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# A multilateral collateralized digital currency as an instrument of influence for oil-exporting states

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# EXECUTIVE SUMMARY

The widespread use of the United States Dollar (USD) for the global oil trade and the USD-currency peg practiced by most Gulf oil-exporters constrains their monetary and to a certain extent foreign policy independence. In parallel, monetary inflation, economic slowdown and a growing debt burden in the United States continues to raise questions on the sustainability of the dollar as a store of value. Yet attempts to displace the petrodollar have so far seen limited success, despite China's significant efforts to internationalize its own currency and to settle oil purchases using the Renminbi (RMB).

This report argues that in the current global monetary system underpinned by fiat currencies, Gulf-based oil exporters with Saudi Arabia at its helm could become the architects of a new digital currency backed by oil and governed by a regional multilateral institution (hereafter termed as MCDC for Multilateral Collateralized Digital Currency). The MCDC would provide major benefits to its sponsors, including facilitating trade, reducing financial risk and crucially conferring them more influence on the global stage. It would also enable them to chart a politically independent path which would look after their self-interest rather than accommodate the one of the United States or China. The combination of real collateralization and robust institutional governance would provide much needed credibility to the concept, in an era where alleged fiat-collateralized "stablecoins" have proven anything but stable, as illustrated by the collapse of the Terra blockchain in June 2022.

The MCDC could eventually play a significant role in global oil-trade: any country – including oil exporting countries with national currencies pegged to the dollar - would be able to hold the MCDC in its national accounts. Participating oil exporting countries would be able to sell a growing share of their oil in that currency, avoiding the global financial infrastructure linked to the USD, while the multilateral institution governing the digital currency could provide financial support to countries in need by extending international loans in that currency. In turn this would enhance the influence of the countries behind the multilateral institution. Given the independence of the institution governing the MCDC, interest rates would not be tied to the interest rates of established global reserve currencies, enabling the institution to lend the MCDC at competitive rates compared to traditional international financing and lending institutions, with a potential use for development finance to other countries.

Like-minded oil exporters could we well served to design and test an end-to-end governance mechanism for the MCDC, including but not limited to robust mechanisms for collateralization, issuance and currency redemption.

## 1. The constraints of dollarization

Gulf oil-exporters have historically traded monetary policy independence for economic stability at home. Pegging their currencies to the USD (and allowing free movement of capital) has ensured stability: price-swings of imported products are minimized while incoming foreign investment is incentivized through a reduced currency risk. The trade-off has been a loss of monetary policy sovereignty, with the need to follow the one of the US Fed, even at times when inflationary conditions in Gulf oil-exporting states diverge from the ones in the United States*. In parallel, the denomination of global-oil trade in USD has placed a further constraint on gulf oil-exporters: while the surplus generated has largely been invested in American capital markets and US Treasuries on the back of a strong US economy and a stable government, the use of the dollar has come with strings attached: the Office of Foreign Asset Control of the US Treasury has a clear mission to sanction countries and individuals that may represent a threat to the US economy, among others. As a result, any country holding vast amounts of USD assets exposes itself to the risk of sanctions, even if it acts out of self-interest and with no intent to harm the United States. The US and more broadly the West also control the dominant global payment system (SWIFT - see Box 1) and can exclude banks or entire countries from using it, as was recently done with Russian banks[1].

BOX 1: SWIFT is the secure financial messaging service used to execute international transactions among banks. The United States and Europe exert a major influence on SWIFT, to the extent they can push for the exclusion of banks from the system, as was recently done with Russian banks following Russia's invasion of Ukraine. In a global political landscape where large and middle powers feel increasingly confident to challenge the unilateralism of the West, they may envision a higher risk of geopolitical conflict with the West, and seek to hedge against the Western sanctions that would ensue. In parallel, support for Western-dominated institutions by these powers will continue to dwindle for the benefit of alternative structures. Vladimir Putin's and President Xi Jinping's joint call for a more "equitable and reasonable international order" during the September 2022 Shanghai Cooperation Organization (SCO) meeting strongly reflects this intention. China and Russia have also created alternatives to SWIFT in the form of the Cross-Border Interbank Payment System (CIPS) and System for Transfer of Financial Messages (SPFS) respectively, while Russia has also significantly reduced its holdings of US Dollar reserves, in favor of the Chinese Renminbi. The lack of integration between CIPS and SPFS, and SWIFT's continued dominance globally has shown the limitations of the attempts to displace the latter.

### Monetary policy constraints

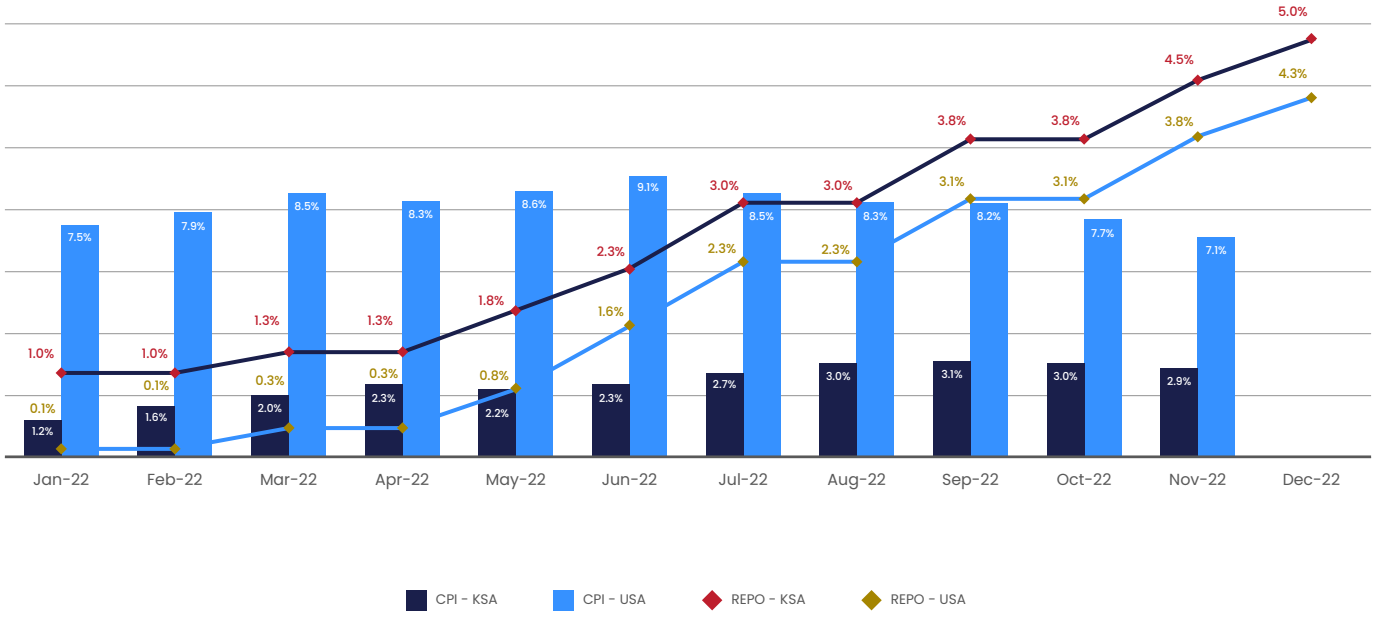
Saudi Arabia's currency peg is maintained by keeping a constant or quasi-constant differential between the short-term interest rate in Saudi Arabia and the one in the United States (with a small risk premium for the Riyal). As shown in Figure 1, despite a significantly lower inflation, Saudi Arabia's Central Bank has had to mirror the US Fed's monetary tightening by increasing interest rates repeatedly since the beginning of 2022: the Fed's repo rate grew from 0.05% in January to 4.3% in December 2022, to combat a soaring inflation that has averaged more than 8% during the year. The Saudi Central Bank has had to follow suit, raising interest from 1% to 5.0% over the same period, despite CPI averaging only around 2%[2].

** Central Banks have historically fought inflation through contractionary monetary policy. In the case of the US Federal Reserve, this has been done by selling government securities to financial institutions, leading to an increase in the overnight interbank lending rate which then trickles to other interest rates, including the ones banks offer to investors seeking capital.*

Given policy rates usually trickle down to market interest rates, increasing rates tend to increase the cost of loans extended by financial institutions while bank deposits become more attractive, at the expense of capital investments. In this context, pegging can therefore be expected, under some conditions, to constrain economic growth, but also affect some key government initiatives such as Saudi Arabia's objective to reach 70% of home ownership by 2030: banks having issued mortgages at fixed rates could be significantly impacted by higher interest rates, limiting their ability to issue new loans.

High oil prices do not confer immunity to oil exporting countries from monetary-tightening-driven liquidity crunches. The IMF has argued that high oil prices curtail the tendency of policy rates to pass through to market rates in an oil exporting country like Saudi Arabia, given high oil prices would ensure abundant liquidity, enabling the interest rates extended by banks to deviate from policy rates[†]. While this may be theoretically true, Saudi banks are at the time of writing facing a liquidity shortage due to a rapid rise in lending that has not been matched by a growth in deposits. In turn, this is constraining Saudi Arabia's ability to fund its ambitious construction plans[3].

**Fig. 1: Inflation and REPO rate evolution, USA vs KSA**




## USD-denominated oil-trade constraints

When oil prices are high, the surplus created by USD-denominated oil-trade increases the USD-currency holdings of oil exporters, increasing with it the risk of a hypothetical devaluation of the USD. This hypothetical devaluation has been extensively discussed and wrongly predicted multiple times but could materialize as US influence wanes, both in terms of American's declining relative economic clout and the declining role of the USD[4].

[†] *Further details on the topic may be found in IMF Country Report 22/275 on Saudi Arabia dated August 2022.*

While the United States Dollar is still the world's number one reserve currency, recent events have exposed shortcomings in the management of its supply and the effects that come with it. Following the Fed's quantitative easing in response to the COVID-19 pandemic, the M2 money supply‡ expanded from USD 15.5 Trillion in January 2020, to USD 21.7 Trillion in March 2022, an unprecedented jump of 33% in slightly more than two years[5]. This came on the back of an already steadily increasing supply of dollars resulting from the Federal Reserve's quantitative easing in response to the Global Financial Crisis in 2007/2008. These policies are widely credited to have played a major role in the increase in consumer prices, a phenomenon that has been compounded by a strong post-Covid recovery, supply chain bottlenecks and a spike in commodity prices exacerbated by the war in Ukraine[6].

Saudi Arabia is certainly realizing that despite US inflation being lower than what it was in the early 1980s, US policymakers have much less room to bring it under control today than they did back then: where debt represented 32% of GDP in 1980, it stood at 123% of GDP at the end of the 2nd quarter of 2022[7]. Undoubtedly, the government's ability to maintain expensive domestic and foreign programs will be constrained by the growing imperative for it to reduce its debt. The U.S. economy is also growing more slowly than it did in the 1970s to 1990s, with a GDP growth rate that averaged 3.2% between 1970 and 1999 but which has fallen to an average of 2.1% between 2000 and 2020[8]. The proportion of US citizens depending on government support has also drastically increased, leaving the federal government little room to cut budgets. Adding to this the extreme political polarization that prevails in Washington, there are ample reasons to be concerned about the US Government's ability to sustainably reduce inflation without a long-term impact on economic growth[9].

## 2. Carving an independent and self-interested policy path

Gulf States are being increasingly courted by China and are naturally receptive to its overtures given its economic potential. In parallel, as relative US economic importance and USD dominance wane, and as Saudi Arabia's strategic importance to the United States declines (and vice versa), it is inevitable that the relationship between the two countries will weaken. Yet the United States is weary of China expanding its footprint in the Gulf and seeks to preserve it as an area of influence. Gulf States are caught in the middle, subject to pressures from both sides.

Despite the United States' nominal self-sufficiency in oil§ OPEC's large market share of petroleum production and trade has the biggest influence on global prices, not only for the United States but also for its allies. This dynamic leads to bilateral tensions, with high oil prices benefiting oil exporters but affecting American consumers and with that their propensity to vote for one candidate or another, as was recently the case prior to the last US midterm elections: the refusal of OPEC+ to comply with President Biden's request to cut oil production quotas[10] led to talks of "retribution". Given Saudi Arabia's position as the swing producer, it often bears the brunt of the US's displeasure, leading to speculation on the weakening of the broader strategic partnership between the two countries. While such speculation is often exaggerated, possible US retributions cannot be discarded as implausible in the minds of Saudi decision-makers.

‡ *Following the Fed's regulatory amendment of April 2020, savings accounts are now considered just as liquid and convenient as currency and are therefore included in the definition of M1 supply. M1 and M2 are now a much closer metric, although M2 remains larger than M1 as it includes less liquid assets such as time deposits. For ease of comparison, we have favored analyzing M2 rather than M1. The technically inclined reader can find further details on the website of the St. Louis Federal Reserve (stlouisfed.org)*

§ *The United States produces enough oil to meet its own needs, but still imports oil for economic and refining capacity reasons*

For better or worse, the Kingdom still relies on the military protection of the US, and it could very well be that one day, the United States would threaten to scale down its military (e.g. by redeploying defense systems elsewhere, withholding intelligence or restricting the types of weapons it provides to the Kingdom) or in the extreme case, threaten economic sanctions.

China is less assertive in its dealings with Gulf states, as unlike the United States, it depends on Gulf oil for its energy needs. This doesn't stop it from asking Gulf oil-exporters to accept settling oil sales in RMB. China may also one day use economic leverage through trade to more forcibly obtain such a concession. While it may make sense for oil exporters to accept oil sales to be partly settled in RMB, they would not be well served by accumulating vaster quantities of RMB given the latter's lack of convertibility.

As fall-outs with the United States multiply, and as China becomes more forceful in its demands, Saudi Arabia and like-minded states will want to hedge their security and economic risks. To address the latter, an alternative to the current monetary system should therefore be a priority of Gulf oil-exporting states. Diversifying away from the petro-dollar was explored as an option in our first report[11]. In the rest of this report we outline how a novel digital currency could help Gulf oil exporters reduce their US Dollar dependence and consider the specific benefits and ramifications of a hypothetical oil-backed digital currency.

## 3. A novel digital currency as a tool of influence

Multiple Governments around the world have researched and for some launched Centrally Backed Digital Currencies (CBDCs). Issued and regulated by Central Banks, they are, in theory, as good as fiat money. According to the Atlantic Council's CBDC tracker, 105 countries are at different stages of advancement in exploring CBDCs, while 10 countries have launched one. Interestingly, the most CBDC-advanced countries are not in the Western hemisphere, but include China, Russia, Indonesia, Saudi Arabia, the UAE, Kazakhstan, Singapore, and Malaysia among others[12]. The fact that most are being considered for the facilitation of cross-border payments is due to the benefits that a CBDC can provide for trade: lower transaction costs; greater currency substitution in countries with high inflation (given foreign CBDCs having legal tender may be more stable than the domestic currency), and reduced dependence on SWIFT.

But for countries with currencies that are not freely convertible or that are not global references in the international financial system, establishing a cross-border currency takes more than creating a CBDC: any limitations in the non-digital version of this currency will merely be projected on its CBDC equivalent. This is particularly the case when the currency has no underlying asset that confers it a real intrinsic value, or when the mechanism of a possible underpinning mechanism is poorly defined. Venezuela's attempt to create an oil-backed digital currency is an example of a failure driven by weak and non-credible institutions: aiming to attract foreign investment, the Venezuelan government issued the "Petro" in 2018, a cryptocurrency whose denomination was backed by a purchase-sale contract corresponding to one physical oil barrel of Venezuelan oil reserves[13]. While the Petro is still in existence, it has not lived up to expectations, due to the lack of international trust in the Venezuelan government, but also due to relying on self-assessed reserves where their credibility is narrowly correlated to the one of government – in this case, not a lot[14]. As importantly, the government's management of the petro's volatility through arbitrary and fluctuating discount factors (rather than being linked to supply and demand) has impeded global adoption, and led to a significant divergence in price between the official government exchange and the one of the market. The recent collapse of cryptocurrency exchange FTX and of the Terra blockchain a few months before also illustrate how the absence of robust governing mechanisms and the lack of underlying collateral are not sustainable.

In this context, it becomes interesting to explore the viability of an oil-collateralized digital currency as a mechanism to bolster the credibility of a sovereign currency that seeks a more global and independent role. To be considered successful, an oil-backed digital currency would address the dollarization risks faced by Gulf oil-exporters. Namely, it would provide them all or a combination of the following benefits: more freedom in setting monetary policy, facilitation of oil-trade, reduction in financial risk and more broadly confer more political influence to its backers. We assess below to what extent the MCDC can deliver on these benefits.

## Provide more freedom in setting monetary policy

The digital currency would not enable its backers to set their own monetary policy, given they would still vastly rely on their pre-existing sovereign currencies such as the Riyal, Dirham or Dinar. Given there is no short-term or medium-term scenario where the MCDC would displace these currencies, it would not confer any monetary flexibility to its backers. However, on the plus side, the digital currency would not be affected by the policies of the major central banks. It would enable its backers to lend that currency at preferential and independently set interest rates.

## Facilitate trade with major oil buyers

The digital currency would have a reasonable chance of gradually substituting the USD for oil purchases. China and Russia are open about their desire to buy oil in other currencies, with China openly seeking to settle oil purchases in Renminbi (RMB)[15]. Saudi Arabia has so far refused payment in the Chinese currency, driven by its strategic relationship with the United States on the one hand, and the RMB's lack of full currency convertibility on the other. Provided it is fully convertible, the MCDC would not have the limitations of the RMB. The United States would also most likely be less opposed to an oil-trading currency that emanates from Saudi Arabia rather than China. Additionally, as oil-trade would not be conducted in USD, there would be less scrutiny on these transactions by the US Treasury, removing some risk for oil exporters.

### Reduce financial risk

When it comes to trade with China, settling oil contracts in the MCDC would also be more prudent than using the RMB: given the absence of convertibility of the RMB, the relatively closed nature of the Chinese monetary system, and the significant risk of domestic financial distress in China, building RMB reserves would represent a non-negligible risk.

### Confer more political influence

Creating a new commodity-backed currency which is used in international trade should give it a place in the reserves of major oil-buyers. This will confer some prestige to the digital currency's creators. But more importantly, this new currency will be able to play a role beyond oil trade: holders of the currency will be able to lend it at preferential rates to other countries for development purposes, thus exerting broader political influence on recipient countries. Taking this scenario to the next level, the new digital currency would potentially also play a role for the purpose of providing emergency bail-out finance to countries under fiscal stress, in a similar fashion to the IMF albeit at a smaller scale. Finally, it could also become accepted as a loan collateral by major lending institutions.

## 4. Required attributes of an oil-backed digital currency

The pre-requirement for the broad adoption of the digital currency will is credibility. We describe below the currency's desired attributes for this to be achieved.

### Oil-storage as collateral

Commodity-collateralized currencies are theoretically more robust than fiat currencies. Given the oil-wealth of oil producing countries, backing the MCDC with oil is a natural mechanism to confer it credibility. Given the unreliability of estimated reserves in the ground (often politically driven and far from geological truth as was the case in Venezuela), a first solution would be to back the MCDC with an "adequate" amount of oil kept in reservoirs across various areas of the world, where adequacy is guided by pragmatism: with oil prices hovering around $100 a barrel, $100 Billion worth of currency would require a backing of 1 billion barrels, or about 50 VLCCs of oil which is tremendously wasteful and costly. As such, a lower reserve could be set, perhaps around 40% of outstanding currency, similar to what the 1913 Federal Reserve Act had set for the US Dollar under the gold standard. Backers of the MCDC would set aside barrels of oil as the underlying security and tokenize them through the creation of an equivalent adjusted amount of the MCDC. But this would still represent 20 VLCCs equivalent of immobilized oil.

A more credible alternative to having dedicated oil storage for the currency would be to use existing storage as collateral[16]. This would address the questionable economic utility of immobilized oil storage and would ensure there is no incremental cost to maintaining the currency. In the presence of a sufficiently robust and credible institutional governance that can ensure a close to zero-default probability, the market would trust that reserves are constantly replenished, and that the governing institution commits to maintain a set amount of reserves earmarked as a collateral for the MCDC.

### Multilateral and robust governance

An independent market institution is necessary to define the governance functions and standards of the MCDC and ensure compliance with its use. This institution is also necessary to act as the main custodian and management function of the currency, and to minimize any concerns from buyers and sellers of the MCDC that the markets may be manipulated.

The underlying oil backing the MCDC would have to be redeemable by holders of the currency on demand. It would also have to be under the control of an independent, non-profit and multilateral organization in order to ensure the trust of the MCDC holders. Buyers and sellers would have to be satisfied that they could freely exchange their currency for the physical oil at the price/value established the day of the contract. A defined standard of quality and API gravity for crude oil would be necessary to make sure that buyers and sellers deal in the same commodity and value. The MCDC would also require the definition of new accounting standards so that its holders can estimate their own cash reserves and wealth in general. The safety of the currency transactions themselves would in principle be covered by blockchain based transactions.

A multilateral governance mechanism would appear to be essential. A digital currency issued and controlled by a single nation would have a difficult time finding acceptability among oil-importing countries, as the latter would feel they are at the mercy of one country, not to mention that the currency would have less market power. Additionally, given the collateralization requirements, multiple states would have to be involved to ensure their combined oil storage is sufficient to back the currency (with an appropriate reserve ratio).

## Managed volatility

Volatility of any currency is undesirable for broad adoption. The MCDC, like any other asset-backed digital currency, will be subject to volatility driven by the volatility of oil as the underlying collateral, and the volatility due to supply and demand imbalances in the secondary market. Both are theoretically naturally resolved through arbitration, as explained below.

If the value of the MCDC in the secondary market falls below the value of the collateral, holders should be able to (and would be incentivized to) return the currency to the governing institution. In turn, the governing institution would sell the corresponding amount of underlying collateral, remove the equivalent amount of MCDC from the market, and pass the proceeds to the seller. The proceeds that the seller would get from the institution would be higher than what it would get on the secondary market, hence the incentive. By destroying part of the MCDC, its value would increase. Similarly, if the MCDC was to rise above the value of the collateral, the governing institution and its backers would be incentivized to issue additional currency through increasing the amount of collateral and pass the newly created MCDC to the suppliers of this collateral. These suppliers would then sell the currency to the market pushing the price down[17]. The same logic would prevail when the price of the collateral would fluctuate. If the price of oil was to increase, the purchasing power of oil (as money) would increase. The backers of the MCDC would then be incentivized to create additional MCDC units, by increasing the nominal storage amount, and vice versa if the price of oil was to decrease[18].

## Tradability

To be able to pay for oil in the MCDC, buyers would need to be able to first acquire the currency on an exchange. Once established in one or more exchanges, the MCDC would be disintermediated and have a life of its own, at times higher and at other times lower than the USD equivalent, as determined by traders and speculators.

To set the oil price, an oil market, such as the one in Shanghai, Singapore or Dubai could centralize orders and set the price according to supply and demand as it does already in RMB or in USD, using the instruments available on these exchanges, such as options, futures and cash purchases. Just as it is today, the price would be negotiated for a given standard of crude. The price of the blend, similarly to WTI or Brent, would be adapted to any given shipment of whatever crude oil is being shipped and bought by the final user - necessarily a refinery.

The use of the MCDC would most likely not change the trading formalities for buyer and seller: the letters of credit have had smooth trading patterns for over a century, and the three underlying documents would remain relevant (the bill of lading, the insurance certificate and the payment draft) and would have to be handled by an intermediary. The MCDC could eliminate the need for financial intermediaries in the payment structure, but it would not change the need of buyers to borrow from banks to finance the purchase for the time between the shipment, the refining and distribution of the products. The fee structure of L/Cs would therefore not be altered substantially, as the payment fees in most cases are minimal.

Oil exporters would be paid in the MCDC and use it to purchase goods. Saudi Arabia would, for example, use the MCDC to pay a car exporter in Japan. The Japanese car exporter would then sell the currency to an oil importer in China either directly or through an exchange. The oil importer would then use the currency to buy oil from Saudi Arabia or elsewhere.

# *The Way Forward*

This policy brief has provided a high-level argument on the merits of an oil-backed digital currency for oil producing states, namely more flexibility in oil-trade, reduced financial risk and enhanced global influence. It has also provided an overview of the initial attributes that would be required for that currency to be successful. Gulf oil-exporting states have a significant advantage for the de-dollarization of oil trade given that (a) they are not seen as a strategic competitor of the United States and (b) they are able to create a new currency that is commodity-backed - a rare feat in a fiat world - thus conferring it credibility.

Given the above, Saudi Arabia should be well positioned to test the small-scale implementation of a pilot program for the MCDC. To do so, it should:

- Evaluate in detail the implication of the creation and launch of the MCDC, and its consequences on relations between states; based on that, determine whether the benefits would more than make up for the drawbacks.
- Identify and engage with friendly and less controversial oil-exporting countries which have open and liberalized economies to determine the appetite to be part of such an endeavor.
- Define the membership and governance of the international institution that could be instill sufficient trust among companies and countries using the MCDC.
- Define the legal framework that would formally and explicitly allow the creation and use of the MCDC by entities in each country.
- Define the underlying technical requirements for the MCDC, including but not limited to the mechanisms for issuance, destruction, convertibility, assignation to backers, verification and retail use.
- Determine a realistic volume of currency issuance and stress-test the theoretical guardrails to manage volatility of the new currency.
- Determine a mechanism that minimizes the oil-driven volatility of the digital currency while letting it be largely driven by supply and demand.
- Determine the adjustments that would be required for the central bank balance sheet given the MCDC would be issued as a liability for the central banks involved in the initiative.

# BIOGRAPHIES

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