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Dual Drivers of Consumer Stimulation and Tax Compliance: A Mechanism Analysis Based on a Random Invoice Reward Policy

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Abstract. During the 2026 Spring Festival, China launched a pilot policy in 50 cities allowing consumers to scan QR codes on receipts for random cash rewards, supported by 1 billion yuan in central funds. This study examines how this micro-level tool simultaneously stimulates consumption and enhances tax administration, thereby driving economic growth. The research identifies a unique dual-channel mechanism. On the consumption side, the policy leverages the mental accounting effect, in which consumers categorize lottery winnings as Windfall Gains, thereby significantly increasing their marginal propensity to consume (MPC). Furthermore, these immediate cash inflows effectively alleviate liquidity constraints for low-asset groups, enabling small incentives to be converted into immediate spending. On the taxation side, the lottery incentives establish a Reverse Supervision mechanism that transforms consumers into real-time auditors. Combined with conditional cooperation, requesting invoices becomes a personal choice and then a widespread social norm, thereby improving tax compliance and expanding the tax base. In conclusion, the policy triggers a virtuous cycle in which increased household consumption (C) and expanded government spending (G) collaborate to drive endogenous growth in national income (Y). These findings provide practical insights for developing economies facing the dual constraints of tax leakage and insufficient domestic demand.

Keywords: Mental Accounting, Liquidity Constraints, Reverse Supervision, Tax Compliance, Dual-channel Mechanism

1. Introduction

During the 2026 Spring Festival, China implemented a policy allowing consumers to scan QR codes on receipts for a chance to win prizes in 50 pilot cities. The central government allocated 1 billion yuan in special prize funds. After making purchases in sectors such as retail and dining, consumers could scan the QR code on their receipts to receive random cash rewards. The policy spanned multiple peak consumption seasons and quickly sparked widespread public enthusiasm in the short term.

This innovative policy was not introduced by chance but represents a targeted measure addressing the pain points of the current economic recovery: on the one hand, the recovery of

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domestic consumption remains constrained by residents' liquidity, and a cautious attitude toward savings suppresses the potential for immediate consumption; on the other hand, cash-intensive industries such as catering and retail harbor opportunities for tax evasion, and the underground economy leads to a shrinking tax base, which not only weakens fiscal support capabilities but also hinders the formation of a virtuous cycle between consumption and fiscal revenue. Against this backdrop, the invoice scanning lottery policy serves the dual objectives of boosting consumption and enhancing tax administration, becoming a crucial tool for stimulating end-consumer spending and improving tax compliance.

Accordingly, this paper poses the following core research questions: Why does promoting economic growth require the use of the invoice lottery as a micro-level policy tool, and how does this mechanism simultaneously achieve the dual effects of boosting consumption and increasing tax revenue? Distinguishing itself from traditional stimulus measures such as direct cash handouts and tax cuts, this paper argues that, in a real-world context where households face liquidity constraints and tax evasion is prevalent, the invoice QR code lottery incentive establishes a unique "dual-channel" driving mechanism. By transforming micro-level individual behavior, the policy simultaneously stimulates household consumption (C) and government tax revenue (T), ultimately achieving endogenous growth in national income (Y).

2. Consumer behavior

2.1. High MPC and mental accounting

Small cash inflows often significantly increase a household's short-term consumption level, indicating a high marginal propensity to consume (MPC). This effect has not only held up consistently across numerous empirical studies on stimulus payments but also aligns closely with the mental accounting framework in behavioral economics.

Parker et al. conducted an empirical study examining the consumption response to the 2008 U.S. economic stimulus payments. They found that within three months of receiving the stimulus payments, households spent 12%–30% of the subsidy on nondurable goods. When durable goods consumption (particularly automobiles) is included, the total consumption response reached 50%–90% [1].

In other words, the short-term MPC for nondurable goods is approximately 0.12–0.30, and when durable goods are included, the MPC rises to 0.50–0.90. These results indicate that households exhibit a significant consumption response to additional cash income in the short term, demonstrating a high MPC, and that small, non-recurring incentives have a strong consumption-stimulating effect.

The reason for this may lie in behavioral economics.

In traditional economics, money is fungible, meaning that 100 yuan in wages and 100 yuan in lottery winnings are functionally identical. However, Thale pointed out that people psychologically break this equivalence [2]. People categorize funds into different mental accounts based on their source and intended use, and they handle money in these different accounts in entirely different ways.

If funds are categorized by source, the difficulty and nature of acquiring them determine how they are spent. For example, wages—derived from long-term labor—are labeled as hard-earned and secure, and are typically used for serious expenses like rent and savings; whereas windfall gains—derived from luck or unexpected events—are labeled as extra and free, carrying virtually no psychological burden. To consumers, cash received by scanning a QR code is not seen as an increase

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in income, but rather as a reduction in consumption costs or a pure bonus. Since this money is not essential for maintaining a livelihood, consumers are more inclined to spend it immediately (such as buying a drink on the way out after paying the bill).

Based on purpose, these funds can be further divided into Living Expense accounts and Pocket Money accounts. Living Expense accounts are typically subject to strict self-control, while Pocket Money accounts are granted "hedonic licensing". By creating small, non-recurring gains, these cash-reward campaigns place the funds into consumers' hedonic mental accounts. This categorization effectively circumvents the savings prudence mindset associated with regular income, thereby triggering immediate impulse spending.

Based on this logic, regarding China's recently implemented policy of scanning QR codes on receipts to claim cash, the cash received is invariably categorized by consumers as Windfall Gains or Pocket Money, rather than Wage or Living Expenses. Therefore, compared to direct tax cuts, which increase the Wage account, scanning QR codes to claim cash is more effective at inducing unplanned, additional spending.

2.2. Break the liquidity constraints

Parker et al. found that while many households quickly spend a significant portion of their transfer payments, households with fewer assets exhibit the strongest consumption response. In contrast, wealthy households spend almost none of this money [1].

This raises the issue of liquidity. In the life-cycle hypothesis, economists assume that people are highly rational super-accountants [3]. That is, if people know they will receive a bonus next year, they can borrow money to consume today, thereby smoothing their consumption over their lifetime.

However, liquidity constraints in the real world disrupt the ideal equilibrium posited by the life-cycle hypothesis. This refers to the situation in which, when individuals face restricted access to financing or excessively high credit costs, their current spending is constrained by existing cash flows—even if their expected intertemporal total income is high. Under such constraints, individuals' consumption behavior no longer depends on their long-term wealth accumulation. Instead, it is highly sensitive to current disposable cash, meaning consumption decisions are restricted to a narrow range determined by immediate income levels.

Deaton observes that persons with low income or youth experiencing liquidity constraints—specifically, those with minimal financial reserves—exhibit heightened sensitivity in consumption to variations in current income. In other words, the "households with fewer assets" referred to in the study by Parker are actually those with low mobility.

This means that the scan-to-claim-cash policy has a precise impact on China's vast population of price-sensitive or low-net-worth consumers. Although the cash received via QR code scanning is small, it is immediately available. This windfall of small income has a relieving effect on groups with tight cash flow (such as food delivery riders, college students, and blue-collar workers). It can be quickly converted into current expenditures on dining, daily necessities, and other items.

Consequently, for this demographic, such micro-level cash inflows are directly channeled into current consumption rather than being saved. This demonstrates that, at the micro level, small incentives can indeed stimulate aggregate demand by breaking minor financial constraints.

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3. Taxation

3.1. Social cost of non-compliance

The receipt lottery system increases the expected utility of requesting receipts for consumers. This practice compels businesses—particularly those in cash-intensive industries such as food service and retail—to accurately record transactions, preventing them from evading taxes by claiming they lack receipts and boosting government tax revenue.

Wan conducted a difference-in-differences (DID) analysis using interprovincial panel data from China for the period 1998–2003 [4]. The results showed that in regions where the invoice lottery policy was implemented, business tax revenue increased significantly by approximately 17%. This data suggests that scanning QR codes to claim cash is not merely about distributing small amounts of money; by expanding the tax base—that is, transforming the underground economy into the official economy—it has significantly increased government revenue.

On the surface, it might seem that people issued invoices to claim the cash hidden in the QR codes. Since businesses were required to pay taxes on those invoiced amounts—which they could previously have underreported—this should not have led to such a significant increase in tax revenue. In reality, however, this system effectively addressed information asymmetry. As scanning QR codes for cash rewards became the norm, consumers became real-time "auditors" scattered across every corner of the city, greatly enhancing tax compliance.

Fabbri conducted a detailed comparison of invoice lottery programs across different countries [5]. He found that after Portugal implemented the "Fatura da Sorte" policy in 2014, the number of invoices issued in the sectors most significantly affected by the policy—such as small and micro-retail businesses like restaurants, repair shops, and hair salons—increased by approximately 45%. In the first year of Slovakia's "Bločková lotéria" (Receipt Lottery) program, over 60 million invoices were submitted, greatly expanding the tax authorities' coverage of transaction data. This appears to demonstrate that a successful lottery system can significantly improve tax administration efficiency. Fundamentally, this is because the lottery alters the equilibrium in the game between consumers and merchants—that is, it breaks the Social Cost of Non-compliance.

In the absence of a lottery, not requesting an invoice might be a form of tacit understanding: merchants save on taxes, and customers save on hassle. However, Fabbri points out that the lottery system breaks this silence [5]. Consumers now have a legitimate reason to request an invoice, while the psychological pressure on merchants to refuse one has increased significantly. The scan-to-claim-cash initiative reduces the social cost of requesting an invoice. It transforms tax compliance from a confrontational audit into a daily, interactive activity, thereby making it exponentially more difficult for businesses to evade taxes without increasing enforcement intensity.

3.2. Conditional cooperation

Frey and Torgler introduced the notion of Conditional Cooperation, positing that societal members do not operate in isolation; instead, their propensity to comply is largely influenced by their observations of others' conduct. Specifically, when individuals perceive that their peers are meeting tax obligations or conforming to social norms, their own willingness to cooperate markedly increases [6].

In traditional tax administration environments, requesting an invoice is often viewed as an individual act involving high search costs and social pressure. Due to a lack of broad social consensus, consumers have little incentive to participate in tax oversight. The introduction of the

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invoice lottery policy, however, essentially transforms this implicit tax compliance into an explicit mass behavior through institutional design.

When consumers frequently witness others scanning QR codes to receive cash incentives in cash-intensive settings such as restaurants and retail stores, this behavior sends a powerful signal, elevating the decision to ask for an invoice from a marginal personal choice to a widely recognized social norm. Driven by this combination of reciprocity and social pressure, the psychological barrier to individual participation in tax oversight is significantly reduced, giving rise to a visual signal field akin to a nationwide audit.

This shift in the game's equilibrium, triggered by changes in consumer behavior, has directly reshaped the cost of non-compliance for businesses. When requesting an invoice becomes a universal demand at the point of sale, businesses face a widespread and real-time social oversight network, severely limiting their ability to exploit information asymmetry for tax evasion. This paradigm shift from adversarial auditing to everyday interactive engagement not only reduces transaction costs for both tax authorities and taxpayers but also effectively broadens the tax base by increasing businesses' incentives to file accurately. Ultimately, the policy triggers a virtuous, endogenous cycle of "rising demand for invoices—increased tax compliance—higher fiscal revenue" through a conditional cooperation mechanism.

4. Economic growth

4.1. Synchronous growth of household consumption and government spending

Based on the preceding analysis, this study identifies a dual-channel mechanism through which the scan-to-claim-cash policy influences macroeconomic variables. First, by generating direct cash inflows and leveraging the incentive effects of mental accounting, the policy significantly increases households' MPC, thereby driving growth in aggregate consumption (C).

Second, at the micro level, QR code scanning behavior establishes an effective informal audit mechanism, compelling enterprises to improve tax compliance, thereby directly contributing to robust growth in government revenue. This process reflects a mechanism of Reverse Supervision, where consumers, driven by lottery incentives, spontaneously act as external auditors of merchant transactions, thereby effectively filling the regulatory gaps inherent in traditional top-down tax enforcement.

Within the theoretical framework of government behavior, Barro noted that government spending is subject to the joint constraints of tax levels and debt burdens; changes in the scale of taxation directly determine the government's capacity for fiscal expansion [7]. Blanchard and Fischer further defined the financing structure of government spending (G) through an intertemporal budget constraint equation: $G + rB = T + \Delta B + \Delta M$. Here, G represents government spending, T represents tax revenue, and B represents government debt. This implies that government spending must be financed through three channels: taxation, borrowing, and money issuance. Consequently, when the scan-to-claim-cash policy aligns the tax base with its proper level and drives tax growth through collaborative oversight by consumers, the fiscal space for government spending (G) expands accordingly.

In summary, the scan-to-claim-cash policy not only stimulates household consumption at the micro level but also strengthens fiscal safeguards at the macro level, achieving endogenous synchronous growth in national consumption (C) and government spending (G).

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4.2. National income(Y) and the national economy growth

Blanchard and Fischer emphasize that in nearly all modern market economies, consumer spending (C) accounts for the largest share of GDP (Y), typically exceeding 60%, indicating that changes in consumption have a significant impact on economic growth [8]. Regarding the nature of government spending, Barro overcomes the limitation of traditional models, which treat it as a purely "consumptive" expenditure, by arguing that public services—such as legal protection and infrastructure—are in fact endogenous input variables in the production function [9]. This implies that tax-driven government spending is not only a component of aggregate demand but also a necessary prerequisite for boosting productivity and promoting long-term growth.

Based on the national income identity established by Keynes, $Y = C + I + G + (X - M)$, the logical core of this study focuses on the simultaneous expansion of $Y = C + G$ [10]. When the scan-to-claim-cash mechanism simultaneously stimulates micro-level consumption and expands the government's fiscal space, national income (Y)—as the sum of C and G—will inevitably experience aggregate growth under the logic of this identity.

The nature of this aggregate expansion can be further explained by the Solow model [11]. The Solow model regards sustained increases in aggregate output (Y) as the core criterion for economic growth, emphasizing that only increases in per capita output ($y = Y/L$) constitute true growth. This study argues that the "scan-to-claim-cash" policy is not limited to a single breakthrough in capital-intensive industries; its micro-income incentives are highly inclusive, capable of reaching hundreds of millions of ordinary consumers. This bottom-up model ensures that income gains and increased spending are widely distributed across the population base. While stimulating overall GDP growth, it substantially raises per capita output and social welfare by optimizing distribution mechanisms.

5. Conclusion

This paper systematically explains the dual-channel mechanism through which the invoice-scanning lottery policy drives economic growth. On the consumption front, the policy leverages the mental accounting effect to classify the incentive as Windfall Gains, thereby significantly increasing the marginal propensity to consume. Concurrently, by delivering an instant cash influx, it mitigates liquidity limitations and significantly enhances short-term aggregate demand among low-asset demographics. From a tax perspective, the lottery incentive reshapes the taxpayer game, improving tax compliance through Reverse Supervision; furthermore, by leveraging a conditional cooperation mechanism, it transforms the act of requesting invoices into a social norm, thereby establishing a tax environment characterized by public oversight. Based on this, this paper argues that the policy triggers macroeconomic feedback through micro-level behavioral incentives, simultaneously expanding consumption (C) and tax revenue (T). Ultimately, through the synergistic growth of national consumption and government spending, it achieves an endogenous economic cycle.

From a research perspective, this paper offers an analytical framework that starts with micro-level behavioral incentives. Unlike traditional policies, the invoice lottery alters individual decision-making through institutional design, establishing an intrinsic link between consumption stimulation and tax administration. However, this paper is primarily based on theoretical reasoning and lacks empirical validation using microdata on the 2026 policy. Future research could incorporate micro-level transaction data or regional pilot program variations and employ methods such as the difference-in-differences (DID) approach to conduct empirical tests, thereby enhancing the external validity of the findings.

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