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The Disappearance of the Fiscal Exit: Cashlessness and the Expansion of Monetary Authority

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ABSTRACT

The transition to cashless financial systems is typically framed as a question of efficiency and crime reduction. This paper argues that the primary concern is not convenience but the dissolution of the 'fiscal exit,' the ability of citizens to hold assets outside institutional permission. Using Fisher's Quantity Theory of Money, Goodhart's Law, and the Zero Lower Bound constraint as theoretical anchors, and drawing on the Canadian Freedom Convoy precedent, China's e-CNY programme, and Sweden's partial reversal of cashlessness, the paper identifies a 'Resilience Paradox': the more a society optimises monetary velocity and oversight, the more it creates a single point of failure for individual financial autonomy. The analysis concludes that the fundamental tension in cashless transition is not technological but institutional, the erosion of structural limits on centralized monetary intervention.

INTRODUCTION

In February 2022, the Canadian government invoked the Emergencies Act for the first time since 1988[1] to freeze the finances of the 'Freedom Convoy' protestors without a prior judicial warrant, marking the first instance in a developed democracy in which access to money became explicitly conditional upon state approval. This precedent exposed the 'Resilience Paradox' inherent in the digital financial transition: the more a society optimizes transaction velocity and oversight, the more it creates a 'single point of failure' for reduced institutional autonomy and systemic stability. While the trajectory to cashlessness is often characterized as an offensive against the 'shadow economy,' this paper argues that the primary concern surrounding a fully digital infrastructure is not its lack of operational convenience, but rather its dissolution of the 'fiscal exit,' the ability of citizens to hold and use assets outside institutional permission, thereby allowing them to opt out of enforced monetary conditions. While the erosion of paper currency discourages tax evasion and organized crime, it also reconceptualizes money from a public utility to a programmable policy instrument that enables significantly expanded monetary and centralized intervention.

METHODOLOGY

This paper employs a theoretical framework analysis combined with a comparative case study synthesis. Sources were identified through searches of Google Scholar, the IMF eLibrary, BIS Publications, and Federal Reserve research databases, as well as keyword clusters including 'central bank digital currency fiscal autonomy', 'cashless society monetary policy', 'zero lower bound negative interest rates', and 'digital currency financial privacy'. The search prioritised primary institutional sources: central bank publications, IMF working papers, and peer-reviewed economics literature over secondary commentary. Around 30 sources were identified; 12 are cited based on relevance to the research topic.

Sources were selected on three criteria: institutional credibility, recency, and empirical specificity. Key inputs include Fisher's quantity theory of money, Goodhart's law, Rogoff's *Curse of Cash*, Agarwal and Kimball's IMF working paper on negative interest rates, IRS tax gap projections for 2021, Atlantic Council data on e-CNY transaction volumes, and the Swedish Riksbank's 2025 payments report. The three case studies, Canada, China, and Sweden, were selected not because they are representative or indicative of all cashless transitions or uniquely reliable, but because they each illustrate the institutional dynamics that emerge when monetary systems become increasingly centralized, programmable, and dependent on digital infrastructure.

THEORETICAL FRAMEWORK: VELOCITY, MEASUREMENT, AND CONTROL

$$M \times V = P \times Y$$

Where

- M is the quantity of money
- V is the velocity of circulation
- P is the price level
- Y is real GDP

Figure 1: The Quantity Theory of Money[2]

Integral to this transition from public utility to state-controlled mechanism is the mastery of economic measurement. According to Fisher's quantity theory of money[3], displayed in Figure 1, the quantity of money, M, multiplied by its velocity, V, which is the rate at which currency circulates, equals the price level, P, multiplied by the total volume of transactions or output, Y. In a physical cash economy, velocity is determined by a multitude of factors, including consumer behavior, economic activity, and monetary policy. However, a cashless system transforms V from a byproduct of market dynamism into a tool for

monetary intervention, possibly regulated by governments. By digitizing transactions, velocity may shift from a variable that is primarily observed to one that policymakers can influence through targeted interventions. Through real-time surveillance of consumer spending patterns, the government may influence individual choices or suppress aggregate demand by introducing incentives or imposing constraints. As velocity parameters are integrated into digital frameworks, the ability of individuals to insulate their wealth from state-induced velocity incentives is significantly constrained. Rather than functioning as a passive reflection of economic behavior, currency becomes an active lever used to shape aggregate economic activity. This shift weakens the fiscal exit by reducing individuals' ability to preserve their financial holdings and to opt out of imposed spending pressures.

However, as the velocity of circulation becomes quantifiable and predictable, the system becomes subject to Goodhart's Law[4]: "when a measure becomes a target, it ceases to be a good measure." For instance, if the state attempts to maximize the velocity to counteract deflationary pressures, the market becomes vulnerable to distortion and exploitation. When prices begin to reflect policy objectives rather than underlying scarcity or consumer preference, it leads to distorted feeds, preventing businesses from knowing what to produce without government data. This reposition moves market activity away from voluntary exchange, shaped by competitive forces, toward policy-influenced consumption patterns, weakening the foundations of uncontrolled and decentralized market activity. As prices become shaped by policy objectives and political agendas rather than supply and demand, the distinction between a free market and a directed economy begins to weaken. This alteration not only affects the technical aspects of transactions but also weakens the divide between private control over money and the state's ability to intervene in individual holdings. The erosion of the fiscal exit weakens an important institutional mechanism through which individuals can limit their exposure to centralized monetary policies.

THE SHADOW ECONOMY AND THE CASE FOR CASHLESSNESS

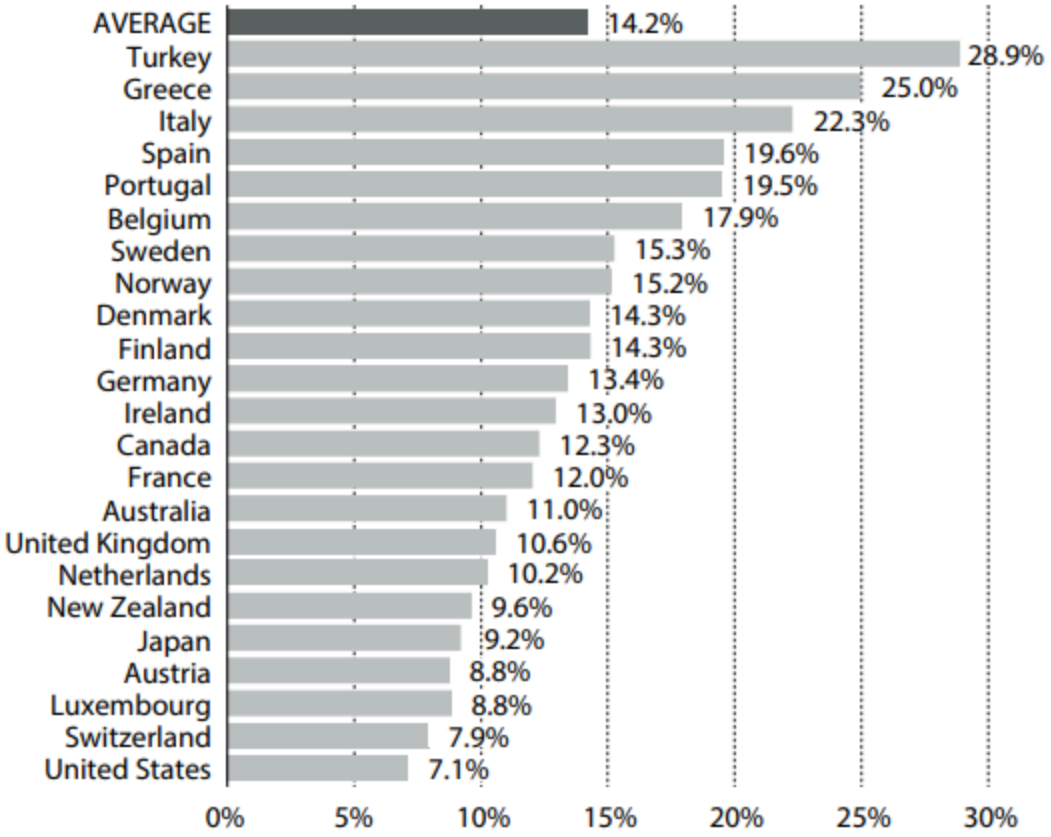

Figure 2: Underground economy as a percentage of official GDP[5]

One must acknowledge the benefits of cashlessness: ending tax evasion and reducing crime. For tax year 2021, the most recent year with available projections, the IRS found that the "tax gap"—the difference between taxes voluntarily paid and taxes due—was $688 billion.[6] This comprises tax evasion across many different sectors, including underreporting of individual income, corporate income, and employment taxes. Of the $688 billion, the IRS expected to recover $63 billion through late payments and enforcement, leaving a net tax gap of $625 billion. Put differently, roughly 15% of estimated federal tax liability, or approximately 2.8% of GDP, remains uncollected. The largest holdings of these violations come from the domestic underground economy, likely derived from residents of all types (e.g., citizens and green card holders) who are broadly engaged in legal activities but tend to avoid taxes, regulations, or employment restrictions. As Figure 2 shows, the sheer scale of the 'shadow economy,' in which cash serves as an instrument to make almost 30% of economic activity untraceable and untaxed, provides a quantitative justification for the state's push toward a digital-only infrastructure.[7] By benchmarking domestic-currency-to-GDP ratios against variables like tax rates and credit card penetration, it becomes evident that the demand for paper currency is often a proxy for the desire to maintain an autonomous 'fiscal exit.'

As Kenneth Rogoff explains in his *Curse of Cash,* high currency-to-GDP ratios, reaching 18% in cash-intensive nations like Japan,[8] serve as a forensic indicator of untapped fiscal potential and monetary leakage. By contrasting these figures with countries with lower ratios and similar financial systems, like Canada, Rogoff highlights that most physical cash is not used for transparent retail trade, but rather for underground holdings. This incentivizes governments to convert these anonymous transactions into traceable, institutionally visible financial flows. Consequently, the debate surrounding cashlessness is not merely about efficiency versus criminality, but about whether citizens retain any meaningful capacity to hold value beyond institutional permission.

However, while the state frames the 'shadow economy' as a criminal hub and lost revenue, this informal sector often functions as the backbone that provides resilience and survival for marginalized economies during periods of institutional failure or systemic crisis. Furthermore, by characterizing the fiscal exit solely as a tool for tax evasion, the state neglects that absolute financial transparency transforms money from an autonomous asset into a conditional privilege.

Beyond the reclamation of uncollected tax revenue, transitioning to a cashless society holds profound institutional efficiencies that contribute to the broader monetary ecosystem. A fully digitized network minimizes the systemic operational burden of minting, transporting, and securing physical cash, while simultaneously optimizing the transmission mechanism of monetary policy. In times of macroeconomic shocks, the abolishment of paper money allows central banks to bypass conventional liquidity challenges and directly inject liquidity into retail deposit accounts with unprecedented velocity and precision. Therefore, the state's efforts in transitioning to a digital-only infrastructure are driven by the imperatives of fiscal optimization, minimized transactional overhead, and the maximization of public sector revenue. Nevertheless, while acknowledging these institutional advantages, a comprehensive economic evaluation must recognize that absolute financial transparency also structurally transforms money from an autonomous asset to a conditional privilege.

THE ZERO LOWER BOUND AND EXPANDED MONETARY INTERVENTION

As the significance of eliminating anonymous cash transactions transcends taxation alone, the structural constraints limiting central bank intervention also begin to weaken. The implications of this growing tendency for control are not merely about fiscal scrutiny; they are a precondition for expanded monetary interference. While the state uses currency-to-GDP ratios to quantify and uncover hidden economic activity, the Zero Lower Bound acts as a rigid barrier that physical cash imposes on central banking, as explained by Ruchir Agarwal and Miles Kimball in *Enabling Deep Negative Interest Rates to Fight Recessions: A Guide*.[9] In a traditional economy, if a central bank attempts to implement negative interest rates, a rational response would be to withdraw and store cash with a nominal return of 0%. This obstacle imposes a floor on interest rates, effectively preventing the state from implementing negative returns on private holdings and enforcing its desired level of velocity (V). Even though eliminating large-denomination bills may appear to be an insufficient solution, "the recent experience with demonetizing India's two largest bills and the associated adverse effects it created suggests that making

significant changes to the way people transact remains challenging"[10]. The consequences of this demonetization, including massive liquidity shortages, which caused short-term economic strain on the informal sector and a slowdown in GDP growth, highlight the volatility and practical resistance to eliminating physical currency. Additionally, it would restrict a structural capacity for a fiscal exit, transforming the nature of financial privacy from an inherent right to a state-granted concession. By sealing this exit, the state ensures that all private wealth remains 'institutionally visible' and therefore subject to a lower threshold of administrative intervention, whether through negative interest rates, targeted freezes, or structurally incentivized consumption cycles.

A cashless society fundamentally alters this constraint by removing the possibility of withdrawal into physical currency. In this system, the zero lower bound ceases to function as a binding limit, enabling central banks to impose negative interest rates without triggering mass withdrawal. Proponents of this transition argue that such flexibility is beneficial during periods of deep recession or deflation. As negative interest rates become a tool available to central banks once conventional monetary policy becomes exhausted, these rates may stimulate consumption by discouraging savings and increasing the velocity of money. However, instead of being indirect market incentives, these interest rates become unavoidable conditions of participation in economic activity. Essentially, the issue is not that central banks would necessarily abuse their powers, but that the structural barriers preventing such intervention would cease to exist. Therefore, the fundamental conflict does not stem from inefficiency in technological advancement, but rather from the erosion of institutional boundaries.

CASE STUDIES: e-CNY AND SWEDEN'S REVERSAL

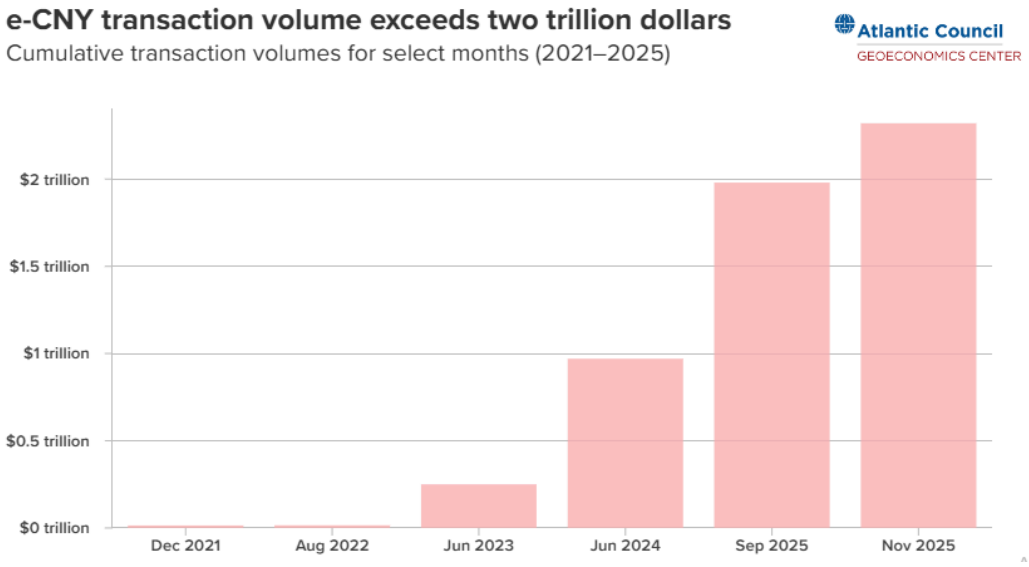

Figure 3: Cumulative transaction volumes for select months (2021-2025)[11]

China's digital yuan (the e-CNY) is a testament to how these institutional implications transcend theory. As shown in Figure 3, by late 2025, cumulative e-CNY transaction volume had exceeded two trillion dollars, reflecting both growing institutional integration and expanding public usage. The e-CNY is sovereign digital money: legal tender issued by the People's Bank of China (PBoC), distributed through commercial banks, and designed to operate both online and offline. During pilot programs in Shenzhen and Chengdu, authorities imposed expiration dates on portions of the distributed e-CNY, effectively accelerating the velocity of circulation by discouraging long-term retention. Furthermore, although the PBoC claims 'anonymity for small-value' transactions, 'traceability for high-value transactions' is permitted. Even though this precaution is implemented to satisfy anti-money laundering and combating the financing of terrorism, this causes privacy to become a regulated feature granted within predefined limits.

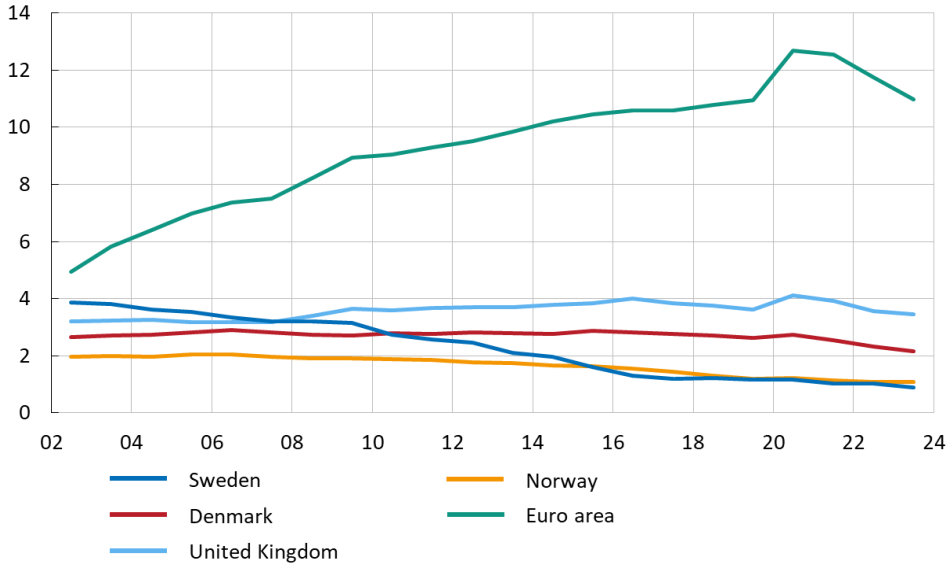

Figure 4: Cash in circulation as a percentage of GDP in selected European economies (2002 - 2024)[12]

While China's e-CNY represents a proactive architecture of control, Sweden's recent reassessment of its digital transition reveals the inherent fragility of the digital-only model. Despite being one of the world's most cashless societies, the Swedish Riksbank has issued a mandate for citizens to maintain physical cash reserves. Officials have stated that reliance on an online system creates vulnerabilities, namely cyberattacks, military conflicts, power outages, or technical disruptions. As depicted in Figure 4, Sweden has experienced a partial slowdown in its currency in circulation related to its GDP despite its previously linear movement towards full cashlessness and its aggressive drive towards a zero-cash baseline compared to its peers. Due to the inherent risks of a fully digital monetary infrastructure, Sweden consequently reintroduced a contingency mechanism and renewed institutional support to preserve the role of cash in the economy, ensuring payment continuity during systemic disruptions. This flattened trajectory towards cashlessness in Sweden underscores the dangers of the 'Resilience Paradox,' in which

total dependence on online payments may introduce new susceptibilities, temporarily impairing economic activity.

LIMITATIONS

Several limitations apply. First, publicly available institutional data were used in the analysis; the technical agenda behind systems like e-CNY is not publicly disclosed, which may understate or overstate the degree of programmability described. Second, the Freedom Convoy case is a single instance in a certain political context and may not apply across all democratic systems. Third, the paper does not quantitatively outline the socioeconomic gains from reduced tax evasion and financial crime, which constrains the cost-benefit comparison. Fourth, due to the dynamic nature of CBDC development, some figures cited may already be outdated.

CONCLUSION

The value of cash ultimately lies not in its efficiency, but in the institutional limits it imposes. By creating friction, limiting enforceability, preserving optionality, constraining centralized intervention, and preserving an analog contingency, as recently mandated by Sweden's cash pivot, cash serves as a decisive boundary between unconditional control over one's money and state interventionism. A society devoid of physical currency may achieve the granular visibility of e-CNY or the absolute policy flexibility of a dissolved Zero Lower Bound, yet it inherently transforms financial activity from an autonomous action to one contingent upon continuous inclusion within a centralized system. Ultimately, the unremitting optimization of velocity and measurement through concentrating financial activity on digital infrastructures introduces systemic dependencies that reshape the relationship between monetary authority and individual autonomy. Therefore, the question is not whether cashless systems optimize economic coordination, but whether efficiency alone justifies the disappearance of the fiscal exit that historically constrained monetary authority.

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4. Charles Goodhart, "Problems of Monetary Management: The U.K. Experience," in Inflation, Depression, and Economic Policy in the West, ed. Anthony S. Courakis (Totowa, NJ: Barnes & Noble, 1981), 116. The maxim was later generalised by Marilyn Strathern: "When a measure becomes a target, it ceases to be a good measure." See also: David Manheim and Scott Garrabrant, "Categorizing Variants of Goodhart's Law," arXiv:1803.04585 (2018), for a taxonomy of how the law manifests across different measurement regimes.

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6. Internal Revenue Service, "Federal Tax Compliance Research: Tax Gap Projections for Tax Year 2021," Publication 5869 (Washington, DC: IRS, 2024). The $625 billion net gap represents voluntarily unremitted taxes after accounting for enforcement recoveries and late payments. The IRS notes this figure is likely a conservative lower bound due to non-filing and concealment.

7. Friedrich Schneider, Andreas Buehn, and Claudio E. Montenegro, "Shadow Economies All over the World: New Estimates for 162 Countries from 1999 to 2007," World Bank Policy Research Working Paper No. 5356 (Washington, DC: World Bank, 2010). The 30% figure reflects higher-end OECD-adjacent estimates; Schneider's more conservative later work (2022) places the United States shadow economy at approximately 8% of GDP, illustrating that methodology significantly affects the estimate.

8. Kenneth S. Rogoff, The Curse of Cash: How Large-Denomination Bills Aid Crime and Tax Evasion and Constrain Monetary Policy (Princeton: Princeton University Press, 2016). For a critical engagement with Rogoff's methodology, see: Aleksander Berentsen and Fabian Schar, "The Case for Central Bank Electronic Money and the Non-Case for Central Bank Cryptocurrencies," Federal Reserve Bank of St. Louis Review 100, no. 2 (2018): 97–106, who argue the causal link between cash and criminality is weaker than Rogoff suggests.

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