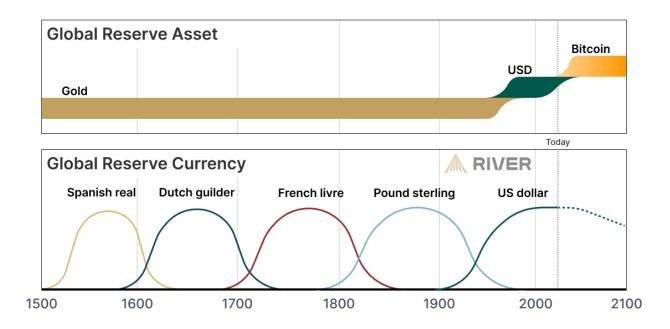
# Entering The Dual Money Era

Save in Bitcoin Spend in Dollars



For over fifty years the global economy has been centered around the US dollar. This system is now changing as the dollar is no longer an effective way to store value. In its place, bitcoin is rapidly emerging as the next global reserve asset.

We're entering a Dual Money Era, where people save in bitcoin and spend in dollars.



Money is both a currency for transactions and an asset for savings. Throughout history, the asset most widely used for saving has differed from the currency used for transacting. In other words, the global reserve *currency* and global reserve *asset* were distinct. While the US dollar currently plays both roles, we're quickly returning to a world where people save and spend in different forms of money.

The US dollar remains unmatched as the global reserve currency. People still earn wages, spend, borrow, lend, and denominate their wealth in dollars. However, people no longer save in dollars as they once did.

As will be shown in this report, bitcoin is replacing the US dollar as a global reserve asset. Every person will have bitcoin savings, and every organization will have bitcoin on their balance sheet.

This vision is founded in both optimism about the future, and realism about the path ahead.

We are confident that bitcoin is the world's best store of value, and will empower every human being to save their wealth and take ownership of their lives. It will restore trust in our financial system, and rebalance the economic distortions that are clearly visible in our lives.

At the same time, we recognize the staying power of the US dollar in our financial system. While it may not last forever, the dollar continues to serve as our primary unit of account and medium of exchange. Bitcoin will continue to grow as a medium of exchange, but overtaking the dollar as a currency will likely take many years.

Below we will substantiate our vision.

Chapter 1 provides context into the past and present roles played by the US dollar. Chapter 2 rationalizes Bitcoin's emergence as the next global reserve asset. Finally, we introduce River's framework for transitioning into the Dual Money Era.

## **Table of Contents**

Chapter 1: The US Dollar Has Failed and Succeeded	3
1.1 The Making of Our Fiat Currency System	3
1.2 The Dollar is Declining as a Global Reserve Asset	6
1.3 The Dollar Persists as the Global Reserve Currency	9
Chapter 2: Bitcoin: The New Global Reserve Asset	11
2.1 The Winner-Takes-All Nature of Reserve Assets	11
2.2 The Rise of Bitcoin	12
2.3 Will Bitcoin Become the Global Reserve Currency?	15
Transitioning to The Dual Money Era	18

# Chapter 1: The US Dollar Has Failed... and Succeeded

#### 1.1 The Making of Our Fiat Currency System

The US dollar gained recognition as the global reserve currency in the aftermath of World War II. In 1944, representatives from forty-four countries met at the Bretton Woods Conference in New Hampshire. They agreed on a new financial system where all currencies were pegged to the dollar, and the dollar itself was tied to gold at a fixed rate.



The Bretton Woods system was unsustainable due to persistent overspending by the US government, made apparent by US military conflicts in Vietnam and Korea, as well as an arms race with the Soviet Union.

#### What Happened In 1971?

As global trust in the dollar's convertibility to gold faded, countries began exchanging their dollar reserves for gold. In 1971, recognizing the unsustainability of this system, President Nixon took decisive action by ending the dollar's gold backing.

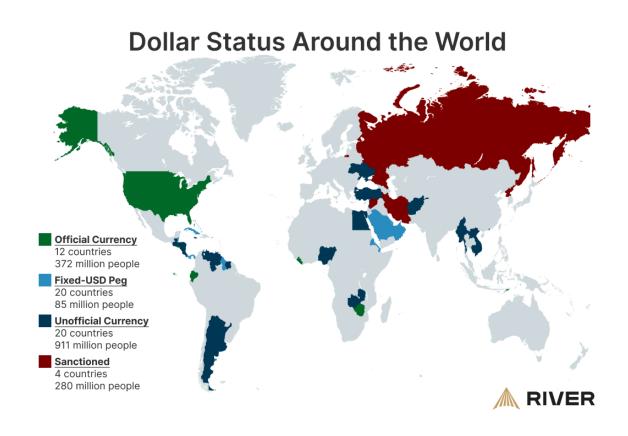
Since then, the US dollar has remained the world's reserve currency, though it's no longer tied to any tangible asset. The monetary system we live in today is known as a *fiat* currency system. Fiat currencies around the world derive their value entirely from trust and government decree.

#### How the Dollar Persisted

In the decades after 1971, the dollar remained widely trusted. Its strength was reinforced by a robust US economy, manageable debt, and the country's unquestioned standing as a global superpower.

As a result, the dollar persisted as the global reserve asset, despite no longer being backed by gold. Americans and foreigners alike could reliably save in dollars and earn a meaningful interest rate when invested in US government bonds. Until recent years, the US dollar generally experienced low inflation as measured by the Federal Reserve. This gave people confidence in the safety of their dollar savings.

Over the same period, the dollar's use as a medium of exchange was further strengthened. Most international trade was—and still is—conducted in dollars. Many countries borrow in dollars, issue currencies with a fixed peg to the dollar, or use dollars unofficially within their economies. Outside of the US, 11 countries have adopted the US dollar as their official currency.

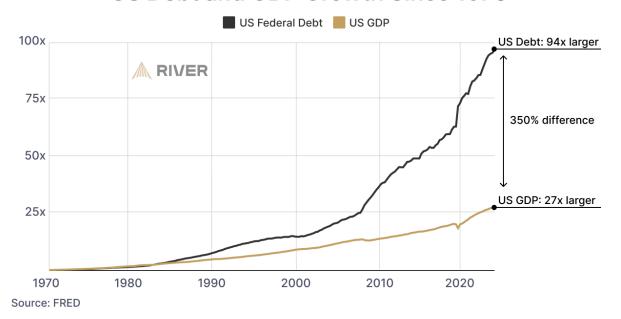


#### How the US Gets Away With Unchecked Money Printing

However, because the dollar is not constrained by gold backing, the US government is unchecked in its ability to spend beyond its means. Under normal circumstances, overspending by a nation can quickly lead to a currency crisis. Once investors doubt a nation's ability to pay off debt, they are more reluctant to fund its borrowing. This leads to a flight of investor capital and higher borrowing costs, forcing the indebted nation to print money to fund its spending.

However, the US dollar's status as the global reserve asset meant that—until recently—investor demand to fund the United States' spending was abundant. This resulted in low borrowing costs for the US government, incentivizing high spending and large budget deficits.

#### **US Debt and GDP Growth Since 1970**



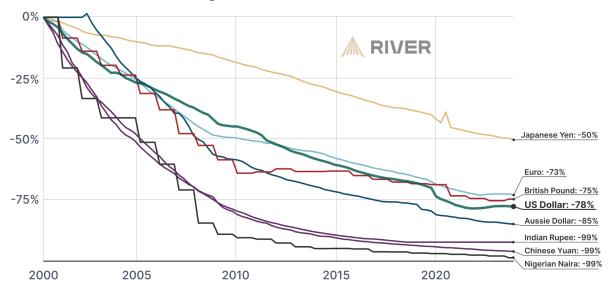
Since 1970, US federal debt has grown 94-fold, outpacing economic growth by 350%

As its debt grows, the US government finds it increasingly difficult to convince investors to fund its overspending. Despite being the global reserve asset, there is only so much demand for the dollar.

Since 2008, the US has increasingly relied on its central bank—the Federal Reserve—to fund its spending. The Federal Reserve achieves this by creating new dollars out of thin air, which are then used to purchase US government bonds. Despite its abstract name—"quantitative easing"—this procedure of money creation is simple, and takes just a few keystrokes.

As the Federal Reserve rapidly increases the supply of dollars, the value of each dollar is debased, resulting in lower purchasing power and higher inflation. Since 2000, the dollar has debased by 78%. This trend has occurred in every major fiat currency this century.

# **Currency Debasement Since 2000**

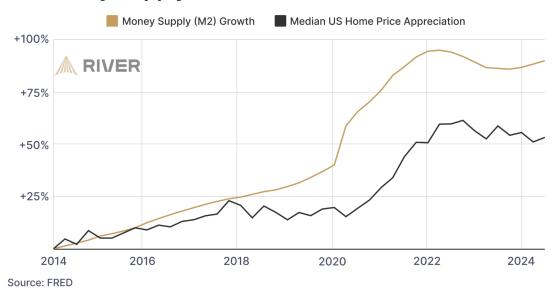


Source: FRED, World Bank

### 1.2 The Dollar Is Declining as a Global Reserve Asset

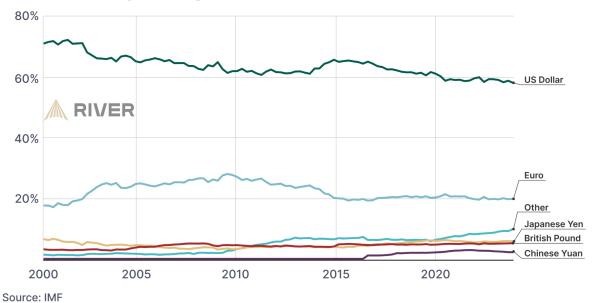
The rapid debasement of the US dollar makes it poorly suited as a store of value. As a result, people are increasingly reluctant to hold dollars, preferring instead to save in other assets, such as real estate and stocks. But even real estate is not keeping up with the rate of monetary inflation, which has averaged 6.8% over the past decade.

# Money Supply Growth vs Median US Home Price



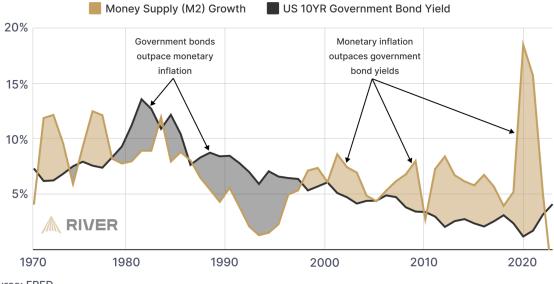
Foreign investors have begun diversifying their savings away from dollars. The share of dollars held by foreign central banks, for example, has been on a steady decline since the beginning of the century.

# **Currency Composition of Central Bank Reserves**



For investors of all sizes, US government bonds are no longer a compelling way to save money, given their returns have consistently underperformed the rate of monetary debasement since the beginning of the century. This will likely persist as the government must rely on monetary debasement to fund its continued spending.

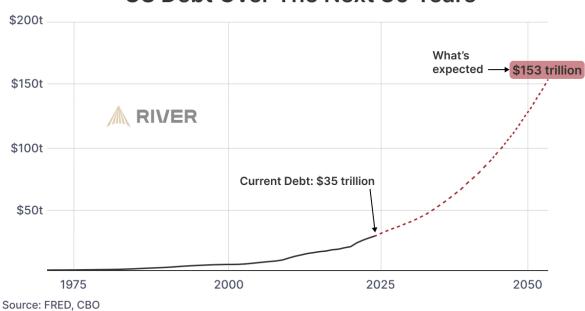
# Money Supply Growth vs US 10 Year Treasury Yield



Source: FRED

This trend shows no signs of slowing. The US Congressional Budget Office expects the federal debt to grow to \$153 trillion by 2054. How many dollars will be created to fund this debt expansion is impossible to say.





While the US dollar is currently the most widely held form of savings, we expect it to be replaced as a global reserve asset over the next generation. This will happen gradually as individuals, businesses, institutions, and foreign nations shift their savings into better stores of value.

#### 1.3 The Dollar Persists as the Global Reserve Currency

When it comes to transacting, currencies have tremendous staying power that can last for centuries. After all, money is the universal language of value, understood across all levels of society. In the United States, that universal language is spoken in dollars: We earn in dollars, spend in dollars, pay taxes in dollars, and measure our wealth in dollars. Many Americans even value their time in dollars.

At River, we believe the dollar will remain this common language—a primary medium of exchange and unit of account—long after it fades as a reserve asset. This is evident through countless examples of countries whose currencies debase with frightening speed, yet are still used regularly for transactions.

Take the case of Argentina. Since 1980, the country has faced an average inflation rate of more than 200% per year. Its people endured a hyperinflationary crisis in 1989, an entirely new national currency (the Argentine peso) was introduced, and they suffered immeasurable economic costs resulting from a poor currency.

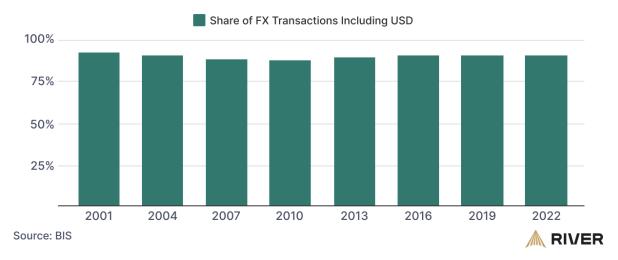
Argentinians know better than to save their wealth in pesos, which quickly erode in value. Instead, they turn to more reliable alternatives—real estate, tangible assets, stocks, and US government bonds to name a few. Despite all this, the Argentine peso remains the primary way to earn wages, transact, and denominate wealth in the country.

Argentina is a relatively small economy. Still, its currency persists across multiple generations by legal decree, even without being a reliable store of value.

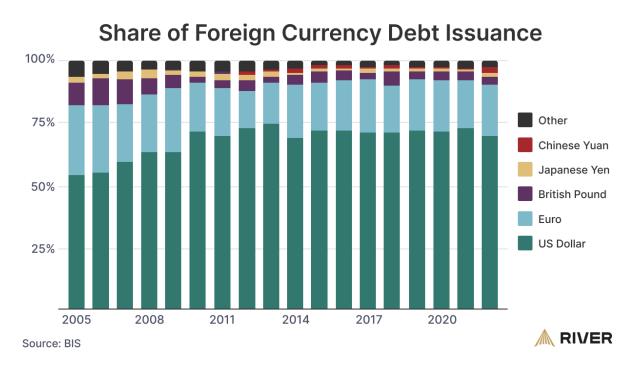
The United States is the world's largest economy with a currency used far beyond its borders. 1.4 billion people reside in places where the dollar's influence is present in everyday life. For many countries that face hyperinflation, the dollar emerges as a defacto form of money. The resilience of the dollar as a transactional currency is undeniable, even as its role as a reserve asset declines.

While dollar usage as a reserve asset has declined this century, its use as a currency has remained stable; in 2022, 88% of all foreign exchange transactions involved the buying or selling of dollars.

#### 88% of All FX Transactions Involve the Dollar



The US dollar has even gained influence as a way of denominating debt, accounting for 70% of all debt issued by firms in a currency other than that of their home country.



The dollar is declining as a global reserve asset but shows no signs of slowing as a global reserve currency. It is possible that after multiple generations the dollar will be a relic of the past altogether. Until then, it will remain a core component of our financial system.

In the coming decade, we believe the global economy will reorient itself around a Dual Money System—one with the US dollar as the defacto currency for international transactions and contracts, and bitcoin as the global reserve asset.

# Chapter 2: Bitcoin: The New Global Reserve Asset

#### 2.1 The Winner-Takes-All Nature of Reserve Assets

Society tends to converge on a single reserve asset for savings and wealth preservation. This fact is both intuitive and historically proven. Once established, a global reserve asset benefits from extreme network effects, gaining unparalleled trust, liquidity in the marketplace, and stability in value as more people and organizations use it.

Before the Industrial Revolution, gold was a well-suited global reserve asset in a multipolar world where adversaries could rely on a mutually trusted store of value.

By the mid-20th century, a series of societal changes made the dollar a better fit than gold as a global reserve asset:

- Technological advancements allowed global communication and commerce to occur instantaneously. By contrast, the settlement of gold is cumbersome and expensive.
- A series of policies across the US, UK, and other powers consolidated the gold supply into the hands of nation-states. By 1947, the United States government held 70% of the world's gold reserves, granting it power over the financial system.
- The United States was the unquestioned global superpower, enjoying control over both global trade and the structure of the global monetary system.

The Bretton Woods system established after World War II was a natural way for the US dollar to replace gold as the global reserve asset. President Richard Nixon's decision to end the dollar's convertibility to gold was the definitive moment the US dollar became the global reserve asset, as dollars already comprised the majority of central bank reserves.

Unlike transactional currencies, which take generations to be replaced even without the ability to preserve value, global reserve assets can be replaced within a single generation.

#### Contenders for the New Global Reserve Asset

As described in Chapter 1, the US dollar is no longer well-suited as a global reserve asset. However, there are no apparent replacements among traditional assets.

Another fiat currency is an unlikely candidate. For one, rapid debasement is a trend seen across all fiat currencies, making them poor stores of value. Further, the world is no longer a unipolar system: Unlike the U.S. after World War II, no single government today can dictate the structure of the global monetary system.

The creation of a new currency by a coalition of nations, such as the BRICS, also appears unlikely. The success of such an initiative would require a high degree of trust among member states to ensure that no participant undermines the system. Such a coalition would be better off converging on a mutually trusted hard asset, such as bitcoin or gold.

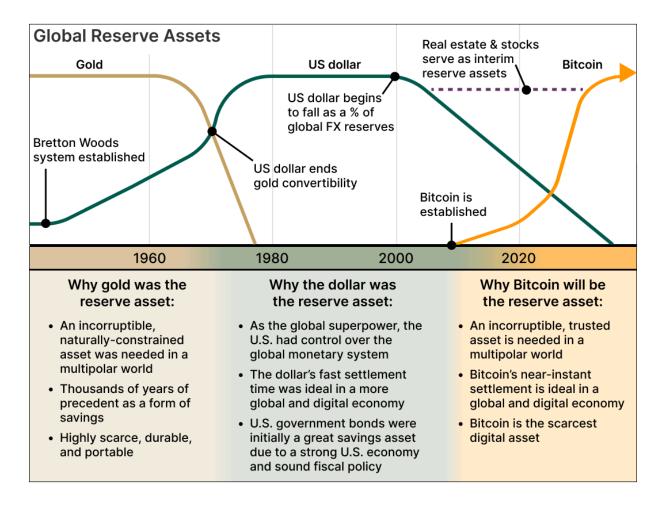
Gold remains an important—though not primary—reserve asset for central banks, which have again been stockpiling reserves since 2010. Some believe the world will return to gold as the primary global reserve asset, given its long history as a store of value and its current composition of around 16% of central bank reserves.

While gold possesses attractive qualities as a hedge against inflation and economic instability, it is unlikely to reemerge as a primary global reserve asset. Due to its physical nature, gold can no longer directly integrate with the digital infrastructure that makes up the global economy. Today, the settlement of financial assets occurs at a high frequency and speed across large distances, whereas the settlement of gold is costly, time-consuming, and incompatible with the instantaneous demands of modern financial markets. Ultimately, the next global reserve asset must be compatible with a multi-polar economy, where settlement occurs at high frequency and speed.

#### 2.2 The Rise of Bitcoin

We believe that the globe will converge on bitcoin as the next global reserve asset. Bitcoin demonstrates three qualities that make it best fit for this role:

- Scarcity: There will only ever be 21 million bitcoin. It is more scarce than gold and US dollars.
- **Trust:** Similar to gold, Bitcoin is well suited for a multipolar world. Because it cannot be controlled by a single actor, it can be widely trusted—even among adversaries. Bitcoin's monetary policy is predictable and transparent; anyone can inspect its source code and verify the historical record of transactions.
- Access: Unlike access to gold, which is constrained by physical limitations, the global settlement of bitcoin can occur within minutes. Unlike access to dollars, which can be constrained by political sanctions, access to bitcoin is permissionless, governed by an open-source protocol.



Despite these qualities, Bitcoin faces one hurdle not present in gold or US dollars—its novelty. Launched in 2009 with almost no market value or adoption, Bitcoin emerged at a time when the US dollar's dominance as a reserve asset was already fading.

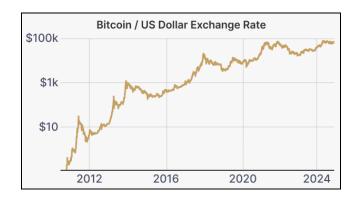
In recent decades, inflation-resistant assets—such as real estate, stocks, and gold—have (re)gained popularity as stores of value. Although these assets are currently useful savings options, we believe they will lose market share with the continued adoption of Bitcoin.

Given Bitcoin's novelty, it must demonstrate the following trends to successfully rise as a global reserve asset:

#### **Rapid Price Appreciation and Adoption**

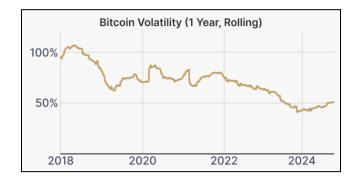
Bitcoin has generated an average annual return of 67% over the past decade, with similar user growth rates as the internet.

While the precise number of owners is unknown, we estimate there to be over 100 million bitcoin holders worldwide.



#### **High But Falling Volatility**

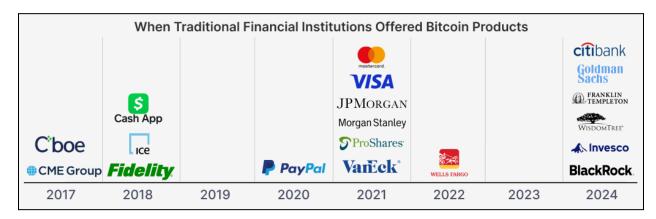
The emergence of a new global reserve asset inevitably comes with volatility. As global markets are deeply complex, replacing existing systems with a new currency cannot be done in a controlled, non-volatile fashion.



While bitcoin's volatility is still significantly higher than gold and US government bonds, it has fallen in half since 2018.

#### Integration With the Existing Financial System

Since 2020, major financial institutions have begun integrating Bitcoin with their product offerings. While certain advancements have yet to be made, the trend remains clear. Bitcoin has firmly established itself as a component of the mainstream financial system.



As these trends continue, we expect bitcoin to become recognized as the global reserve asset within the next generation. What remains unclear is bitcoin's future as a transactional currency.

#### 2.3 Will Bitcoin Become the Global Reserve Currency?

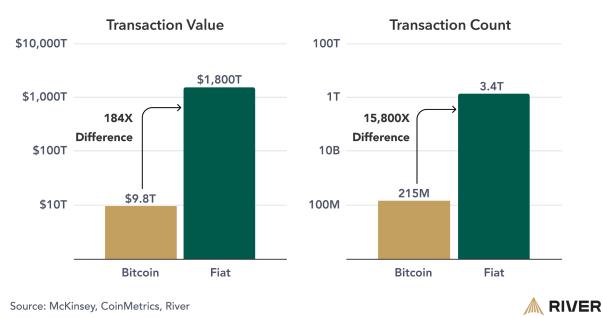
As described in Chapter 1, transactional currencies have far more staying power than reserve assets, taking multiple generations to gain or lose status.

While bitcoin is seeing rapid adoption as a reserve asset, its growth as a medium of exchange has been notably slower. For bitcoin to reach product-market fit as a transactional currency, there must be widespread deployment of compatible payments systems, negligible transaction costs, and significant merchant participation. Bitcoin has already achieved product-market fit as a savings technology, but widespread adoption as a payments technology may be years or decades away.

According to McKinsey, the global payments industry handled 3.4 trillion transactions in 2023, accounting for \$1.8 quadrillion in value, excluding high-value settlements between banks and major institutions.

In comparison, we estimate Bitcoin's 2023 transaction usage by combining on-chain transactions with River's estimations of Bitcoin's Lightning Network usage. As shown in the chart below, Bitcoin's transaction throughput is a fraction of a percent of global payments.

# 2023 Transaction Usage, Bitcoin vs Fiat Currencies

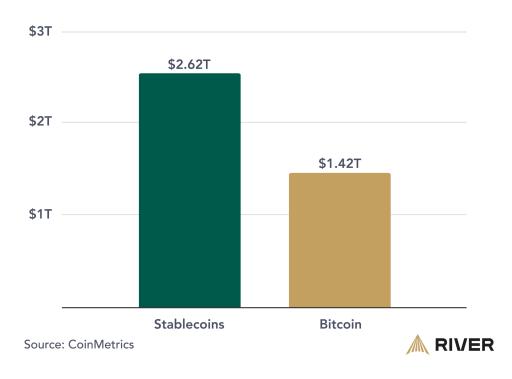


Even within the cryptocurrency industry, dollars are more commonly used for transactions than bitcoin. Stablecoins are dollar-pegged tokens that have seen rapid adoption, particularly in jurisdictions where access to dollars is restricted.

According to Castle Island Ventures, roughly half of stablecoin usage is for the purpose of trading cryptocurrencies. Still, many people use stablecoins to gain access to dollars outside of the US; saving in dollars and sending money internationally are the primary use cases for 47% and 32% of stablecoin users, respectively.

The high transactional use of stablecoins relative to bitcoin highlights the dollar's tremendous stickiness as a medium of exchange, regardless of what settlement layer these transactions occur on.

# Transfer Volume in H1, 2024



#### Where Bitcoin Reached Product Market Fit as a Currency

The adoption of bitcoin as a medium of exchange may appear limited on a larger scale. However, bitcoin already demonstrates strong transactional potential in specific scenarios:

- Compared with traditional methods, Bitcoin offers a simplified and cost-effective way to transfer value internationally. Bitcoin is the most battle-tested blockchain for large-value payments and can scale up to billions of dollars for a transaction while maintaining a low fee. For example, a \$1.3 billion transaction was sent in February 2024 on Bitcoin for just \$2 in fees, something no other payment network can compete with. For smaller transactions, such as remittances, the Lightning Network and other scaling solutions make bitcoin transfers more practical. A 2023 survey by the University of Central America found bitcoin accounts for 1% of all remittances to El Salvador, a high number considering bitcoin's recent inclusion as legal tender in the country.
- River's 2023 Lightning Network Report highlights Bitcoin's strong adoption growth in internet-native contexts such as gaming, social media tipping, and streaming. In these cases, the ability to facilitate numerous low-value transactions (under \$0.01) with minimal latency is particularly appealing. Consequently, low-value transactions account for roughly 25% of Lightning Network volume.
- In regions with restricted dollar access due to sanctions or capital controls, bitcoin fills the void as an alternative medium of exchange with no dependencies on traditional financial systems. In this context, bitcoin is gaining adoption among international non-profit organizations, for remittances in sanctioned countries like Venezuela, and for payments in countries with capital controls, such as Nigeria.

Bitcoin's future role as a medium of exchange must not be discounted. However, its adoption as a transactional currency is progressing over a different, more complex timeline. As such, predicting bitcoin's ultimate role as a widespread medium of exchange remains challenging.

# Transitioning to The Dual Money Era

Within the next generation, the globe will transition to a financial system built around both bitcoin and the dollar, each playing their respective roles. Every individual, business, and institution will trust bitcoin as a store of value. Likewise, every individual, business, and institution will continue to use dollars for payments, wealth denomination, and financial contracts.

Dual money eras have occurred before. Most of modern history existed within the scope of a financial system with gold as the global reserve asset and a separate currency used for payments.

Financial institutions in this Dual Money Era will closely resemble those existing today. They will continue to be entrusted with deposits, extend credit, and manage investments.

However, financial institutions must also adapt to Bitcoin. Our fractional reserve banking system is in part made possible by the Federal Reserve, which can intervene to stimulate financial markets during credit crises. A Bitcoin banking system, on the other hand, does not have a "lender of last resort" to provide bailouts. As a result, many financial institutions will likely treat bitcoin under a full-reserve model, where every bitcoin taken in deposits is held in reserves instead of lent out.

While the rise of Bitcoin is clear, the future is inherently unpredictable. The transition to the Dual Money Era will not happen overnight, but rather over years of market volatility, geopolitical events, and yet-to-be-seen policy decisions.

Institutions once trusted with bitcoin deposits have failed in the past—undoubtedly more will fail in the future. Therefore, just as individuals and organizations prioritize the safety and security of their dollar savings, they must apply the same diligence to safeguarding their bitcoin holdings.

#### **About River**

River is a financial institution built for the Dual Money Era. Since its founding, River has focused on empowering individuals and businesses to save in bitcoin securely and effortlessly.

As a Bitcoin-only institution, River takes pride in bringing these principles into the Dual Money Era. River operates on a full-reserve custody model, meaning every bitcoin deposited is fully backed by reserves. These reserves are transparently verified with a <u>Proof of Reserves</u>, allowing clients to ensure the safety of their deposits.

River is optimizing for the Dual Money Era with innovative products to help individuals navigate between bitcoin and dollars. US dollar deposits on River<sup>1</sup> earn interest paid in bitcoin, enabling clients to easily grow their bitcoin savings using their dollar balances.

While the transition to the Dual Money Era may be volatile, it will result in a more robust financial system and prosperous future. At River, we serve our clients with this long-term vision in mind, helping them build their savings and take ownership of their lives.

#### Credits

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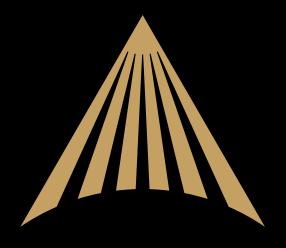
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