



# Governor's Lecture

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## **Impact of Financial Friction on Innovation and Entrepreneurship in Developing Economies**

By Dr. Phil Mnisi

Governor, Central Bank of Eswatini

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### **1. Introduction**

It is an honour for me to be invited by the University of Eswatini (UNESWA) to deliver a public lecture on the **"Impact of Financial Friction on Innovation and Entrepreneurship in Developing Economies"**. There is no doubt that finance is important for economic development; however, financial frictions are prevalent in developing economies (Erosa, Fuster and Martinez, 2023). Recent cross-country literature indicates empirical micro evidence of financial frictions from developing countries, with both small and big firms showing evidence of being financially constrained (Kaboski, 2023). Given the subdued economic growth in a lot of developing economies, it is important to address today's topic to contribute towards the reduction of financial friction to promote innovation and entrepreneurship.

First, I will briefly allude on financial friction, innovation and entrepreneurship before proceeding to major highlights on global and regional developments as they relate to the subject matter. I will then move on to explain how financial frictions affect innovation and entrepreneurship, and then close the lecture with recommendations towards alleviating financial frictions.

**Financial friction refers to the impediments or obstacles that hinder the smooth flow of capital within an economy** (Hasan *et al.*, 2023). According to Claessens, Ueda and Yafeh (2010) financial frictions have been identified as key factors affecting economic fluctuations and growth. Financial frictions affect how

resources are allocated, the health of the financial systems and the rate of economic expansions (Hasan *et al.*, 2023), hence the need to address these frictions.

Innovation on the other hand has become the emblem of modern society and its importance is undoubted. However, its proliferation and acceptance vary from one jurisdiction to the next depending on several factors. Amirmahmood, Pezeshkan and Rosa (2022) assert that innovative entrepreneurship is one of the key drivers of economic development particularly for less developed economies where economic growth is at the forefront of policymakers' agenda. However, research on how various factors affect innovative entrepreneurship in developing economies remains relatively scanty (Amirmahmood, Pezeshkan and Rosa, 2022).

There are several definitions for innovation, and they vary across different fields in academia, industry, government and service provision (Taylor, 2017). Singh and Aggarwal (2022) define innovation as "the operationalization of creative potential with a commercial and/or social motive by implementing new adaptive solutions that create value, harness new technology or invention, contribute to competitive advantage and economic growth.

For the purposes of this lecture, I will use a simpler definition by Taylor (2017) who states that "**innovation can be considered as being a product or process that is new or is existing but has been improved**". Taylor (2017) notes that there are different models regarding the process of innovation, and from these it can be identified that creativity forms an integral part of the process.

Innovation is an engine for economic growth (Abderrezzak *et al.*, 2016; Abdu and Jibir, 2017, and African Union Commission, 2014). According to Abdu and Jibir (2017) one of the important determinants of enterprise-level productivity gains and country-level economic growth is innovation commitment. Innovation helps increase enterprise competitiveness, value creation and raises productivity (Nam

*et al.*, 2017). A country's ability to achieve sustainable economic growth, in part, depends on its ability to enact effective policies to support knowledge generation technological transformation, and innovativeness of its enterprises.

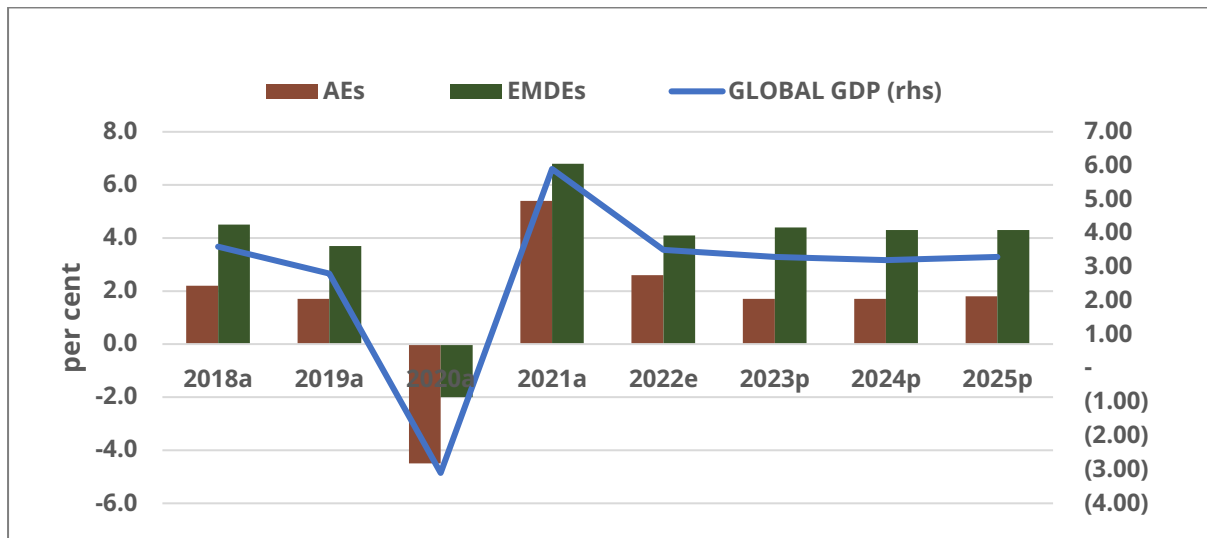
On the other hand, **“entrepreneurship refers to the process of creating, launching, and managing a new business, typically a startup company offering a product, process, or service”**.

Given the importance of innovation and entrepreneurship as key drivers to economic development, it is important to identify the factors which hinder the two and develop solutions (Srikanth, Kumar and Reddy, 2020, Sangeeta *et al.*, 2022 and Hasan *et al.*, 2023). One of the factors which impact negatively on innovation and entrepreneurship in developing economies, is financial friction (Hall, 2013), hence our focus today.

## **2. Major Highlights**

I will now highlight some of the global and regional developments that have taken place over the years in relation to economic growth, innovation, and financial development.

On a trend basis, economic growth in emerging market and developing economies (EMDEs) exceed that of advanced economies (AEs). Growth in EMDEs is mainly accounted for by India and China which usually account for almost half of global GDP combined (IMF, 2024). Even though EMDEs are growing faster than AEs, disparities are more persistent in EMDEs which reflects the need for more policy intervention in these economies.

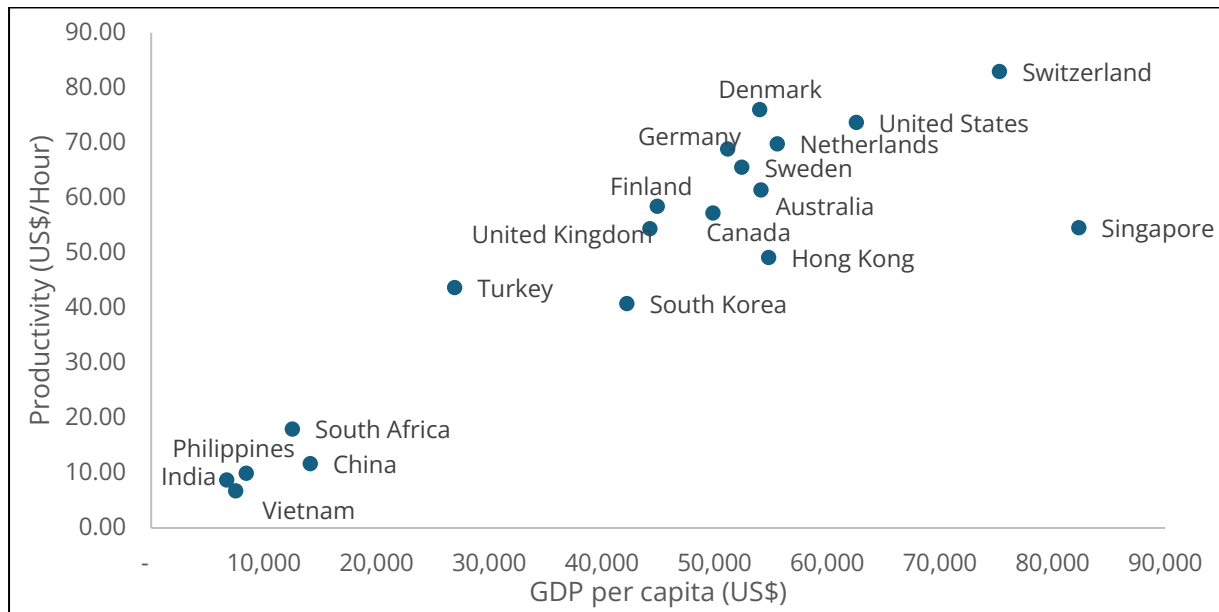
**Figure 1. Annual Global Growth Rates**

Source: IMF, World Economic Outlook Update, July 2024

**Ladies and gentlemen,** the diffusion of innovation across firms is a core driver of aggregate productivity growth. Results by Santacreu (2015) indicated that technology adoption accounts for about 65 per cent of growth in developing countries. On the other hand, domestic innovation in developed economies accounted for 75 per cent of growth.

Based on data availability, despite the higher growth in EMDEs, an international comparison of productivity across the world shows that AEs in 2019 were more productive compared to EMDEs. This shows the positive impact of adopting innovative approaches to production. This is the case for Switzerland, Singapore, United States, etc, which are classified as AEs. On the contrary, countries such as South Africa, India, etc, which fall under EMDEs, recorded low levels of productivity in 2019.

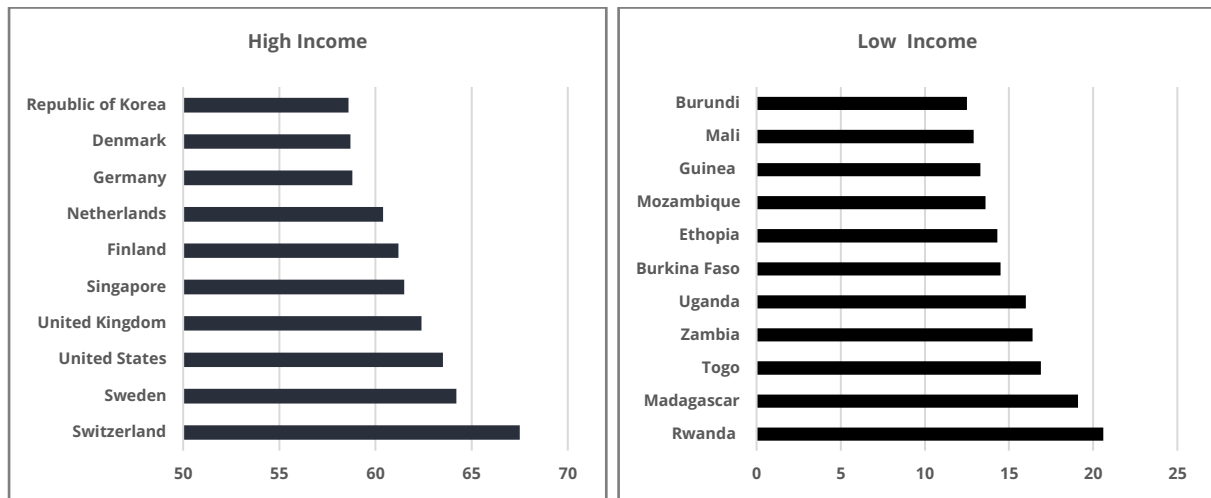
**Figure 2. Productivity vs. GDP per capita, 2019**



Data source: Penn World Table (2021)

The global innovation index (GII) which shows the innovative ranking amongst 132 countries shows that high income economies are leading in terms of innovation. The 2023 GII indicates that Switzerland is the most innovative followed by Sweden, the United States, the United Kingdom and Singapore.

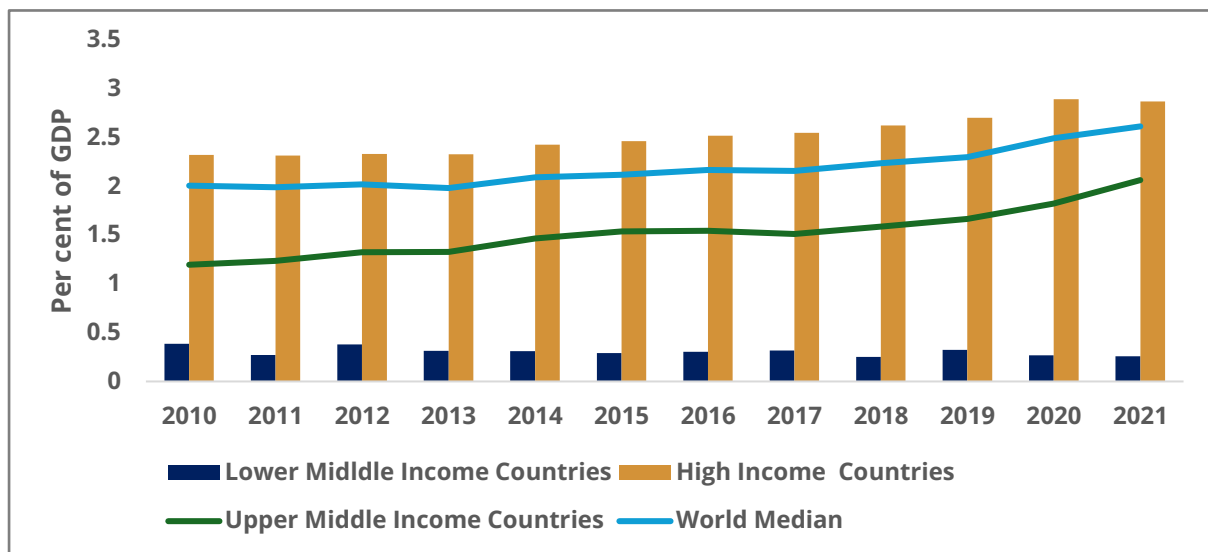
The index for innovation in developing economies remains far below the level at which high income countries or developed economies are indexed. This indicates that innovation in developing economies is lagging. It is also significant to mention that the top 10 low-income countries in the GII 2023 ranking are all African countries. Worth noting is that the highest-ranking economy for low-income countries (Rwanda, 20.6) is not even half of the 58.6 recorded by Republic of South Korea which was ranked number 10 globally in 2023.

**Figure 3. Top 10 Global Innovation Index 2023 Rankings**

Source: Global Innovation Index (GII) Database, World Intellectual Property Organization (WIPO), 2023.

Momani *et al.*, (2021) assert that several studies found that expenditure on research and development (R&D) is the basis for exploring technological fields of sustainable innovation. Therefore, enriching and expanding R&D budgets in any country is an integral part of generating new ideas and is the most powerful and sustainable mechanism of innovation (Markham, 2010).

In recent years, there have been tremendous strides made by several countries towards investing in the R&D agenda. While the expenditure on R&D is on an upward trend globally, developing economies are found to be lagging. Based on data availability, from 2010 - 2021, a sample of 37 lower to middle income countries indicates that these countries invested on average about 0.31 per cent of GDP in public and private R&D compared to a relatively higher investment of 2.5 per cent of GDP for developed economies.

**Figure 4. Research and Development Expenditure by Income Classification**

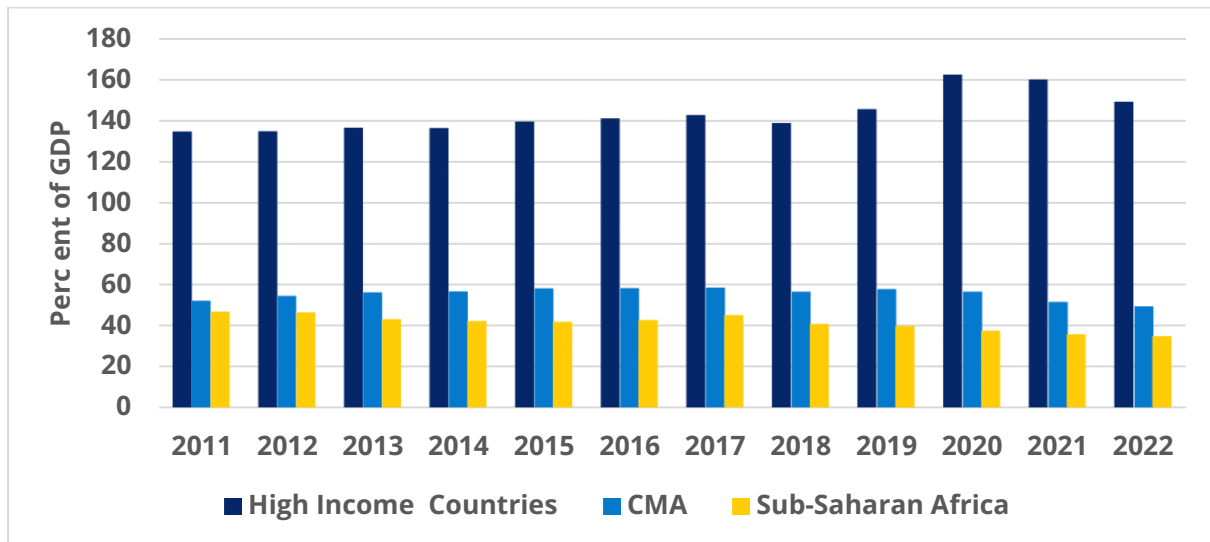
Source: World Bank Database.

The proposition that bank credit spurs innovation has received significant academic attention in recent years. Overall, there has been growth in credit extension globally; however, there is heterogeneity between the various income level of countries. On average between 2010 and 2022, credit extension in advanced economies stood at 142.9 per cent of GDP compared to a lower 41.9 per cent for the Sub-Saharan region. The low level of credit extension in the sub-Saharan region, in part, is proof that developing economies are still confronted by financial friction elements. These do not only come from within the financial sector but are also caused by other hindrances within the respective economies which limits innovation and entrepreneurship.

Coming closer home, credit extended to the private sector among the common monetary area (CMA) countries averaged lower than countries classified under the high-income category at an average of 55 per cent of GDP but was above the average for the sub-Saharan region.



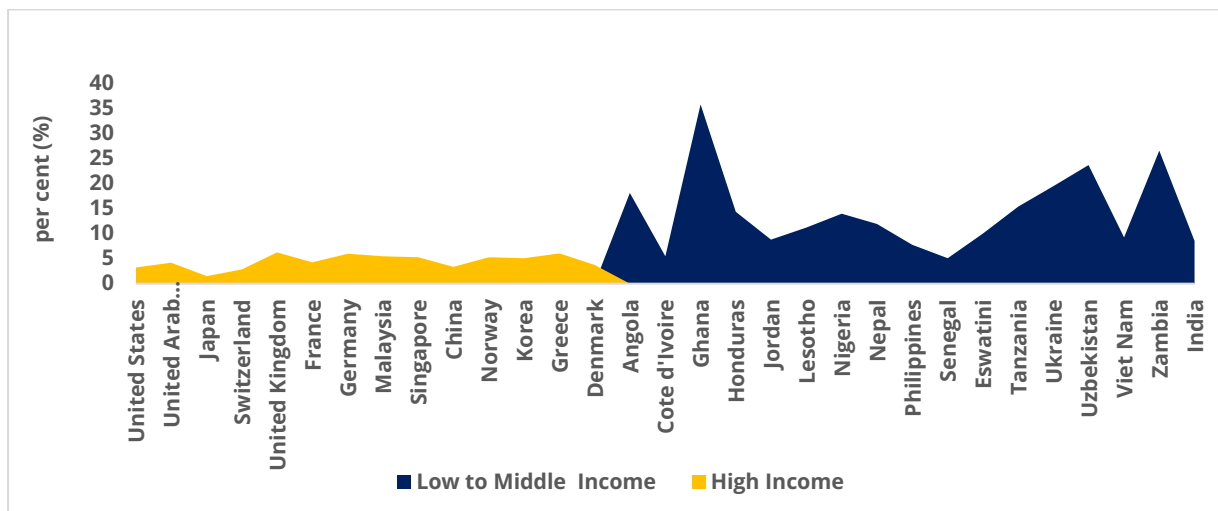
**Figure 5. Credit Extension to Private Sector**



Source: World Bank Database.

**Ladies and gentlemen**, I now turn to interest rate dynamics. High interest rates reduce aggregate demand and therefore make it less profitable to innovate. Companies therefore would have less incentive to develop new products. Monetary tightening further lowers investors' appetite for risk-taking and reduce the availability of financing for innovation. Due to the high-risk premium in most developing countries, lending interest rates generally remain high compared to advanced economies (Feyen and Huertas, 2020).

**Figure 6. Bank Lending Rates by Country**



Source<sup>1</sup>: World Bank Database, Trading Economics, IMF data portal, CEIC.

<sup>1</sup> as at latest available data

### **3. How Financial Friction Affects Innovation and Entrepreneurship**

Financial friction impedes innovation and entrepreneurship via different channels some of which are as follows;

#### **i) Limited Access to Capital**

Entrepreneurs in developing countries usually struggle to secure initial funding due to the high risk that is attached to their businesses as most are faced with the challenge of limited collateral. This prohibits borrowers with profitable investment opportunities from obtaining financing (Tirole and Holmstrom, 1997 and Erosa, Fuster and Martinez, 2023). As such financial friction constrains the scale of business operations, thereby increasing the likelihood that high-productivity entrepreneurs choose to operate in the informal economy (Erosa, Fuster and Martinez, 2023).

According to World Bank (2018) most small and medium enterprises (SMEs) lack credit information and therefore assessing their creditworthiness presents a unique challenge. In the absence of their credit information, lenders are less likely to extend credit. Even established business may find it difficult to secure additional funding which could help them expand or strengthen their R&D. Consequently, this stifles innovation and entrepreneurship.

Ayalew and Xianzh (2019) reported that financial constraints adversely affect a firm's decision to engage in innovative activities and the likelihood to have product innovation and process innovation. The results also point out that the extent of the adverse effect of financial constraints on innovation differs across the sectors, firm size and age groups.

#### **ii) Higher Costs of Financing**

Interest rates in developing countries are usually higher than in developed economies. According to Cavalcanti *et al.* (2021), in the credit market there is a

sizable gap between lending and deposit rates, and these spreads are larger in poorer countries. High interest rates make borrowing expensive and affect affordability (Tirole and Holmstrom, 1997) and by extension affect businesses bottom line and public consumption. Entrepreneurs therefore might avoid taking loans to fund innovative projects due to the high interest rates and this will result in under- investment (Aghion and Bolton, 1997) and lead to slower technological advancement (Ding *et al.*, 2021 and Khan and Shoaib, 2024).

Additionally, innovative ideas are riskier, and lenders may charge higher risk premiums due to perceived uncertainties, thereby increasing the cost of capital for startups and innovators. The high interest rates also restrict credit availability to low-income or disadvantaged groups (Ansari *et al.*, 2022 and Aghion and Bolton, 1997). According to Meghana *et al.* (2016) banks are less exposed to SMEs than to large firms, provide a lower share of investment loans to SMEs and charge them higher fees and interest rates, especially in developing economies.

### **iii) Uncertainty and Risk Aversion**

Generally, investors are hesitant to fund new ventures in developing economies due to perceived risks and lack of reliable financial infrastructure. If entrepreneurs perceive high risks and low returns, they might be less inclined to invest time and resources into innovative ventures.

### **iv) Weak Financial Institutions and Legal Frameworks**

Financial underdevelopment is a common characteristic of poor countries (Kaboski, 2023). A cross-country study by Ranasinghe and Restuccia (2018) revealed that weaker financial development and the rule of law substantially affects output negatively. Inadequate banking systems can limit access to financial services, making it difficult for entrepreneurs to manage and grow their businesses. Poor credit information and rating systems can make it challenging for lenders to assess the creditworthiness of potential borrowers.

Findings by Ranasinghe and Restuccia (2018) further revealed that weak rule of law institutions massively amplify the impact of financial friction. Indeed, results by Yafeh, Ueda and Claessens (2010) for cross-country (48) study covering 75 000 firms, revealed that enhanced contractual enforcement reduces financial frictions. Based on some 78,000 firm-year observations from 40 countries over the period 1990–2007, findings by Claessens, Ueda and Yafeh (2014), revealed that good shareholder rights lower financial frictions, especially for firms with large external finance relative to their capital stock.

#### **v) Lack of Financial Instruments**

Developing economies may lack sophisticated financial instruments like venture capital or equity financing that are crucial for scaling startups. Furthermore, the absence or inadequacy of insurance and hedging for risk management can discourage innovative ventures that are inherently risky (Prabu *et al.*, 2021). Duffie and Singleton (1999) assert that in some instances, such instruments may be hindered by the presence of asymmetric information or high transaction costs. The lack of affordable and adequate insurance instruments can lead to chance of shocks to firms and households (Caballero and Krishnamurthy, 2004).

#### **vi) Informal Economies**

Developing countries exhibit a high rate of informality both among workers and entrepreneurs and financial frictions are more pronounced (Erosa, Fuster and Martinez, 2023). A larger informal sector may imply lower productivity (Ulysea, 2018). Without access to formal financial systems, it is challenging to secure funding or manage business risks effectively. This leads to a credit gap, limiting access to loans and investments necessary for innovation and growth. Navigating regulatory environments can be difficult without proper financial advice and support, thus further hindering entrepreneurial activities.

According to World Bank (2018), information asymmetry between borrowers and lenders is one major challenge when dealing with SMEs. Borrowers in the informal sector know more about their financial situation and investment opportunities than lenders do. This leads to inefficiencies in the lending market as lenders have insufficient information to assess the risk represented by potential customers (World Bank, 2018).

A study by Franjo, Pouokam and Turino (2020) in Brazil revealed that financial deepening leads to a decrease in the size of the informal sector. Financial deepening is therefore important in reducing financial frictions.

#### **vii) Human Capital Constraints**

The knowledge, skills, and abilities of a population is a critical determinant of economic growth and development (Widarni and Bawono, 2021). A shortage in terms of the skill, the knowledge and the technical abilities, therefore, impacts negatively on the adoption and financing of new innovative ideas. Lack or shortage of human capital thus amplifies financial frictions, limiting access to finance for businesses and individuals. Likewise, financial constraints hinder investments in human capital development or leads to hiring of lower skilled employees (Allub, Gomes and Kuehn, 2023), creating a vicious cycle.

Using data for 13 Caribbean countries which were characterised by low education and skill levels, Jeetendra (2018) found that firms that have difficulty in finding new and skilled employees were less likely to engage in any type of innovation. This therefore implies that financial institution becomes less keen on extending credit as this present a high level of risk for the loanable funds.

### **viii) Market Limitations**

A lot of developing economies face a unique set of challenges that amplify the impact of financial friction, market limitations, and innovation on business growth. From a consumer base perspective, developing economies generally face purchasing power constraints which limit market potential for innovative products and services, making it harder to achieve profitable scale. Smaller markets often result in lower production volumes, leading to higher per-unit costs. This can make it difficult to compete on price and therefore makes innovative initiatives to be less profitable thus impeding innovation. Businesses in limited markets may prioritize generating immediate revenue to stay afloat, rather than investing in long-term innovation. Smaller markets often lead to lower profit margins, limiting the financial capacity for R&D investment.

### **4. Mitigating Financial Frictions**

Now that I have alluded on some of the channels through which financial frictions affect innovation and entrepreneurship, let me briefly present the strategies which can be employed to overcome or to minimize financial frictions, and they are as follows;

- **Improving Data Availability:** Data has become an essential asset in the modern economy.
  - I. Credit Reporting Service Providers (CRSPs) are essential for a sound financial infrastructure that facilitates access to formal finance (World Bank, 2018). Strengthening CRSPs by extension would reduce financial friction that is caused by information asymmetries.
  - II. With increased data availability, efficiencies can be improved and customised services can be enhanced. Furthermore, improved data can help to improve forecasts thus increasing their accuracy. This would help

industry players to identify and respond to potential problems and manage potential risks.

- **Financial Inclusion:** Given the high level of informality in developing economies, there is need to accelerate financial inclusion. Expanding access to financial services and improving credit systems can help even informal entrepreneurs secure necessary funding. This will ensure that entrepreneurs are able to implement their ideas and expand. Furthermore, financial inclusion will also assist individuals to access credit thus by extension create demand for products and services. Specifically, the Central Bank of Eswatini is actively involved in promoting financial inclusion together with its key stakeholders.
- **Government and Institutional Support:** Innovative ideas are usually costly to implement and policy interventions, such as subsidies or tax incentives, can reduce the financial burden on startups and innovative businesses. This will ensure that these businesses are adequately supported for their survival and profitability.
- **Capacity Building:** Given the financial friction, there is need to invest in financial literacy and business development support to help entrepreneurs navigate financial frictions more effectively. Businesses and policymakers must focus on strategies to expand markets, foster collaboration, and create supportive ecosystems for innovation. Countries should also invest in human capital development to ensure the right skills sets so that innovation and entrepreneurship are not impeded. Importantly, skilled workforce is essential for efficient operations, while access to finance is crucial for investment in R&D, technology adoption, and business growth.

Concerted efforts to formalize the informal economy and strengthen property rights should be at the forefront of policymakers' initiatives. This includes timeously interventions where property rights are concerned.

- **Technological Advancement and FinTech:** According to Buchak *et al.* (2018) technological advancement can help transform the financial land scape and alleviate some of the financial frictions. The Central Bank of Eswatini has a regulatory sandbox in which innovative fintech ideas are implemented in a controlled and safe environment.
- **International Aid and Partnerships:** Secure collaborations with international organizations and development partners to provide additional resources and expertise which would support innovation and entrepreneurship.
- **Trade intermediation:** trade intermediation can help producers to expand their markets and participate internationally. According to Erbahar and Reberyrol (2023), the prevalence of pure intermediation for all manufacturing exporters, including the largest ones, suggests that intermediation plays an important role in firms' participation and success in international markets. Intermediaries, which are modelled as having different characteristics than manufacturers, enable less productive firms to export indirectly. Because of their competitive advantage, professional intermediaries help firms to reach less-accessible markets (Bernard, Grazzi and Tomasi, 2015 and Akerman, 2018).
- **Harmonization of Financial Regulation:** authorities should level the playing field, improve market effectiveness and limit opportunities for regulatory arbitrage. Harmonizing financial regulations across nations can help reduce financial frictions (Schoemaker, 2013).

## 5. Conclusion

As I conclude ladies and gentlemen, a lot is being done on the ground to reduce financial frictions but more needs to be done. You will recall that innovation is an ongoing process and therefore needs continuous engagement to stay ahead of the



curve. While innovation is good, efforts should be made towards ensuring that negative effects are avoided and this includes regulation. Let me reiterate that addressing financial frictions requires a multifaceted approach. The magnitude or depth of each approach would vary for different sectors and businesses lines. Basically, this involves improving financial systems, supporting entrepreneurial ecosystems, and fostering a conducive environment for innovation.

I thank you.

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