ARC RESERVE CURRENCY

LENDING AND FIXED INCOME AS AN ASSET CLASS

ARC Reserve Currency ("ARC") is an intrinsic-value stablecoin. It is an ERC20 compliant token, whose price is related to a pool of underlying assets held by a special purpose vehicle[1] ("SPV").

The SPV will allocate funds to a diverse and varied set of fixed income and lending investments to achieve a Target Return, to enable the net asset value ("NAV") of the SPV to remain stable in real terms, and grow in nominal terms (match inflation). This stability is a cornerstone of ARC's stability.

The asset class of lending and fixed income investments, has been selected from the pool of mainstream asset classes, to provide the best combination of returns, liquidity and volatility for the SPV.

The note introduces lending as an asset class and considers some of its features.

Note: *this is one of a series of papers that describe the nature and purpose of the ARC Reserve Currency. Please see www.arccy.org for further details, including the rationale for ARC.*

ARC is a work in progress. Please contact us at hello@arccy.org for comment and suggestions.

[1] ARC Foundation Ltd ("SPV") is a ring-fenced entity, set up to hold the underlying assets of ARC

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1 Lending as an Asset Class

The proceeds from issues of ARC will be placed into a ring-fenced SPV which then allocates capital into lending as an asset class to facilitate a base level of appreciation (in nominal terms). The net-asset value (NAV) growth of the SPV arising from this return, and its relative liquidity, will be used to support the value of ARC.

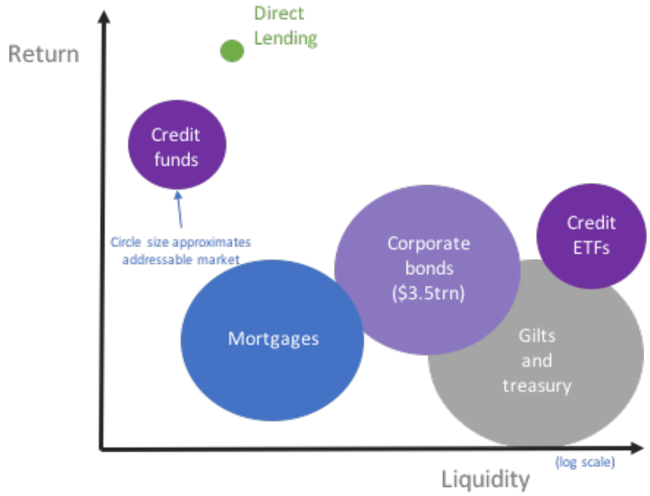
Diversified lending and fixed income investments provide the best combination of delivering consistent and predictable returns in line with the target level required for the SPV, with low volatility and relatively good levels of liquidity, relative to other mainstream asset classes:

Asset Class	Return *(Low to Medium is best)*	Volatility *(Low is best)*	Liquidity *(High is best)*	Rank *(1 is best)*
Lending and fixed income	Medium	Low	Medium to High	1
Cash	Low	Low - Medium	High	2
Real estate	Medium	Medium	Low to Medium	3
Commodities	Low	High	High	4
Private Equity	Medium to High	Medium	Low	5
Equities	Medium to High	High	High	6

1.1 Investing in Lending

Lending is not homogenous. There is a wide variety of lending and fixed income opportunities available and a multitude of underlying asset classes, including investing through lending funds (e.g. ETFs):

Figure 1: Different fixed income asset classes and their merits[2]

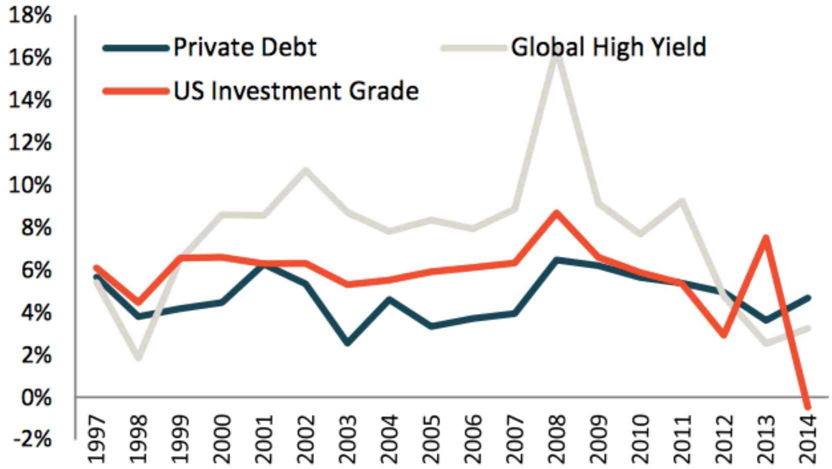


[2] Credit funds invest in the primary issuances of debt securities, so there is some double counting of the market sizes on this chart. Further, ETFs shouldn't be overly relied upon, as they can introduce additional equity volatility (in exchange for greater liquidity) which can negatively impact the overall Sharpe ratio of the holdings of the SPV.

Initially, the SPV will focus on lending where the loan (or fixed income security) is not listed – this is sometimes referred to as Private Debt investing or Direct Lending. The benefit is that pricing will be more stable (less volatile) over time, however there will be less liquidity as a result.

Over the longest period for which data are available, private debt has outperformed Global High Yield and US Investment Grade:

Figure 2: Cumulative average growth return of private debt compared to high yield and US investment grade corporate debt[3]



Private debt is forecast to continue to increase in size as an asset class – since the global financial crises in 2008, banks are no longer providing the levels of lending they did before, and the regulations that are now in place mean that this change is structural and unlikely to reverse[4].

As the NAV of the SPV increases it will increasingly invest in more traditional forms of fixed income investments, as the availability of private debt and direct lending opportunities becomes harder to access.

When the NAV of the SPV is $100M (or greater) the SPV will increasingly invest in lending assets such as:

- **Corporate loans and bonds:** large corporates raise debt finance through capital markets. ARC will invest in these loans, directly or through investment managers and administrators.

- **Gilts and government loans:** ARC may participate in government-backed debt issuances.

The SPV will seek a third-party index or data source to serve as a target allocation for the SPV across the different fixed income investment opportunities. We have not yet identified a sufficiently appropriate index (or methodology), and we will continue to investigate this as part of our product road map, to facilitate greater optimisation and increase transparency.

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[3] Source: Preqin Private Debt Database 2015 and Bank of America Merrill Lynch, from http://www.icgam.com/SiteCollectionDocuments/Rise%20of%20Private%20Debt%20as%20an%20institutional%20asset%20class%20Amin%20Rajan%20GENERIC.pdf

[4] http://www.icgam.com/SiteCollectionDocuments/Rise%20of%20Private%20Debt%20as%20an%20institutional%20asset%20class%20Amin%20Rajan%20GENERIC.pdf

1.1.1 Achieving Returns from Lending

The return achievable from investing in a loan has a fixed upside: the best that can be achieved is for the loan to repay its capital and interest in full and on time. Therefore, to optimise performance, it is important to focus on minimising downside risks.

There are three important aspects to this:

- **Asset-backed lending:** lending against the value of an asset, assists with reducing downside risks – if a loan defaults then the asset can be sold to recover the capital of the loan.

- **Loan selection**: careful loan selection, focus on pricing discipline and borrower affordability

- **Diversification:** distributing investment funds across many loans – ideally 100+ loans, helps to reduce the impact of any defaults on losses on the overall loan portfolio

1.1.1.1 Asset-backed Lending

Lending which is secured, backed by an asset or property provides collateral to assist with mitigating downside risks in a lending portfolio, helping to reduce the negative impact of loans which may default and lead to losses.

We consider there to be a strong rationale for blockchain technology to become a central part of asset-backed lending. Using smart contracts to monitor and manage the ownership and transfer of an asset which may be subject to a lending agreement, would appear to be an obvious use-case for blockchain.

We have not yet seen much activity in this space, but we expect the SPV to participate extensively with operators (and systems) that facilitate asset-backed lending across the blockchain. For the avoidance of doubt, this is not a service that the SPV will look to create itself, it will merely be a participant and user of others' services.

1.1.1.2 Loan and Investment Selection

The existence of an asset should provide some comfort, but should not be the sole driver for making a loan. Pricing discipline and borrower affordability are two key aspects to ensure lending delivers good returns.

Approved counterparties for the SPV will need to be able to demonstrate a track record of lending performance and the processes and credit policies required to deliver consistent lending returns.

1.1.1.3 Diversification

Diversification is an important aspect to generating a stable return from loans and fixed income investments. The number of loans required to provide sufficient diversification depends upon the nature of the underlying loans.

When considering private debt investments, the minimum number of loans required to create appropriate diversification is typically accepted to be 150-200+. "Exposure to…a portfolio of 15-30 loans bears material idiosyncratic risk and wouldn't be an optimal approach"[5].

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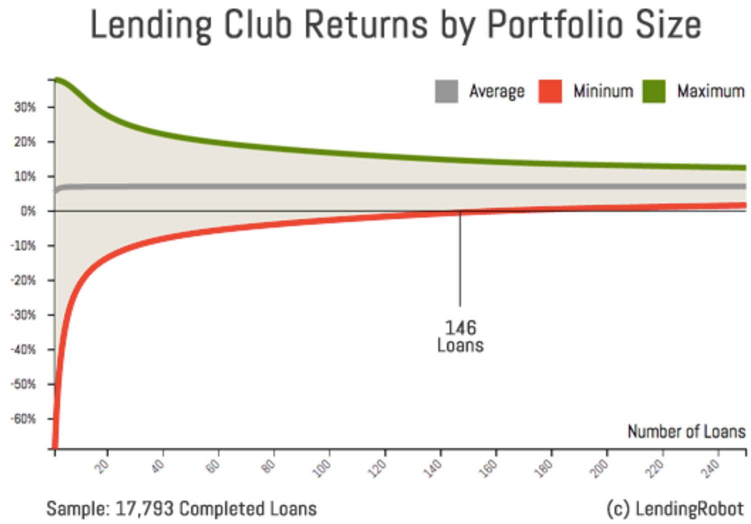
[5] "Private Debt in and Institutional Portfolio", Mercer Private Markets
http://www.mercersignatureevents.com/investmentforums/2017/gpm/hongkong/decks/Private-Debt-in-an-Institutional-Portfolio.pdf

The chart below illustrates how increasing the size of a lending portfolio will enable performance to tend toward the average performance, and reduce downside risk:

Figure 3: Illustrative impact of diversification on return for a direct lending portfolio[6]

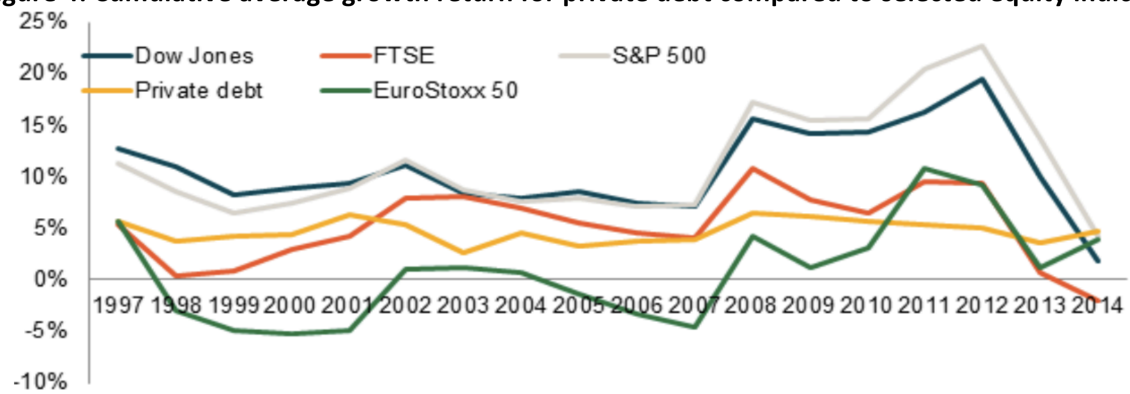


The holdings of the SPV will be well diversified, with no more than 1% of the NAV of the SPV will be exposed to a single borrower at any time. The long run target will be a maximum exposure of 0.25% or less against any one borrower.

1.1.2 Volatility and Liquidity

Private debt funds, for example, are more stable throughout market cycles relative to equity indices with a standard deviation over the period of 0.017 vs. 0.71 over the sample period for equity indices:

Figure 4: Cumulative average growth return for private debt compared to selected equity indices[7]



Volatility and liquidity are inherently connected: a less-volatile asset class is likely to be less liquid (and vice versa). Although private debt is perceived as less liquid, the volume of assets held by market makers is half of the level it was five years ago, while the volume of assets held by investors has increased four-fold. This reflects that previous liquid investments such as high yield bonds are may now be as equally illiquid as private debt investments.[8]

[6] http://www.lendingmemo.com/risk-diversification-p2p-lending/
[7] http://www.icgam.com/SiteCollectionDocuments/Rise%20of%20Private%20Debt%20as%20an%20institutional%20asset%20class%20Amin%20Rajan%20GENERIC.pdf
[8] http://www.icgam.com/SiteCollectionDocuments/Rise%20of%20Private%20Debt%20as%20an%20institutional%20asset%20class%20Amin%20Rajan%20GENERIC.pdf

An absence of liquidity in the underlying asset class is not necessarily a problem for the SPV, as the SPV will hold an amount in liquid cash and be able to liquidate assets in an orderly fashion as the underlying loans are repaid which will occur naturally and on a continuing basis. Furthermore, the holders of ARC coin do not have the ability to enforce liquidation of the underlying pool of assets directly.

As noted above, there is a relatively smaller available market of private debt lending, and so the allocation to corporate loans and gilts, which tend to be listed (or have a quote), will be increased as the NAV increases. The liquidity of corporate bonds and gilts may introduce more volatility in the NAV, as opposed to holdings of cash and private debt alone. Therefore, the level of diversification will increase as the NAV increases, to seek to mitigate this potential increase in volatility[9].

[9] The SPV does not intend to use derivatives or other structured products (e.g. CDS), its holdings will be *long-only* credit and fixed income positions. Diversification will arise from holding a greater number of underlying positions, sourced from a greater number of financial sponsors, and through increased currency diversification.

2 Decentralised Lending and Lending Partners

Marketplace lending (including direct lending) has enabled consumers to access direct lending as asset class, and in some areas, it has raised the transparency over lending methods, principles and, most importantly, increased the visibility and importance of selecting appropriate counterparties to access loan opportunities from.

Accessing loans through well operated lending partners creates a positive systemic bias in the performance of a loan portfolio.

Diversifying across multiple lending partners is also consistent with the key underlying principal of decentralisation, inherent within blockchain. The SPV will seek to deploy capital through a wide range of carefully vetted lending counterparties.
The number of lending counterparties is likely to increase further given the fragmentation possible from marketplace lending and expected offshoot from these business activities. We anticipate that the blockchain will be able to facilitate truly peer-to-peer lending in the coming decade, without any intermediary participation (or only a negligible participation). This trend will enable ARC to become increasingly decentralised over time.

ARC will use carefully vetted third-party counterparties will be used to assist to distribute funds into approved lending strategies. This may include lending distribution platforms, asset managers, lenders and in some cases marketplace lending platforms.

The SPV will seek to expand the number of lending partners which can demonstrate sufficiently robust systems and processes. Distributors and allocators of capital will be invited to contact the SPV and to participate with the investment allocation efforts of the SPV. This is important for the increasing decentralisation of ARC over time.