



## Shrinking the Shadow Economy How Financial Inclusion can shrink the Shadow Economy

**Usama Abdul Rauf**

Assistant Chief (Policy)  
PIDE

**Rafia Ali**

Young Researcher Development Intern  
RASTA, PIDE

### Executive Summary

Pakistan's large shadow economy remains key challenge to tax collection, quality of governance, and slow economic growth. Formalizing financial inclusion offers a strategic and evidence based trail by increasing trustful dependence on official, transparent and traceable system to shrink the size of shadow economy. This knowledge brief highlights the development of financial inclusion from 2008 to 2025. It also defines the underlying causes of the shadow economy and financial inclusion and the empirical insights by financial services contribute to the transfer of economic activities into the formal economy. Pakistan's still suffers from gaps across gender based exclusion, regional and income disparities despite a significant progress in branchless banking and digital payment platforms. Thus, cash remains a main medium of exchange leading to tax avoidance and informal economic activity. This brief suggest that reduction in shadow economy needs inclusive access and continuous usage of financial services for Pakistan's citizens. Therefore, with organized reforms, financial inclusion is a powerful tool to reduce informality and it will support long-term sustainable development.

### 1. Introduction

Pakistan, the world's fifth most populous country and second populous in South Asia, still operating with a large shadow economy, basically the economy outside the official system. In 2024, a joint study conducted by the ILO and the SMEDA had estimated the shadow economy in Pakistan to be approximately 35-40% of the GDP, estimated at about US\$457 billion. About 6% of the GDP is unreported annually. This weakens the inclusive growth and lowers government revenue. A significant number of traders do not register their business or workers and large number of workers remain unbanked. The high cash transactions enhances inequality and creates financial

challenges for the country. Therefore, connecting individuals and businesses into documented economy through digital transactions, registered bank accounts and other complementary services can be efficient way handle these challenges. In that regard, better access to and use of financial services is important in reducing the shadow economy and contributing to sustainable economic growth in Pakistan.

### Most Common Drivers of the Shadow Economy



Financial Exclusion



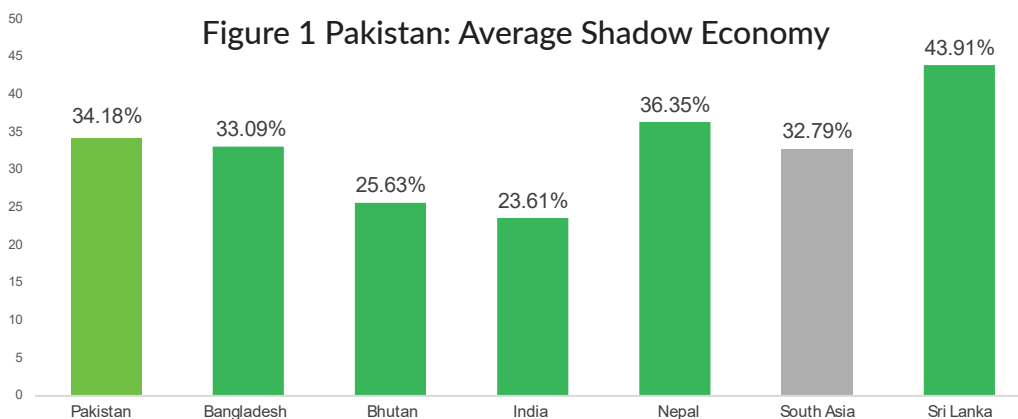
Increased Taxation



Intensity of Regulations

The shadow economy, broadly defined as the legally permissible economic activities intentionally hidden to evade taxation, social security contributions or regulatory oversights continues to represent a significant share of total economic output. This relates to the same version of the shadow economy (Schneider & Enste, 2000). Every recent empirical estimates highlighted strong presence of shadow economy and this is not just about numbers but structural issues and problems that restrict access to finance, increase economic and social exclusion, and highlight governance failure. As informality persists, it undermines fiscal transparency, reduces government revenue, and distorts market dynamics. Most common drivers of shadow economy has many businesses and workers operate beyond the formal tax and regulatory system.

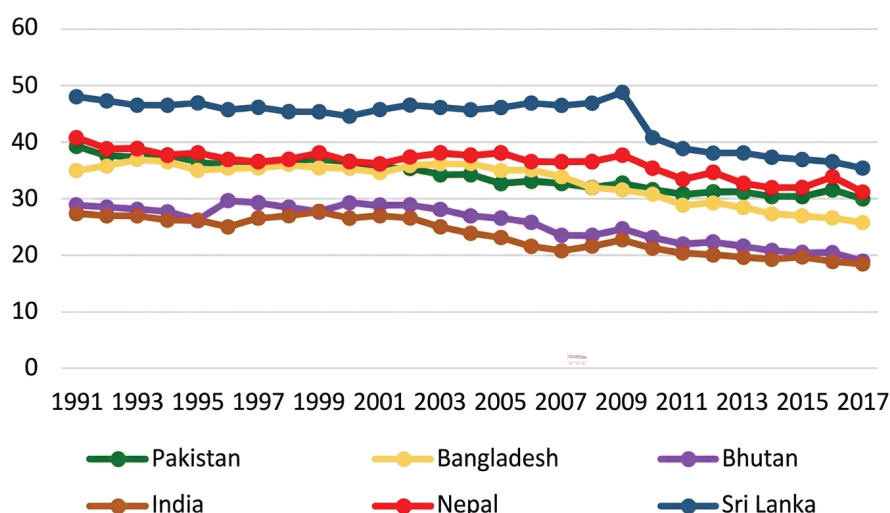
The stated graph shows average shadow economy in South Asian countries from 1990 to 2017 (Medina & Schneider, 2019), placing Pakistan's slightly above the South Asia. Pakistan's level is nearly similar to Bangladesh, which is higher than India, and lower than Nepal and Sri Lanka. These comparisons makes it clear that informality still remains a major regional challenge with Pakistan's shadow economy is still higher than above regional benchmark. The findings reinforce the need for policies that strengthen financial inclusion and easing the shift of individuals and firms into the formal economy.



Source: Own calculations on the basis of (Medina & Schneider, 2019)

Complementary to this, figure 2 presents the size of the shadow economy as a share of GDP in South Asian countries from 1991 to 2017 using data from (Medina & Schneider, 2019), who estimate informality through the MIMIC method. Pakistan consistently maintains a large shadow economy around 30–37% of GDP with only a gradual decline over mid-2020s. Sri Lanka consistently records the highest informality for most of the period, while Nepal's shadow economy was initially more than Pakistan, then converges to Pakistan's level. India, Bangladesh, and Bhutan have comparatively smaller shadow economies. Overall, the graph indicates that Pakistan's continues to exhibit large and enduring shadow economy persistently high relative to other countries in the region.

Figure 2 Pakistan: A large Shadow Economy (as a share of GDP)



Source: (Medina & Schneider, 2019)

Table 1 Systematic Review: Estimated Shadow Economy Size – Historical Estimates

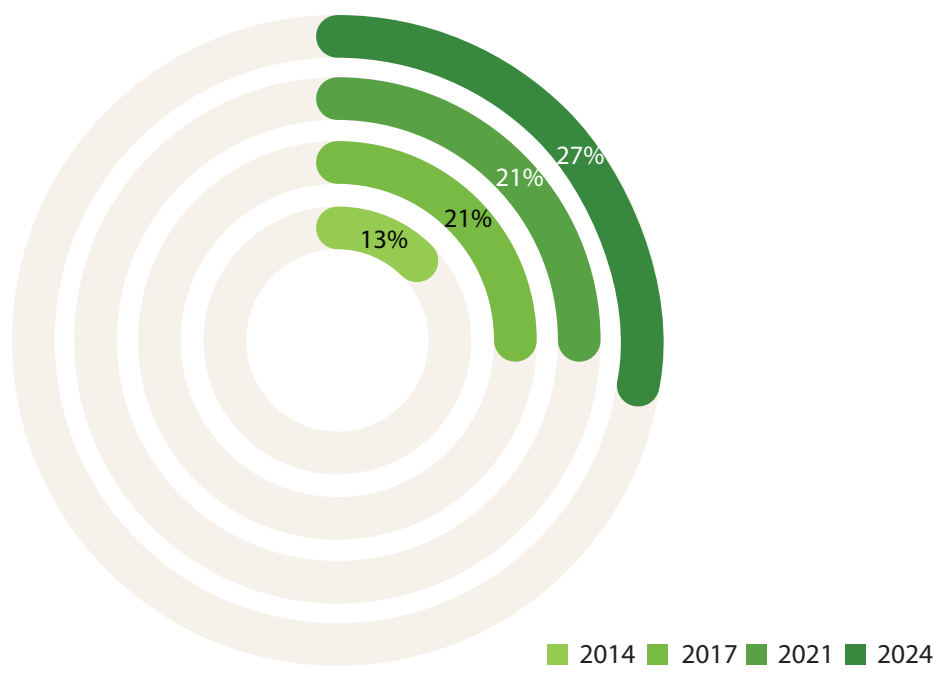
Studies	Study Period	Theoretical Framework	Methodology / Method	Main Results / Conclusion
(M. Ahmed & Ahmed, 1995)	1960–1990	Modified Tanzi's Monetary Approach including bearer bonds	OLS	Avg Shadow Economy: 41.79%. Overall Increase in Tax Evasion and SE, but decline in SE as percentage of GDP.
(Shabsigh, 1995)	1975–1991	Modified Tanzi's Monetary Approach used to estimate SE as % of domestic, exports, and imports sectors	OLS	Avg Shadow Economy: 22.70% Overall rise in SE as percentage of GDP. It showed Short- and Long-run relationship between SE and Govt Budget Deficit.
(Aslam, 1998)	1960–1968	Modified Tanzi's Monetary Approach including dummy for Resident Foreign Currency Accounts	OLS	Avg Shadow Economy: 39.33%. changes in policies and political scenarios shows high level of Shadow Economy vulnerable to fluctuations.
(Kemal, 2003)	1974–2002	Modified Tanzi's Approach	OLS	Avg Shadow Economy: 31.82%.
(Kemal, 2007)	1974–2005	Modified Tanzi's Approach	OLS and VAR	Avg Shadow Economy from 3 equations: 25.77, 49.54, and 36.37 %. Cointegration results found significant positive long run relationship between Official and Unofficial Economies. Similarly, VAR results exerts positive Short-run influence of SE on GDP but no significant effect of formal economy on SE.
(Q. M. Ahmed & Hussain, 2008)	1960–2003	Modified Tanzi's Approach	OLS	Avg Shadow Economy: 25.22, and 30.51%. Tax reforms in 1997 showed reduced unofficial money demand.
Arby, Malik and Hanif (2010)	1966–2008	Modified Tanzi's Approach	ARDL	Avg Shadow Economy: 29.68%. First, it rises with largest increase in 1990s and then gradually declines.
	1973–2008	MIMIC Approach	Structural Equation Models	Avg Shadow Economy: 29.43 %. First, it increased sharply then stable between 20-30% during 1980s-2000s.
	1975–2008	Electricity Consumption	-	Avg Shadow Economy: 21.60%.
(Gulzar et al., 2010)	1982–2010	Tanzi's Approach	OLS	Avg Shadow Economy: 34.11%. It concluded with SE lies between 32-38% of GDP.
	1973–2010	Modified Tanzi's Approach	DOLS	Avg Shadow Economy: 23.84%. It concluded with SE lies between 20-22 % of GDP
	1973–2010	MIMIC	Structural Equation Models	Avg Shadow Economy: 29.93 %. It concluded with SE nearby 28 % of GDP
(Kiani et al., 2015)	1975–2010	Modified Tanzi's Approach	ARDL	The estimated average shadow economy is 26.72%.
(Mughal et al., 2018)	1973–2015	Currency-demand ("monetary") approach extended with unemployment & government control	ARDL model; Engle-Granger two-step; extended model with tax, unemployment, govt control	Across three models, the estimated Shadow economy averages are 26.41%, 25.29%, 26.11% of GDP.
(Manzoor et al., 2018)	1998–2015	Modified currency-demand approach	ARDL bounds test (dynamic monetary model)	Shadow economy weakened from 49.38% of GDP in 1998 to 27.16% in 2015.
Jabbar, A., Iqbal, J. (2021)	2011–2021	MIMIC (Multiple Indicators Multiple Causes) model	MIMIC latent-variable estimation	Average Shadow economy is around 26.64%,
(Habib et al., 2024)	1980–2022	Currency demand (monetary) approach	Regression analysis of currency demand (CD)	Shadow economy rises 11.17% (1980) to 44.14% (2022); long-term average 28.33%. Tax rose from 1.23% to 7.43%, averaging 4.49%. Simplified taxes, broader tax base, and improved financial inclusion are required.

Financial inclusion refers to a system in which individuals, businesses can obtain access and use affordable, appropriate, and well-regulated financial services including payments, loans, savings, credit, investments, and insurance that meet their everyday needs. It is typically measured through indicators like account ownership, access to credit, branch/ATM availability, digital payment usage, supplemented by composite indices such as the World Bank Global Findex. Financial inclusion is achieved when individuals actively use regulated accounts including banks, mobile money provider and deposit taking microfinance institutions. Those who depends on informal saving methods, someone else’s account or limited service providers are categorized as financial exclusion.

Adult account ownership in Pakistan has been increasing, which indicates that people have increased access to formal financial services. This is significant because low financial inclusion has historically fueled since people and small businesses are dependent on cash based transactions within the informal economy. Formalization, better transparency, and a reduction in tax evasion through the increased number of accounts can be promoted, which in the end will lead to a smaller shadow economy and financial sustainability. The figure 3 illustrates the progress of financial inclusion over the past decade and signifies its implications for the shadow economy as low account ownership indicates financial exclusion that drives cash-based transactions and fuels the shadow economy. Between 2014 and 2024, account ownership among adult (age 15+) in Pakistan increased from 13% to 27% reflecting gradual progress in financial inclusion (Karandaaz, 2024).

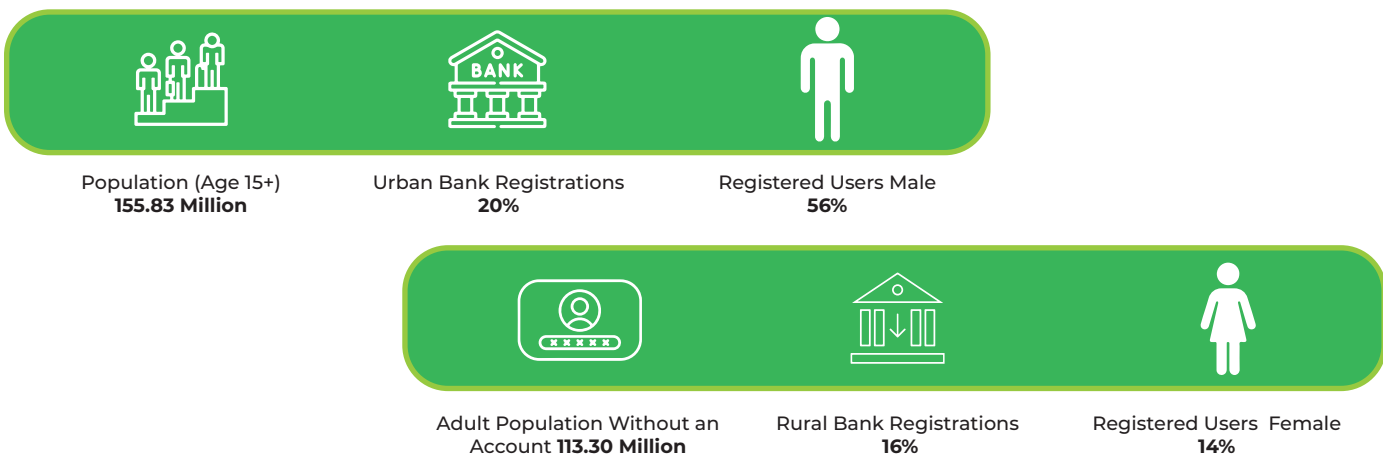


Figure 3 Account Ownership, % of adults (age 15+), 2024



Source: World Bank – Economy level data- Pakistan

Current data shows a substantial gap in financial inclusion within the adult population. The total number of individuals aged 15 and above is around 155.83 million and 113.30 million of these adults do not hold a formal financial account, leaving more than two-thirds outside the formal financial framework (WB, 2024b). Similarly, significant gaps remain as in 2024; the bank registration data shows clear differences by location and gender. Urban bank registrations stood at 20%, slightly higher than the 16% bank registrations recorded in rural areas, reflecting a modest urban-rural gap. However, gender disparities on the other hand reveals a much sharper contrast: 56% males were registered against only 14% females (Karandaaz, 2024). Although geographic differences are relatively small, the data clearly suggests that women’s participation or access in 2024 remains far below than men. Thus strengthening formal financial services is therefore essential to reduce informality and improve governance. Promoting financial inclusion by improving access to accounts, digital tools, and affordable services can be an important policy tool for shrinking the size of shadow economy (Rojas Cama et al., 2024).



The figure 4 shows financial inclusion data for 2024 by gender and income, focusing on account ownership and digital payments. By gender, account ownership is 12% for women and 42% for men, creating a 30-point gap, while digital payments are used by 13% of women and 40% of men, reflecting a 27-point gap (WB, 2024a). By income, account ownership stands at 14% for the poorest 40% compared to 36% for the wealthiest 60%, a 22-point gap, and digital payments are used by 9% of the poorest group versus 33% of the wealthiest, showing a 24-point gap (WB, 2024a). These differences highlight that both females and marginalized groups have finite access to formal economic system that makes them to move towards informal exchange. Thus, it is essential to reduce these gender and income gaps by increasing access to account ownerships and digital transaction that can further benefit the economic activity to shift from informal to formal sector and shrink the informal economy.

Figure 4 Financial Inclusion Gaps by Gender and Income

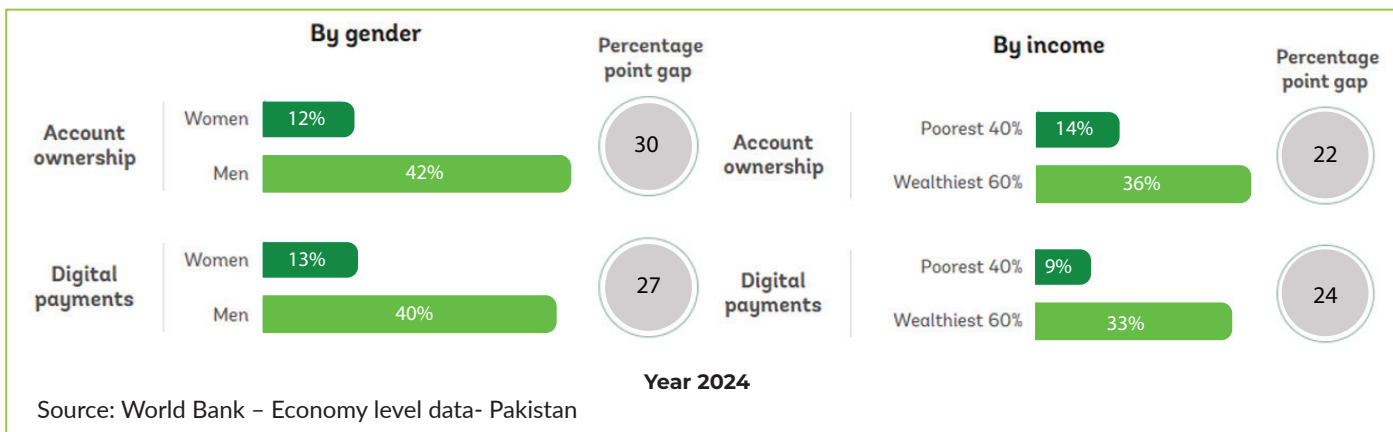
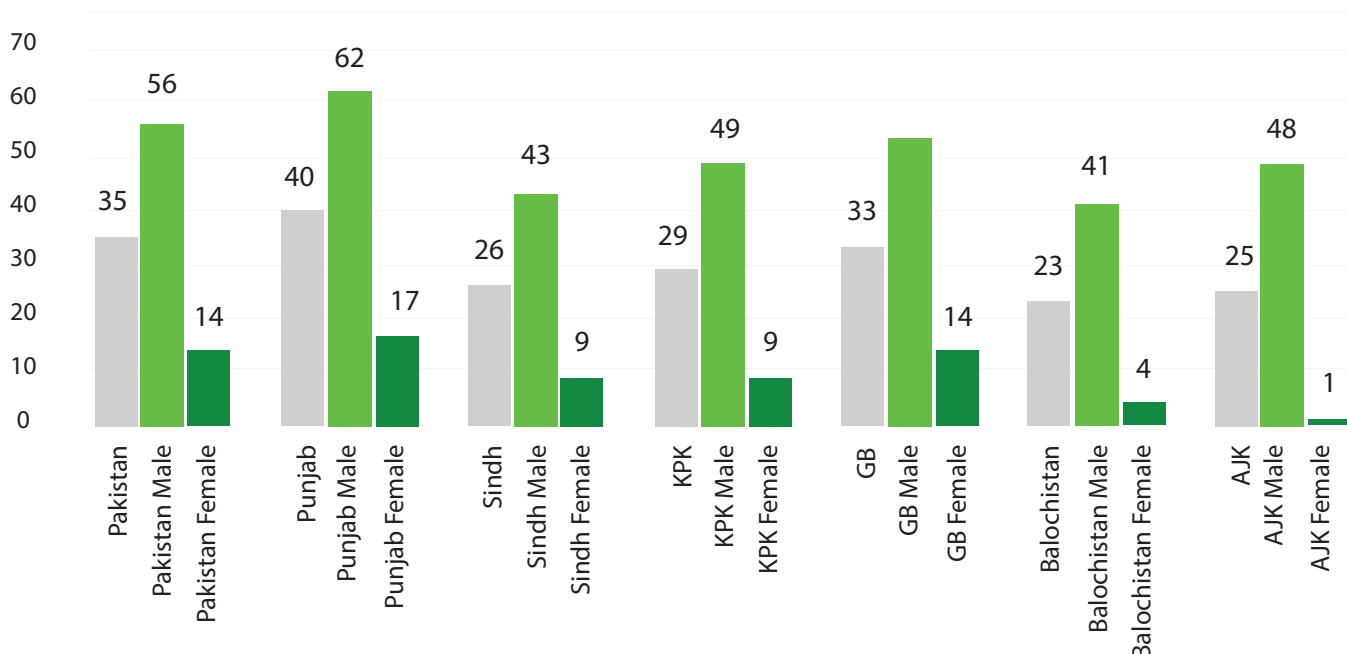


Figure 5 reveals registered users held in all geographic region with men always being more financially included than women. In general, Punjab has the peak level of financial inclusion at 40%, then Gilgit Baltistan at 33%. In terms of men have a much greater level of financial inclusion than the women in the whole region. Overall, male financial inclusion was 56% and female financial inclusion was 14%. Financial Women inclusion was the lowest in AJK at 1% and highest at 17% in the case of Punjab.

Figure 5: Registered Users by Province/Region (2024) (Percentage of adults)



Source: (Karandaaz, 2024)

## 2. Historical Evaluation of Financial Inclusion and Shadow Economy (2008-2024)

Over the past 15 years, Pakistan's financial sector has gone under a significant shift driven by formal financial access and digital payments. By mid-2023, country recorded 177 million total bank account representing 83 million unique accounts equivalent to 60% of adult population and 49 million account held by women (43% of adult females) (The-News-International, 2024). This significant improvement reflect the effect of National Financial Inclusion Survey (NFIS) that was launched back in 2015. As per (SBP, 2015) report, it gave priority to branchless banking, expansion of microfinance and combined financial services with National Database and Registration Authority. As a result, it leads to increase in account ownership from 16% in 2015 to 64% in 2023 (SBP, 2024). Moreover, retail digital payments were 78% in FY2023, 83% in FY2024 which significantly increased to 88% in FY2025 (SBP, 2025).

Even with these gains, Pakistan's economy still struggles to operate with a large undocumented economy, which represent 35-40% of GDP roughly US\$457 billion. Informal sector accounted for an average 25-26% of GDP during the period of 1973 to 2015 showed in historical evidence by (Gull et al., 2020). During the last 10 years, tax-to-GDP ratio lasts 8.7% (average). Tax-to-GDP ratio remains to 10.3% during the FY 2024-25 (FBR, 2025). However, It is below the benchmark of 15% set by IMF (IMF, 2024). Other enforcement-led enterprises like the Benami Transactions, Amendment Act, successive tax amnesties and improved documentation of real estate have revealed limited success in financial inclusion struggles (WB, 2020). To reduce informality sustainably and formal tax base expansion needs fiscal reforms that are associated with inclusive financial policies as shown by Pakistan's record from 2008 to 2024.

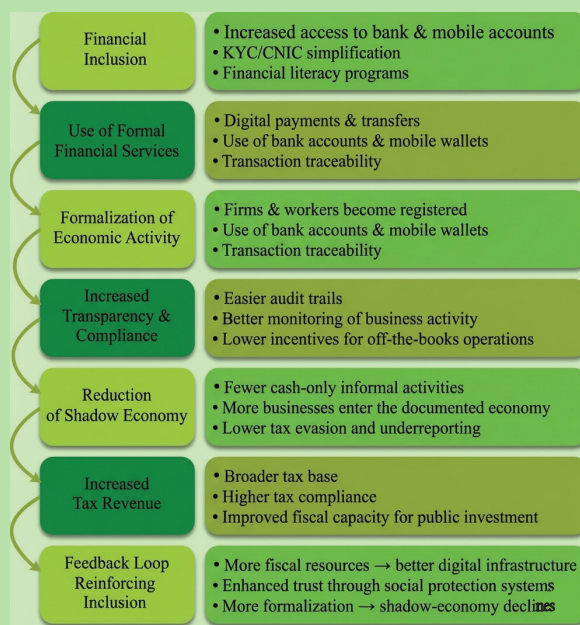
### 3. Financial Exclusion as driver of Shadow Economy

A set of interlinked structural factors remains to sustain Pakistan’s informal economy and the exclusion of key groups in accessing financial services. Pakistan is a cash-based economy regardless of digital payment signify nearly 88% of retail transactions which increases from 85% in FY24 and 73% in FY2023 (SBP, 2025). However, their share of total transaction value is small (digital payment accounted 29% of the total transaction value) as high value exchange still continue to occur in cash or through over the counter network. This highlights the issues of low trust, fragmented system and high cost transactions resulting to discourage formalization (SBP, 2025). Additionally, socio and demographic disparities are noteworthy. As (Karandaaz, 2024) survey indicates the overall mobile ownership increases from 54% to 64% (2014-2024) among females rose from 29% to 46% (2014-2024), although male ownership also rose from 77% to 82% (2014-2024). Likewise, women face barriers to formal accounts about half as that of men because of documentation hurdles, incomplete financial knowledge and mobility issues as noted by (WB, 2024c). Geographic gaps remain, particularly in rural regions and provinces such as Baluchistan and Azad Jammu & Kashmir consistently below national averages (WB, 2022). Behavioral and informational challenge remains deeply rooted: 85% of adults rely on informal credit from family and friends due to extremely low trust on formal institutions with only 9% of adult trusting banks and 8% in mobile money OTC users (Karandaaz, 2024). However, academic studies confirm these patterns indicating gender-based and socio-economic gaps in the use of formal financial services and account ownership (Saeed et al., 2024). Collectively, these economic, demographic and behavioral barriers creates a self-sustaining cycle where high informality discourage formal service adoption while limited financial participations maintains informality and undermines the fiscal and monetary effectiveness.

### 4. Conceptual pathway

The flowchart illustrated in figure 6 indicates the conversion from informal to formal economic activity. It shows that when individual and firm gain access to financial service, they start using mobile and bank accounts, official credit channels and digital transaction. This leads to increase the documentation of income and business activity that further inspires business registration and official labor participation. This shift enhances the accountability and regulation resulting in the decline in hidden incomes. As a result, increased tax revenue improves fiscal capacity, further leading to investment in financial infrastructure and trust on institution. This creates systematic cycle that help the economies to transition from informal to formal.

Figure 6: Casual path from Informal to Formal: The Financial Inclusion Impact



## 5. Policy Overview of Present Administration and Institutional Framework:

To promote financial inclusion and demote shadow economy, Pakistan's policy landscape incorporates regulatory reforms, digitization and multilateral agreements. (SBP, 2023) aims to expand banking services, promotion of digital financial infrastructure and better integration across service providers under the nation financial inclusion strategy (NFIS). In the meantime, the securities and exchange commission of Pakistan (SCEP) has enhanced documentation of SME and regulation of fintech to support compliance and move towards formal economy (SECP, 2023). Similarly, public-private platforms like JazzCash and Easypaisa and branchless banking have extended financial access predominately in marginalized regions. Enhanced transparency and traceability has been noted by connecting Ehsaas programs and BISP into digital payment system. Multinational organization including IMF, DFID and World Bank help in establishing digital inclusion to increase in account ownership and utilization of digital tools. The increased availability of formal banking and digital payments, which are mostly based on cash, enhances transparency and reinforces tax compliance has a direct effect on the shadow economy. Present administration assist in the integration of households and businesses into the formal economy and inclusive economic growth by encouraging meaningful use of the financial services, rather than account ownership. All together, these measures highlights a unified policy direction in formalization of economy, broadening the tax base and reducing the shadow economy.

## 6. Conclusion:

The shadow economy in Pakistan remains large, structurally related to weak financial inclusion. The overall evidence provided in this knowledge brief demonstrates that the shadow economy is not just a problem of taxation or enforcement, but also a development challenge due to exclusion from formal financial systems, poor documentation, cash-based transactions, gender and geographic disparities in access and low levels of trust in institutions. The trend in estimating the shadow economy over the long term shows that despite the focus on policies, informal economic activity still provides a significant share of economic life. Meanwhile, recent progress in account ownership, digital payment and broader digital finance services suggest that financial inclusion can be used as a feasible route to formalization. Nevertheless, the data also helps to understand that access alone is not sufficient. The long-lasting rural-urban, gender and income disparities indicate that inclusion is still not even and complete. In areas where individuals do not have accounts that can be used and where digital payments and trust in formal systems are missing, informal practices are still prevalent. Thus, the reduction of the shadow economy involves moving beyond the close-regulatory responses towards inclusive financial deepening. Improved documentation and transparency, traceability of transactions, and economic participation can be achieved by affordable, accessible and trusted financial services, particularly to women, low-income groups, and underserved areas. In this regard, financial inclusion needs to be considered as a central pillar in the formalization approach of Pakistan.

## References

- FBR. (2025). Revenue Division Year Book 2024-25. Ministry of Finance Government of Pakistan, Islamabad.
- Gull, S., Kausar, R., & Saleem, A. (2020). Exploring and Estimating the Size of Shadow Economy by Using Monetary Approach: Case Study of Pakistan. *Journal of Contemporary Macroeconomic Issues*, 1(2), 2708–4973.
- IMF. (2024). Pakistan: 2024 article iv consultation and request for an extended arrangement under the extended fund facility—press release; staff report; and statement by the executive director for Pakistan. International Monetary Fund Washington, D.C.
- Karandaaz. (2024). Financial Inclusion Survey 2024. Islamabad: Karandaaz Pakistan.
- Medina, L., & Schneider, F. (2019). Shedding Light on the Shadow Economy: A Global Database and the Interaction with the Official One. CESifo Working Paper Series. [https://ideas.repec.org/p/ces/ceswps/\\_7981.html](https://ideas.repec.org/p/ces/ceswps/_7981.html)
- Rojas Cama, F., Emara, N., & Trabelsi, M. (2024). Financial inclusion and the informal sector. *Research in International Business and Finance*, 70. <https://doi.org/10.1016/j.ribaf.2024.102379>
- Saeed, J., Maqsood, N., Shahid, T. A., Amir, H., Rehman, A. U., Bilal, K., Saeed, J., Maqsood, N., Shahid, T. A., Amir, H., Rehman, A. U., & Bilal, K. (2024). Impacts of Social Capital, Financial Literacy and Financial Inclusion on Economic Growth of a Primary Data Analysis: Evidence from Pakistan Special Focus on Listed Banks. *Bulletin of Business and Economics (BBE)*, 13(2), 637–646. <https://doi.org/10.61506/01.00373>
- SBP. (2015). National Financial Inclusion Strategy (NFIS): 2015–2025. Karachi: SBP.
- SBP. (2023). National Financial Inclusion Strategy (NFIS) 2023. State Bank of Pakistan.
- SBP. (2024). National Financial Inclusion Strategy 2024-28. Islamabad: State Bank of Pakistan.
- SBP. (2025). Annual Payment Systems Review FY25. Islamabad: State Bank of Pakistan.
- Schneider, F., & Enste, D. H. (2000). Shadow Economies: Size, Causes, and Consequences. *Journal of Economic Literature*, 38(1), 77–114. <https://doi.org/10.1257/JEL.38.1.77>
- SECP. (2023). Fintech Framework for the Non-Banking Sector in Pakistan. Securities and Exchange Commission of Pakistan.
- The-News-International. (2024). Financial inclusion key to economic growth and social welfare, says SBP governor. The News International.
- WB. (2020). Pakistan Development Update: Managing Risks for Sustained Growth. Washington, DC: World Bank.
- WB. (2022). Digital economy enhancement project. World Bank Group.
- WB. (2024a). Digital finance country profile: Pakistan. The World Bank Group. <https://digitalfinance.worldbank.org/country/pakistan>
- WB. (2024b). Global snapshot of indicators and enabling regulations. The World Bank. <https://digitalfinance.worldbank.org/country/pakistan>
- WB. (2024c). Women’s Economic Empowerment in Pakistan. World Bank Group.