag in the final row the key challenge: where gold is classified by its use, the precise wording of paragraph

nature of which requires them to be treated as financial. Monetary gold and SDRs are treated as financial assets, by convention.

[5] It is important to distinguish here between 'allocated' and 'unallocated' gold. Unallocated gold accounts do not give the holder the title to physical gold but provide a claim against the account provider denominated in gold and therefore is a deposit denominated in gold, but is not gold itself. Unallocated gold is a financial asset and falls under other deposits. Importantly unallocated gold are not financial derivatives, that are financial instruments linked to specific finance instruments or indicators or commodities (i.e. the price of gold), through

11.45 clearly puts all other uses into "*final or intermediate consumption, change in inventories, exports or imports*" as a residual category, even where this is clearly an inappropriate treatment:

Figure One: The treatment of gold



The obvious issue which Question 3 in Figure One reveals is that the current definition creates a problematic treatment because of incompleteness. As the previous section has explained, because non-monetary gold is considered a non-financial asset, the definition does not take into account purposes which are of a financial nature, such as when non-monetary gold is held for speculative and hedging purposes.

Logically, if the assumption that non-monetary gold is a non-financial asset is valid then it follows there is no reason to consider transactions of a financial nature. However, if one can identify instances where non-monetary gold is being used in a way which imply it should be considered a financial asset, one *should* consider how it should be treated. Widening the case to cover Bitcoin-like crypto-assets, the key question is what is the liability matching the assets if non-monetary gold or crypto-assets without corresponding liability were to be defined as financial assets, or could they merit being classed as financial assets without corresponding liability, which is the current treatment of monetary gold (para 11.46, as captured above)?

Whilst this question will be this paper's predominant interest, for European countries ESA 2010 adds further guidance which is aimed at avoiding frequent reclassification between the three main types of capital formation, i.e. between acquisition less disposal of valuables, fixed capital formation and changes in inventories, e.g. in the case of transactions of such goods between households and art dealers, which is helpful when completing our map of the correct treatment of gold and is influential in our recommendations below. Paragraph 3.156 is replicated below:

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which specific financial risks can be traded in financial market in their own right (see SNA08 para 11.111). Allocated gold on the other hand give full outrights ownership of the gold (see SNA08 para 11.60). The following figure does not address unallocated gold.

"Such types of goods are recorded as acquisition or disposal of valuables in the following examples:

(a) the acquisition or disposal of non-monetary gold, silver, etc. by central banks and other financial intermediaries;

(b) the acquisition or disposal of these goods by enterprises whose principal or secondary activity does not involve the production or trade in such types of goods. This acquisition or disposal is not included in the intermediate consumption or fixed capital formation of these enterprises;

(c) the acquisition or disposal of such goods by households. Such acquisitions are not included in final consumption expenditure by households.

In the ESA, by convention also the following cases are recorded as acquisition or disposal of valuables:

(a) the acquisition or disposal of these goods by jewellers and art dealers (following the general definition of valuables, the acquisition of these goods by jewellers and art dealers should be recorded as changes in inventories);

(b) the acquisition or disposal of these goods by museums (following the general definition of valuables, the acquisition by a museum of these goods should be recorded as fixed capital formation)."

Importantly this implies that those manufacturing jewellery do not class purchased gold and other precious metals as inventory, but instead as valuables if these metals will be used to produce valuables. Whether this is then correctly treated as intermediate consumption is an important issue if we wish to see accurate GVA estimates for this industry.

The implication of these definitions for Bitcoin and similar crypto-assets without corresponding liability

Zwijnenburg et al (2020) explored the classification of a variety of crypto-assets for the SNA, with one group being defined in this work being those crypto-assets without corresponding liability. The importance of a corresponding liability is described in the following quote:

'In some cases, the creation of a crypto asset may lead to the creation of a corresponding liability, whereas in other cases this may not. Security tokens as described in the previous section, for example, create a claim on the issuer, whereas this is not the case for traditional cryptocurrencies. As the existence of a liability is an important feature of most financial assets as defined in the SNA, this is deemed to be an important criterion.'[6]

To summarise this research, the following types of crypto-assets were defined:

Asset class	Proposed Treatment
Crypto-assets acting as a general means of payment with a corresponding liability issued by a monetary authority	Currency (AF.21)
Crypto-assets acting as a general means of payment with a corresponding liability not issued by a monetary authority	New subcategory within Currency and deposits (AF.2)

[6] Page 8

Crypto-assets acting as a general means of payment without a corresponding liability	New subcategory within Currency and deposits (AF.2)
Payment Tokens with a corresponding liability	Debt securities (AF.3)
Payment Tokens without a corresponding liability	No asset
Debt security crypto-assets	Debt securities (AF.3)
Equity crypto-asset	Equity and investment fund shares (AF.5)
Derivative crypto-asset:	Financial derivatives and employee stock options (AF.7)
Crypto-assets acting as a store of value with a corresponding liability	Debt securities (AF.3)
Crypto-assets acting as a store of value without a corresponding liability	**As a new subcategory under Valuables (AN.13)**

Following discussions around an earlier draft of this paper, and the issues identified in it, the recommendation to the Advisory Expert Group for Crypto-assets acting as a store of value without a corresponding liability was amended to propose these being a financial asset. This paper provides the wider community sight of some of the arguments which helped sway this decision, but also to highlight why the same rationale which led to the decision to make crypto-assets without corresponding liability a financial asset also apply to a large fraction of gold currently classified as valuables.

The current treatment of non-monetary gold

Previous standards for national accounts (SNA68) and for Balance of Payments (BPM4) were inconsistent with each other. SNA68 had two categories of gold: financial (including monetary) and industrial (or commodity) gold and permitted all sectors of the economy to hold financial gold as a financial asset. Reclassifications between financial gold and industrial gold were accommodated as imports and exports regardless of whether or not the sale involved a non-resident. The SNA93 also introduced the concept of valuables – this didn't exist in SNA68. In SNA68 the corresponding liability when (non-monetary) gold was treated as a financial asset was as described below:

- If a UK bank asset and rest of the world bank liability, although it wasn't identified as gold, it was included in deposits
- The Bank of England previously provided flows and levels data which fed into the transaction line for UK MFIs deposits at Rest of the World (RoW) MFIs. These series only covered banks and did not cover any other sections.

BPM4 in contrast permitted only the monetary authorities to hold gold as a financial asset (as in the current standards), but also implied an import and an export of physical gold to account for monetisation or demonetisation.[7]

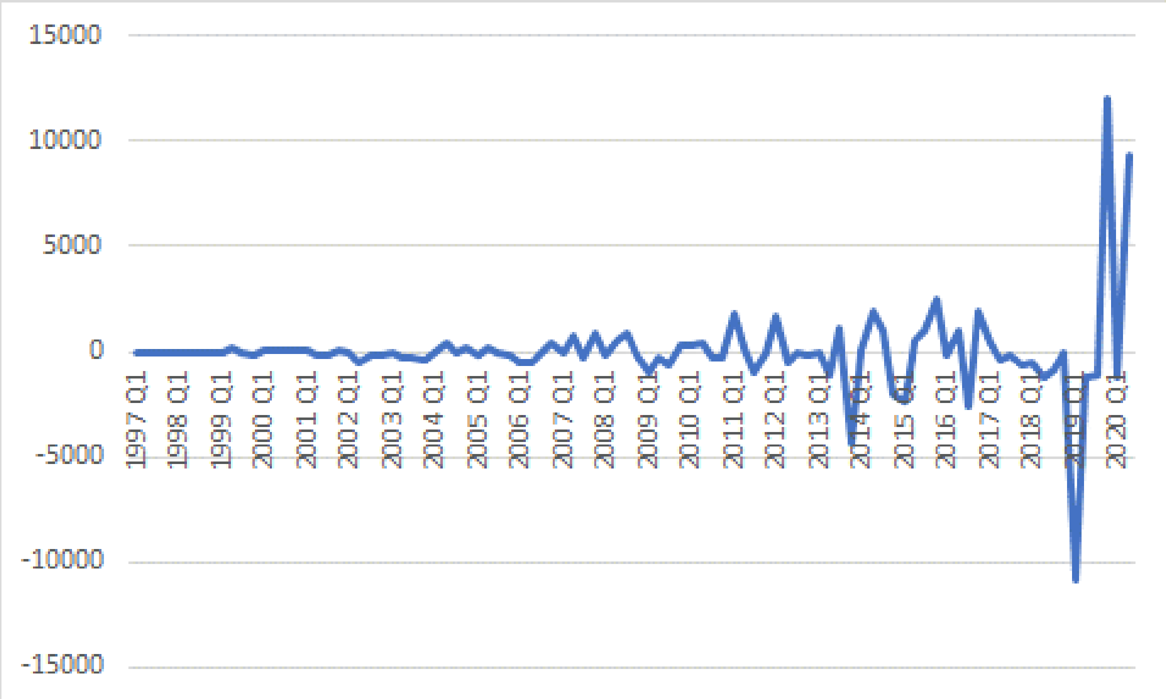
[7] Discussions in the lead up to the current standards agreed that the treatment would be brought in to line although working group papers noted a minority objection raised by the UK. There are limited minutes available from previous discussions around the decision to implement the current treatment but we know that it was approved. The evidence does state though that this is an issue that the UK disagreed with at the time, along with

Described in this paper, experience to date in the UK is this approach is problematic because of the market dynamics of the gold market itself, the consequences of which have only become apparent since the adoption of SNA08 / BPM6. Given this information this paper argues it is the right time to discuss the treatment further.

The UK experience of non-monetary gold and its practical impact on the production and communication of its national accounts

London is the centre of the world's trade in gold bullion with the vast majority of all transactions cleared there, with the World Gold Council estimating approximately 70% of global notional trading volume occurring there[8]. Since 2019, there has been considerable volatility in the trade balance driven by trade in precious metals (see Figure Two**)**.

Figure Two: Quarterly Trade in Goods of Precious Metals[9] (including non-monetary gold), current prices, seasonally adjusted, January 1997 to July 2020



Source: ONS (2019) - https://www.ons.gov.uk/economy/nationalaccounts/balanceofpayments/timeseries/fsic/mret

In recent years, the considerable volatility in the UK trade balance has been driven by trade in precious metals. It is worthwhile reflecting on how the nature of these trades has changed to understand why this implies a change in treatment within the national accounts would be justified:

Japan, but as it affected so few countries, it is difficult for other countries to worry about it and hence get the traction that was required to challenge further.

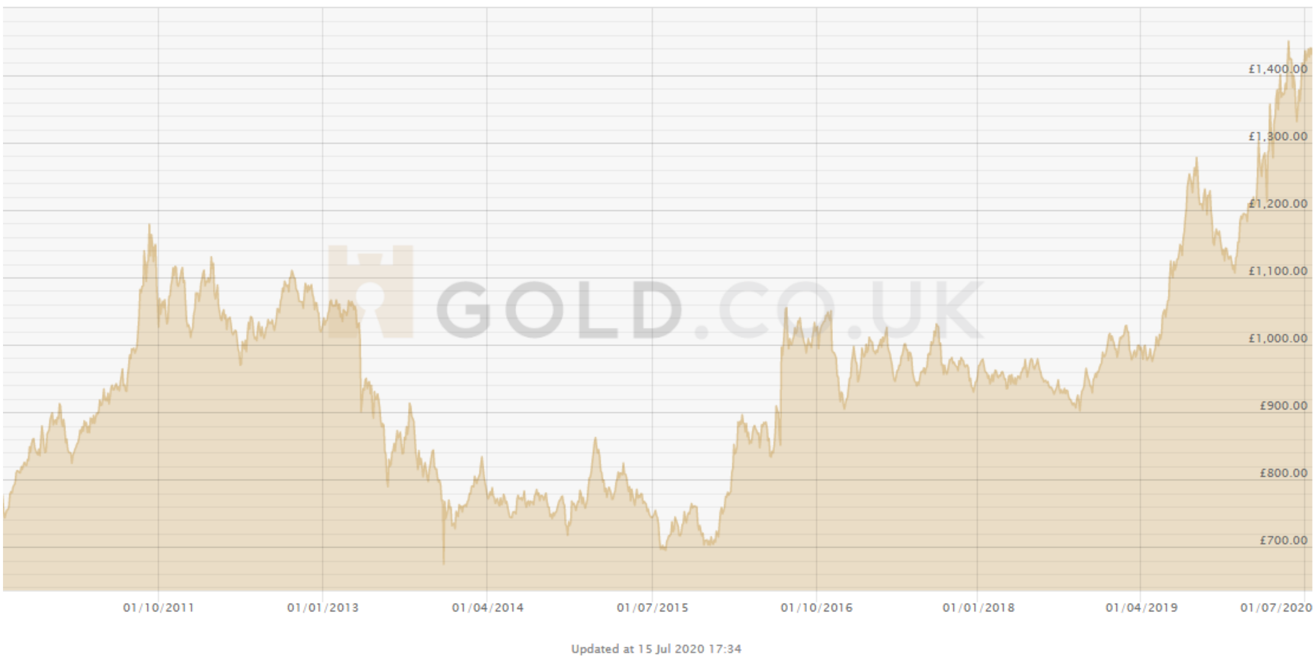
[8] https://www.gold.org/what-we-do/gold-market-structure/global-gold-market. It is important to note that London does not have a gold exchange in the normal use of the term. Instead trades are conducted "over the counter" that is to individual's requirements whereas on an exchange you trade a fixed quantity. Shanghai, it is argued, is now the largest actual gold exchange in the world.

[9] Precious metals include platinum, palladium and silver also and, although to a lesser extent than non-monetary gold, are used for investment purposes and as such this paper used gold as a short hand for all precious metals: as such the proposals for gold should be applied to all precious metals.

- The rise in Exchange Traded Funds and other vehicles which are directly backed by allocated gold accounts and other products such as close-end funds and mutual funds. ETFs in particular are significant vehicles which were created in 2003 and now, some evidence suggests, account for around half of all the allocated gold holdings reported to the Bank of England. ETFs, including the largest, are used by short-term investors so may therefore contribute to volatility as they have helped to resuscitate the idea of gold as an investment rather than a commodity.
- An increased desire to own physical allocated gold reflecting investment in gold via unallocated accounts. To hedge against the risk of a large exposure to a price change, the bank offering the unallocated facility will buy the equivalent gold bullion to hold as an asset and in case the client wishes to take delivery of the physical asset. The bank's unallocated liability will appear implicitly in other investment deposit liabilities in the financial account whereas the purchase of the comparable bullion will appear in the current account if purchased from non-residents and be recorded in Valuables as a non-financial asset. However, due to the size of the transactions in other investment, the movements in unallocated gold is masked and therefore you won't necessarily see the corresponding movement that links to trade in gold movements in the current account.

Looking at data from the World Gold Council demonstrates how demand for investment in ETFs and other funds has increased from 19% of total global gold demand in 2013 to 29% in 2019. It is this increase in demand for gold as a speculative asset rather than as a valuable which is a major driver of the case for re-classification. Equally one can consider whether gold currently (or indeed ever[10]), met the definition of a valuable, particularly around behaving as a stable 'store of wealth'. As demonstrated in Figure Three, it is clear that the price is volatile and subject to periods of dramatic price falls. Taking 2013 -2014 as an example, the price of gold fell from greater than £1,000 to around £750, with further dramatic downwards movements in price in 2016 and 2019.

Figure Three: Gold prices (£sterling) (2010-2020)



[10] When viewed across a longer time period gold prices have been relatively more volatile since the price was freed in 1968/71.

Source: Screengrab from https://www.gold.co.uk/gold-price/10-year-gold-price/ 15/7/20 17:39BST)[11]

However, just because an asset demonstrates a volatile price, whilst this may suggest it is not a 'valuable' under the current definition, the proposal it should instead be treated as a financial asset requires evidence to suggest it has other characteristics which positively identify it as falling into this grouping. As Turnbull (2004) outlined:

"Gold has a number of characteristics that can make it more like a financial asset rather than a commodity or valuables such as fine art or antiques:

a. It is traded on financial markets in an equivalent way to foreign currencies. At any time there is a single quoted and recognised international price based on standard definitions. It is traded round the clock and can be more easily be bought and sold than any other commodity including other precious metals.

b. Gold is fungible and readily assayed. Any form of gold can be re-processed into standard high quality bars for on sale on the markets.

c. The Gold markets are highly liquid. Average turnover in London New York and Tokyo combined is the region of 50 million troy oz per day (worth around $20bn).[12]

d. Gold is traded not just in the spot market. There is a highly sophisticated market of secondary and derivative instruments just as would be expected in a financial asset.[13]

e. Gold is used for both short-term arbitrage purposes, as well as for savings or long-term holdings.

f. Exchange traded funds (where there is a direct link between one share and a specified quantity of gold, which are backed one-to-one by physical gold) are quoted on the relevant stock exchanges and regulated by the appropriate financial authorities.

g. There is a gold lending/deposit market and quoted interest rates.

h. Governments are increasingly recognising gold as a financial asset. There have been movements to equalise its tax treatment with those of other financial assets. Notable examples include the removal of VAT from investment gold purchases by the European Union in 2000 and the recent moves to achieve equal capital gains tax treatment in the USA

i. There are well-researched and documented arguments as to why gold has a role in an investment portfolio. Notable among these is its role as a diversifier – the lack of correlation of returns on gold to those on equities and the maintenance of this lack of correlation in times of stress. Gold is also a well-known hedge against the US dollar and an inflation hedge."

A number of these are telling points: if financial regulators, financial markets and tax authorities all treat gold as a financial asset it seems perverse for the national accounts community to consider it differently. Tackling the last point in greater depth though, a defining characteristic of financial assets, even though the SNA does not currently include the word in its definitions (although it is implicit in paragraph 11.8 quoted above) is that financial assets are by their nature liquid and easily convertible into cash and other similarly liquid assets. Figure Four presents data on the relative liquidity in 2011 compared to other 'liquid assets' and suggests gold is second only to US treasuries in terms of liquidity. This looks markedly different to other values which are traded but with nowhere near the

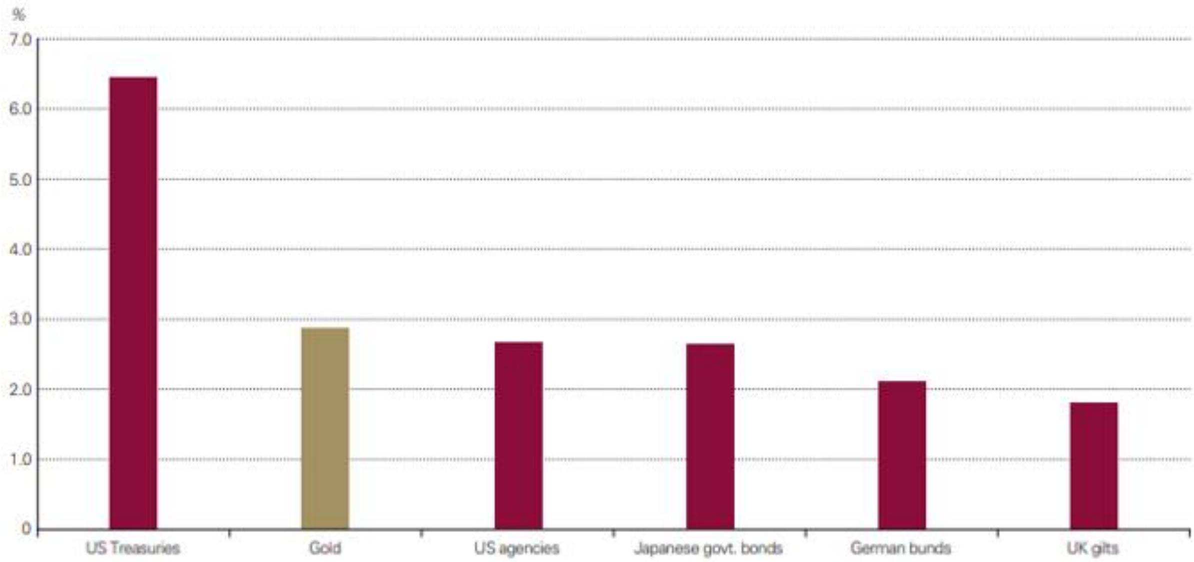
[11] A longer time series is available at https://www.gold.co.uk/gold-price/45year/ounces/GBP/ which captures the 2008/09 financial crisis which was a prominent time for gold investment, and equally demonstrates how gold price volatility has greatly increased in recent years.

[12] At the time of writing in 2004.

[13] See footnote 4.

frequency – this data suggests that trades equivalent to 90%+ of all outstanding gold is traded each quarter.

Figure Four: Average Daily Turnover as a Percentage of Total Outstanding



Notes: Gold OTC – estimated by using LBMA average daily volumes with a multiple of three.
Source: Chart 11, World Gold Council (2011), using data sourced from SIFMA, Japanese MOF, German Finance Agency, UK DMO, GFMS and World Gold Council calculations.

Clearly, this results in challenges around communicating the current impact of gold purchases and their associated volatility on the trade balance and capital investment estimates. There is a good case for arguing this liquidity implies gold should be considered as a financial asset and should not be reflected in the national accounts and the Balance of Payments and that the current conceptual treatment for the allocated gold purchased to hold against unallocated account holdings is incorrect.

The core problem is that the international macro-economic standards are at variance with the financial markets in not treating gold as a financial asset. The UK's estimate for trade in non-monetary gold and other precious metals is highly erratic and does not accurately reflect the export/import of gold for either production or final consumption. The purchase and sale of gold bullion is often for investment purposes in a similar way that traders will trade securities or foreign currencies. We also know that gold bullion is purchased by monetary financial institutions to provide collateral for deposit liabilities denominated in gold (i.e. unallocated gold accounts).

The implications of the UK's gold experience for crypto-assets without corresponding liability

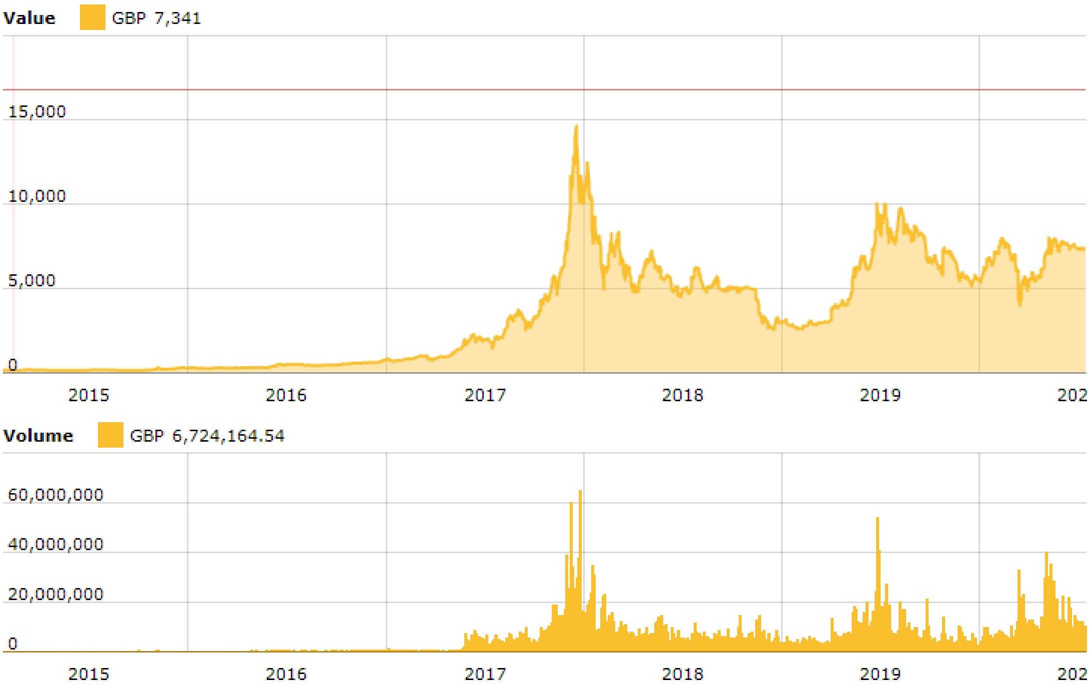
The UK experience presented a number of practical and theoretical challenges to the proposal to bring such crypto-assets into the class of valuables:

- Theoretically valuables are a store of wealth, requiring relative price stability relative to other financial assets (see para 10.149 of SNA08), and a generally upwards trend in value (para. 10.13), but both gold and Bitcoin have exhibited volatile market activity which suggests they are not being used as a store of value, but rather for speculative purposes. Both have also demonstrated clear periods of sustained falling prices, as shown by Figures Three and Five.
- Practically the volatility generated by these movements can make it very difficult to interpret even a large economy's national accounts. Clearly if a small country became a core market for these types of assets the impact of changes in Valuables and particularly the Balance of

Payments could, depending on the maturity of the local economic media, induce unnecessary economic instability.

- More importantly, if a product is fundamentally seen and used by the markets as a financial asset, with regulators and other actors considering how to manage these assets as financial assets, to differentiate these and define them as a Valuable in the National Accounts seems a perverse decision which, given the long-life of any iteration of the SNA could become increasingly inappropriate as the market matures, as one can see with gold and the advent of ETFs and similar instruments.

Figure Five: Bitcoin prices (£sterling) and volumes of sale



Source: Screengrab from https://cointelegraph.com/bitcoin-price-index 15/7/20 17:33BST)

A proposed alternative treatment with proposed new definitions of valuables and financial assets, mapping the impact through the national accounts

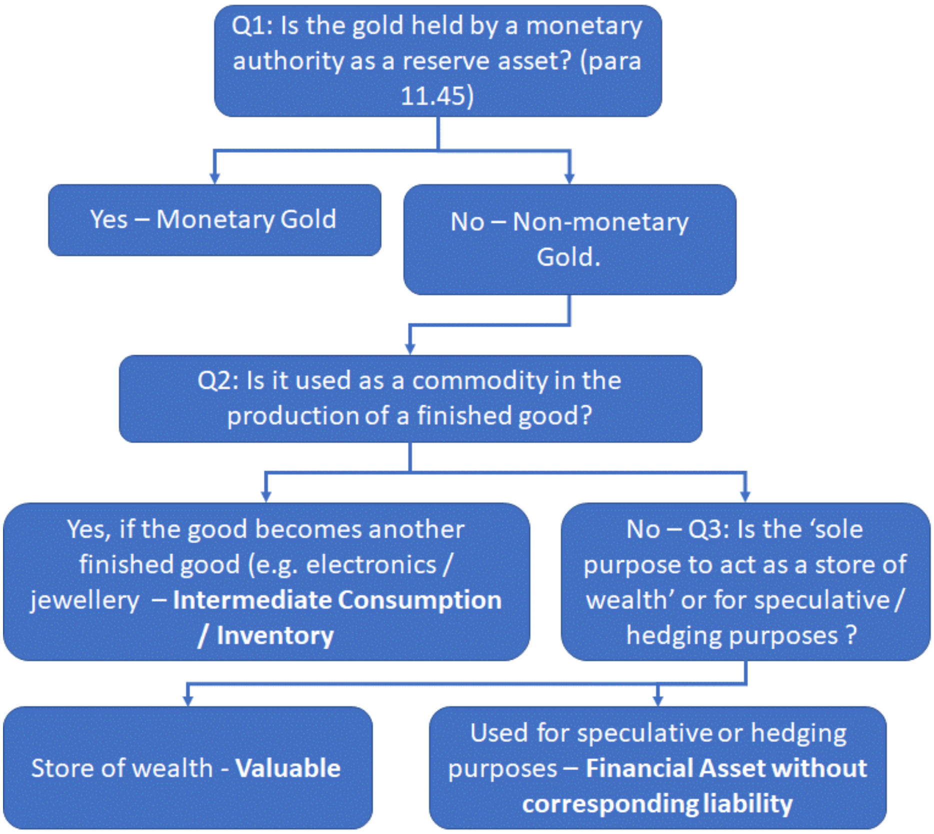
Gold

The current guidance on the treatment of gold is complicated, arguably incomplete and often difficult to interpret. Gold in similar forms is treated utterly differently according to the institutional sector holding it, and simplifications applied in ESA10 do not necessarily make the definitions any easier to apply.

Whilst there obviously exists a ‘do nothing’ option, in the case of countries which are exposed to significant gold-driven fluctuations there is an argument to consider a ‘do minimum’ option of routinely reporting national accounts excluding gold. This has no impact on the level of GDP as the movements in trade and valuables neutralise one another. To the authors this rather misses the point, however, that when this treatment was introduced, it was mainly a theoretical one, as the actual data to do this properly was not available. As this has changed it has become clear this treatment is actually incorrect and brings what is clearly a financial asset into GDP. Whilst the effect on the aggregate level of GDP is neutralised, this does not remove the problem that an erroneous picture of financial assets is the result.

How then to address this? This paper proposes a revision to the drafting of the relevant paragraphs of the SNA[14] to deliver a framework which better captures the complex economic nature of gold and builds off the best in the existing frameworks, as per Figure Six.

Figure Six: A proposed treatment of Gold in the National Accounts



Whilst this framework would provide greater clarity and simplicity in identifying the correct allocation of gold amongst the national accounts categories, it is not the simplest method which could be applied. As one reviewer has pointed out, why for classification would we want to make a distinction between non-monetary gold as a store of value and non-monetary gold for speculation since in either case non-monetary gold is subject to price volatility? Are they mutually exclusive? Pragmatically, would source data enable us to make a distinction when in both cases, they seem to be held for investment purposes?

Based on this perspective one could consider an even more simplified model for the classification of gold:

- monetary gold held as a reserve asset by a monetary authority and recorded as a financial asset with no corresponding liability,
- non-monetary precious metals used in production of valuables and non-valuables and recorded as intermediate consumption or inventories, and
- non-monetary precious metals and crypto-assets without corresponding liability held for investment purposes and recorded as a financial asset with no corresponding liability?

[14] See Annex A for precise wording proposals.

This perspective is an intuitively attractive one, if only from a measurement perspective it removes the need for Question 3 for Figure Six, which would simplify the data collection requirements to deliver this.

Considering this point, and consulting experts, the authors note that one reason for not doing this is that there is a qualitative difference between a valuable and a financial asset, even if this is not yet currently represented in the definition(s) of valuables contained in the SNA. A key characteristic of the valuables mentioned in the SNA definition (works of art, jewellery, antiques etc) is that people do not just buy them for their monetary value but because they are "valuable" in other ways – that is for the pleasure of ownership. They are something you like to own, either because of their beauty, or sentimental value, or because you enjoy collecting them. Because tastes do not usually change very rapidly you would not usually expect prices to change as rapidly as with items that are purely a financial asset so you may also buy them as a store of value.

These valuables therefore have a **dual use** for the holder which the definition should reflect. This can perhaps be best observed in many Asian and Middle East countries, particularly the more traditional Muslim and Hindu societies where a woman's jewellery can often be the only wealth she can possess so daughters will be given gold jewellery as a protection against misfortune[15]. In these countries gold jewellery is sold by weight with a price that is linked directly to the previous day's London price and with a relatively small mark-up, and demand for such jewellery is very sensitive to the price and to price movements all of which is very reminiscent of a financial asset or store of wealth or investment. Nevertheless, typically such jewellery is also bought for **adornment**, even if the price is set in the financial markets. Gold pieces can be and are sold back to the jeweller either for money if required or exchanged for another piece which better suits the purchaser's **preferences.** The element of personal enjoyment in holding these assets does suggests a different treatment of these assets by the owner, and suggests a clarification of the definition of valuables as described in Annex A below.

One can perhaps most clearly see this dual use by comparing to gold holdings traded on the London market, where the holder never sees the physical metal. Gold in this circumstance is clearly purchased only as an investment, with no element of personal enjoyment or adornment, and hence should not be Valuable. Crypto-assets without corresponding liability, such as Bitcoin obviously do not meet this dual use criteria which is another reason the authors consider they should be considered a financial asset.

Financial Gold

The biggest single change in the method described in Figure Six is to treat gold traded for speculation and hedging as a financial asset without corresponding liability. This paper recommends that the SNA and BPM manuals should be revised to extend the treatment of gold as a financial asset to cover what we term financial gold, which stretches beyond monetary gold.

In relation to the point about the absence of a corresponding liability, Turnbull (2004) outlined:

"The absence of a corresponding liability to gold as an asset should not be seen as a hindrance to treating gold as a financial asset. Although this is indeed a characteristic of most financial assets, it is not the defining one. Indeed the fact that gold is no one's liability makes it, in this particular sense, a superior financial asset to most others. This is still the prime (albeit not the only) reason why central banks hold gold in their reserves - in other words why it is a monetary asset. It would be illogical for

[15] It can be persuasively argued that valuables actually have a treble-use, for adornment, as a store of wealth, and as a form of self-insurance in case of calamity (war, refugee flight, natural disaster, etc). With thanks to Jill Leyland and Rachel Soloveichik.

the main characteristic that is responsible for it being a monetary asset to disqualify it from being a financial one. Particularly as the same point applies to the SDR[16]*."*

Therefore, if one was to attempt to practically define when gold is being used for speculative and hedging purposes for inclusion in the class of financial assets, what information would one require and how would it be applied?

Clearly here we reach the classic trade-off between the theoretically correct treatment and practical issues of feasibility and significance. Taking the simplest approach, one could classify gold according to the institutional sector in which it is held:

Figure Seven: An Institutional Sector Mapping for Gold

	Financial Gold - Financial Asset	Non-Financial Gold - Valuable	Non-Financial Gold - Commodity Gold – Inventory / Intermediate Consumption
S11 Non-financial corporations			✔
S12 Financial corporations	✔		
S13 General Government		✔	
S14 Households		✔	
S15 Non-Profit institutions serving households		✔	

Under this proposal, if we were to re-introduce the SNA68 concept of financial gold, this would be restricted to holdings by and transactions between financial institutions and intermediaries, on the basis that the pre-dominant purpose of such holdings is for these to be used for speculative/investment purposes. The current category of monetary gold would then become a subset of financial gold. Financial gold would be an asset without a corresponding liability in the overall SNA sector accounts, as with monetary gold at present. Physical gold (investment grade only) held by financial institutions plus assets and liabilities denominated in gold would all be financial assets.

All other gold would be classified as non-financial gold and would be included either as a valuable or inventory/intermediate consumption.[17] The determination of which of these non-financial gold falls into could be determined by institutional sector – gold held by S11 would be classed as inventory / intermediate consumption, whilst gold held by S13, S14, and S15 would be classed as valuables.

Under this proposal, in terms of the implications for transactions:

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[16] This paper does not refer to SDRs as, if one reviews SNA para 11.49 it is not immediately clear that SDRs do not have a corresponding liability. This paper avoids this issue.

[17] The authors carefully considered the ESA treatment that gold held as inventory to go into the production of a valuable should be treated as a valuable, to save the routine movement back and forth of non-financial gold between different parts of the accounts. Whilst intuitively attractive as a simplification the authors concluded that it was simpler to consider non-financial gold being used as intermediate consumption in the manufacture of jewellery to be considered as such, particularly as this would imply less change for those countries currently complying with the SNA, and aided our thinking about using institutional sector as a means of differentiating when gold should be held where.

- When a financial institution sells financial gold to a non-financial institution the gold would be demonetised to become a valuable first, and the subsequent transaction would be a transaction in non-financial gold.
- Trade in non-financial gold for production or final consumption should be included within trade in goods if one end of this transaction involves a non-resident. In this case the transaction would be recorded as an import / export of non-financial gold.
- Similarly, monetisation of gold would occur after the purchase of non-financial gold by a financial institution from a non-financial institution.

Such a proposal is attractive from a statistical producer's viewpoint if only because of its simplicity, but it provokes two key questions:

- The inconsistent treatment of bullion
- The potential for institutional sectors to use gold for multiple purposes.

We address these questions below.

The inconsistent treatment of bullion

In preparing this paper and discussing it with numerous reviewers, one question was repeatedly raised; why should a physically identical manifestation of gold, in the form of gold bullion, be treated differently according to the institutional sector holding it, when all units holding bullion are likely to do so for the same reason; i.e. as a store of value, and wouldn't a more consistent treatment be appropriate and more defendable?

It is worth presenting this issue in a tabular form to allow the inconsistencies to be observed, both under the status quo and the 'simple mapping' described above:

Figure Eight: SNA08 v Simple Sectoral Approach

Treatment of bullion when held by…	**SNA08 / BPM06**	**Simple proposal**
S11 Non-financial corporations	Valuable / Inventory / Intermediate Consumption	Inventory / Intermediate Consumption
S12 Financial corporations	Valuable	Financial Gold
S121 Monetary authority	Monetary Gold	Financial Gold (Monetary Gold)
S13 General Government	Valuable / Inventory / Intermediate Consumption	Valuable
S14 Households	Valuable / Inventory / Intermediate Consumption	Valuable
S15 Non-Profit institutions serving households	Valuable / Inventory / Intermediate Consumption	Valuable

It is worth here referring back to paras 11.8 ("*Gold bullion held by monetary authorities as a reserve asset is treated as a financial asset"*) and 11.46 ("*Gold bullion takes the form of coins, ingots, or bars with a purity of at least 995 parts per thousand; it is usually traded on organized markets or through bilateral arrangements between central banks. Therefore, valuation of transactions is not a problem.* ***Gold bullion held as a reserve asset is the only financial asset with no corresponding liability)***, which is where the SNA currently defines bullion and the way it is standardly traded. One sees examples such as companies like Bullion Vault which offer investors (households or institutions) actual ownership of a quantity of gold which is held in one of Bullion Vault's vaults[18].

Nowhere else in the accounts does one find a commodity of a homogenous nature, traded in a common way, which is then classified differently in this fashion. Is it logical that gold bars and investment coins[19] held by an individual should be valuables rather than a financial asset when similar bullion is a financial asset if held by a financial corporation under this proposal? Reflecting on the discussion above about the definition of valuables, given the way the UK observes gold holdings traded on the London market, where the holder never sees the physical metal, it is clear that perceiving such bullion holdings as a Valuable seems perverse when they are clearly only as an investment.

As such, to address this, we propose a slightly refined approach to reflect this in the following table:

Figure Nine: An Institutional Sector Mapping for Gold – incorporating bullion differentiation

<table>
<tr><th></th><th>Financial Gold - Financial Asset</th><th>Non-Financial Gold - Valuable</th><th>Non-Financial Gold - Commodity Gold – Inventory / Intermediate Consumption</th></tr>
<tr><td>S11 Non-financial corporations</td><td></td><td></td><td>✔</td></tr>
<tr><td>S12 Financial corporations</td><td>✔</td><td></td><td></td></tr>
<tr><td>S13 General Government</td><td></td><td>✔</td><td></td></tr>
<tr><td rowspan="2">S14 Households</td><td>✔ Bullion including investment coins</td><td></td><td></td></tr>
<tr><td></td><td>✔ Jewellery, numismatic Coins and other non-bullion gold</td><td></td></tr>
<tr><td>S15 Non-Profit institutions serving households</td><td></td><td>✔</td><td></td></tr>
</table>

The potential for other institutional sectors to use gold for multiple purposes.

The treatment above only goes so far as permitting households alongside financial institutions to hold financial gold. However, this needs to be considered carefully: do other non-financial sectors hold gold for speculative / financial purposes. SNA68, for example allowed all sectors of the economy to hold gold as a financial asset. The challenge, of course is that particularly S11 non-financial corporations will hold bullion as the easiest method of acquiring gold for use as a commodity.

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[18] This differs from Exchange Traded Funds since in the latter the gold is owned by the Fund.

[19] There is a distinction between numismatic and investment coins. Numismatic coins are things like old sovereigns and Napoleons which are collectors' items. By any standards they are valuables. Investment coins on the other hand are produced specifically for investment and trade at the value of their gold content plus a small margin to cover making costs. They are normally one troy ounce (or half ounce). The best known investment coin is the Krugerrand which was first minted in the 1970s. There are a small number of others e.g. American Eagle, Canadian Maple-leaf and the UK Britannia. (They are all legal tender although only for their face value which is a tiny fraction of their real worth.) With thanks to Jill Leyland.

Obviously, as with any other asset it may benefit from holding gains as the price of the asset changes, we would support a consistent approach where the primary purpose, which in this case is intermediate consumption, defines the classification of the asset, as any other approach for gold may affect other non-produced assets which demonstrate frequent holding gains.

For S13 General Government (excluding monetary authorities) and S15 Non-Profit institutions serving households, the authors' consider that in the majority of instances gold held by these sectors will be held in museums or in other artistic forms and as such is clearly both likely to be relatively small in quantity, and particularly small in terms of the quantity of trades, but also clearly a valuable. Therefore we would not propose any further change.

One question remains for consideration and which may fine-tune this proposal:

- Should this treatment also apply to any other precious metals (e.g. silver and palladium)? Instinctively, having established principles as laid out in this paper, the authors would suggest these meet the proposed definitions.

Grouping Gold and Crypto-assets without corresponding liability?

A corollary question comes when considering if both financial gold and crypto-assets without corresponding liability move to be a financial asset, as this paper proposes, should they be grouped together? The recommendation from the SNA task-team of crypto-assets currently considers this class of assets in isolation and suggests a grouping bringing crypto-assets together to aide visibility. Whilst instinctively attractive the key issue is whether given the variety of types of crypto-assets and their different stages of maturity whether this will end up a heterogenous grouping. If one considers financial gold simultaneously, the creation of a more substantive category of financial assets without corresponding liability would be relatively more attractive, potentially capturing monetary financial gold, non-monetary financial gold and crypto-assets without corresponding liability. One issue which would need to be considered is whether special drawing rights (SDRs), as defined in SNA para 11.49 would comfortably sit in this grouping? This paper proposes capturing both financial gold and crypto-assets without corresponding liability within a new category within the class of financial assets is worth further consideration.

Conclusions

This paper proposes the following revisions to the national accounts so what we have defined as 'financial gold' comes into line both with market reality, but also other proposed new financial assets which have no corresponding liability.

- Gold held as a reserve asset by a monetary authority would continue to be treated as monetary gold, and be classed as a subset of financial gold and hence as a financial asset, in the subset of financial assets without corresponding liability.
- Gold held by the Household Sector will be treated in two ways: Gold bullion, including investment coins, would be treated as financial gold and hence a financial asset. All other gold holdings by households, including numismatic coins would continue to be classed as a Valuable & Import/Export as per the current SNA, and therefore a non-financial asset.
- The definition of Valuables would be refined to reflect the dual nature of these assets as both a store of wealth, demonstrating low price volatility, generally upwards movements in price and excluding assets held for the purpose of financial speculation or to act as hedges, and as a source of pleasure through ownership or the process of collection.

- Gold held by General Government, outside of the monetary authority who holds monetary gold, would be classified as a Valuable as is most likely to be held in arts / museum collections.
- Gold held by NPISH would be assumed to be a store of wealth and classified as a Valuable, but is likely to be small and again is most likely to be held in arts / museum collections.
- Gold held by non-financial corporations for use in the production of Valuables (e.g. jewellery) and non-Valuables (particularly electronic goods, other conductors and semi-conductors, dental implants etc) will be classed as non-financial gold within Intermediate Consumption or Inventory & Import/Export as per the current SNA, and therefore a non-financial asset.
- Gold held by financial institutions and intermediaries would be assumed to be for speculative and hedging purposes and would be classed as financial gold, which would be a financial asset without corresponding liability.
- This would build on any revisions to the definition of financial asset relating to assets without corresponding liability, particularly crypto-assets without corresponding liability as proposed for the next version of the SNA, to acknowledge that a wider set of assets beyond non-monetary gold held by monetary authorities should be accepted as financial assets irrespective of the absence of a corresponding liability.

Annex A provides proposed wording changes to the SNA to implement this proposal.

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Annex A: Proposed SNA wording changes

All revisions proposed are captured in **bold and underlined** or ~~scored through where proposed for removal.~~ The proposed wording addresses gold and not crypto-assets as these are subject to a task-team with specialist knowledge in that area.

Paragraph 10.8: *"An asset is a store of value representing a benefit or series of benefits accruing to the economic owner by holding or using the entity over a period of time. It is a means of carrying forward value from one accounting period to another."*

Paragraph 10.9 provides the definition of non-financial assets, distinguishing between produced and non-produced non-financial assets:

"*Two different categories of non-financial assets are distinguished from each other: produced assets and non-produced assets.*

> *a. Produced assets are non-financial assets that have come into existence as outputs from production processes that fall within the production boundary of the SNA.*
> *b. Non-produced assets are non-financial assets that have come into existence in ways other than through processes of production."*

Paragraph 10.10 breaks down produced non-financial assets into three types. This is where we first see a definition of 'valuables':

"*There are three main types of produced assets: fixed assets, inventories and valuables. Both fixed assets and inventories are assets that are held only by producers for purposes of production. Valuables may be held by ~~any~~ institutional unit***s in the Household, NPISH or General Government sectors** *and are primarily held as stores of value."*

Paragraph 10.13: "*Valuables are produced goods of considerable value that are not used primarily for purposes of production or consumption but are held as stores of value over ~~time~~* ***the long-term and which are not subject to sudden and volatile price movements****. Valuables are expected to appreciate or at least not to decline in real value, nor to deteriorate over time under normal conditions. They consist of precious metals and stones, jewellery, works of art, etc****, and should be held for personal pleasure, either on the basis of beauty, sentimental value, or the pleasure derived from the process of collecting them*. ***Valuables should thus be physically held or stored by the institutional unit, so for example, gold traded on an exchange where the owner never comes into physical contact with the asset would not be classed a valuable.*** *Valuables may be held by* ***institutional units in the Household, NPISH or General Government sectors*** *~~all sectors of the economy~~****, except gold bullion held in the Household sector, which should be considered financial gold and hence a financial asset. Precious metals held by financial institutions and intermediaries should be considered financial assets, and precious metals held by non-financial corporations should be considered inventory/intermediate consumption whether they are used to produce Valuables or Non-Valuables****."*

Paragraph 10.149: *Valuables include precious metals and stones, antiques and other art objects and other valuables. However, not all items that may be described by one of these titles should necessarily be included as a valuable in the balance sheet of the owner. The intent of the heading is to capture those items that are often regarded as alternative forms of investment. At various times, investors may choose to buy gold rather than a financial asset and pension funds have been known to buy "old master" paintings when the prices of financial assets were behaving in a volatile manner.* ***As such, valuables should generally present less volatile movements in value than other assets.*** *Individuals (households in SNA terminology)* ***are expected to hold these assets for personal pleasure, either on the basis of beauty, sentimental value, or the pleasure derived from the process of***

__collecting them but__ *may also choose to acquire some of these items knowing that they may be sold if there is a need to raise funds.*

Paragraph 11.8:
"Financial assets consist of all financial claims, shares or other equity in corporations plus ***__financial__*** *gold ~~bullion held by monetary authorities as a reserve asset~~.* ***__Financial__*** *Gold* ***__consists of gold__*** *bullion held by monetary authorities as a reserve asset* ***__and gold holdings held for investment purposes by institutional units in the Household sector and by financial institutions and intermediaries, and__*** *is treated as a financial asset even though the holders do not have a claim on other designated units. Shares are treated as financial assets even though the financial claim their holders have on the corporation is not a fixed or predetermined monetary amount."*

Paragraph 11.45 helps us delineate between monetary gold, which is classed as a financial asset and non-monetary gold, which is a non-financial asset:

"*Monetary gold is gold to which the monetary authorities (or others who are subject to the effective control of the monetary authorities) have title and is held as a reserve asset. It comprises gold bullion (including gold held in allocated gold accounts) and unallocated gold accounts with non-residents that give title to claim the delivery of gold. All monetary gold is included in reserve assets or is held by international financial organizations. Only gold that is held as a financial asset and as a component of foreign reserves is classified as monetary gold. ~~Therefore, except in limited institutional circumstances, gold bullion can be a financial asset only for the central bank or central government.~~ Transactions in monetary gold consist of sales and purchases of gold among monetary authorities. Purchases (sales) of monetary gold are recorded in the financial account of the domestic monetary authority as increases (decreases) in assets, and the counterparts are recorded as decreases (increases) in assets of the rest of the world. Transactions in non-monetary* ***__financial__*** *gold (including non-reserve gold held by the monetary authorities and all gold* **bullion** *held by financial* ***__or household__*** *institutions other than the monetary authorities) are treated as* ***__financial assets without corresponding liability. All gold held by institutional units in the NPISH or General Government sectors, alongside non-bullion gold holdings by institutional units in the Household sector are treated as__*** *acquisitions less disposals of valuables (if the sole purpose is to provide a store of wealth) and* ***__by non-financial corporations__*** *~~otherwise~~ as final or intermediate consumption, change in inventories, exports or imports. Deposits, loans, and securities denominated in gold are treated as financial assets (not as gold) and are classified along with similar assets denominated in foreign currencies in the appropriate category. A discussion on the treatment of allocated and unallocated gold accounts appears under currency and deposits.*

11.46 ***__Financial Gold consists of g__***~~*G*~~*old bullion****__, which__*** *takes the form of coins, ingots, or bars with a purity of at least 995 parts per thousand; it is usually traded on organized markets or through bilateral arrangements between central banks. Therefore, valuation of transactions is not a problem. ~~Gold bullion~~ ~~held as a reserve asset is~~ ~~the only~~* ***__Monetary gold, financial gold held by financial institutions and intermediaries, and financial gold held by institutional units in the Household sector are__*** *financial asset**s** with no corresponding liability.*