Entrepreneurial Spin-Offs as a Structural Mechanism to Mitigate the Sacrifice Ratio in Open Economies

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ABSTRACT

In open emerging economies heavily dependent on imports, the fight against inflation often confronts a major structural obstacle: a high "Sacrifice Ratio." This concept is characterized by an exorbitant cost in terms of lost output and unemployment for every percentage point of disinflation. Standard restrictive monetary policies appear insufficient to counter imported inflation (*Exchange Rate Pass-through*) when local production is rigid or absent. Addressing this deadlock, this article proposes a novel theoretical cross-analysis between macroeconomic price dynamics and contemporary entrepreneurship theories, specifically regarding spin-offs. By synthesizing recent literature on business dynamism (Akcigit, 2021) and price transmission (Amiti et al., 2019), we argue that spin-offs act as a catalyst for technical progress and productivity. By transforming the production function through innovation and skills transfer, they reduce long-run unit costs and immunize the economy against exchange rate volatility. The article theoretically posits that an active spin-off policy in key sectors constitutes a "positive structural supply shock" capable of mechanically lowering the sacrifice ratio.

Keywords: Sacrifice Ratio, Spin-off, Exchange Rate Pass-through, Productivity, Tunisia, Monetary Policy, Business Dynamism.

JEL Classification: E31, E52, L26, F31, O33.

INTRODUCTION

This article examines the structural determinants of the high "Sacrifice Ratio" in open emerging economies like Tunisia and proposes Entrepreneurial Spin-offs as an optimal policy response to this persistent macroeconomic dilemma. One cannot conceive of a modern, prosperous, and resilient society in the absence of dynamic business creation. As Fortin (2002) powerfully emphasized, the entrepreneur is the stem cell of the economy: they create the enterprise, and the enterprise creates wealth and employment, thus founding the prosperity of nations. Long perceived as a simple individual adventure or palliative response to unemployment, business creation now enjoys major academic and political recognition. Marchesnay (2008) affirms that entrepreneurship has evolved from an "exotic" research object to a systemic engine of economic and territorial development.

The subject of this research centers on the critical tension between this microeconomic dynamism and the macroeconomic constraints of open emerging economies. These economies suffer from a major structural vulnerability: a high degree of *Exchange Rate Pass-through*. In this context, the exchange rate is not merely an adjustment variable but a vector of violent shocks that impact domestic prices directly, forcing the Central Bank to intervene regularly to stabilize the currency. However, this intervention comes at the price of severe economic contraction and investment decline. This embodies the fundamental problem of the "Sacrifice Ratio", theorized by Ball (1994), which measures the social cost of price stability: how many percentage points of GDP must be "sacrificed" to reduce inflation by one percentage point?

Recent economic literature opens promising perspectives by linking macroeconomics and firm dynamics. On one hand, the influential work of Ufuk Akcigit and Sina Ates (2021) on "business dynamism" demonstrates that economic resilience, innovation, and productivity growth depend crucially on the entry of new, innovative firms. On the other hand, Amiti, Itskhoki, and Konings (2019) revolutionized our understanding of

international inflation by proving that a country's ability to resist exogenous price shocks depends directly on the productivity of its leading firms.

The main objective of this study is to coordinate these theoretical fields to propose a concrete solution to Tunisia's inflation-growth dilemma. We postulate that the absence of a flexible, dense, and innovative productive fabric constitutes the root cause of the high sacrifice ratio. Classic business creation (*ex-nihilo*) proves insufficient to generate required productivity rapidly. We demonstrate that Spin-offs, supported by public and private parent companies, represent the most effective organizational mechanism to fill this productive void (the "Empty Box") and reduce inflationary inertia.

The structure of this paper unfolds across six sections to rigorously support this proposition. Section 2 examines supply rigidity and Pass-through mechanisms as fundamental determinants of the Sacrifice Ratio. Section 3 presents the spin-off as a privileged vector of competence transfer and entrepreneurial value-added. Section 4 demonstrates how entrepreneurship drives productivity and resilience to exchange rate shocks through endogenous growth theories. Section 5 coordinates these contributions in a Neo-Schumpeterian synthesis. Finally, Section 6 proposes strategic "Policy Perspectives" and concludes with implications for public decision-makers.

Theoretical Framework : Supply Rigidity as a Source of the Sacrifice Ratio

To understand why the fight against inflation is so socially costly in emerging countries like Tunisia, it is necessary to move beyond standard monetary analysis—which focuses on money supply—and examine real productive structures. Our diagnosis relies on a fine-grained analysis of price transmission channels.

The Sectoral Pass-through Mechanism: Beyond the Price Tag

Traditionally, Pass-through is perceived as a mechanical adjustment of price tags: when the Dinar depreciates against the Euro or Dollar, the price of imported products rises. However, our analysis suggests that imported inflation is not transmitted solely through this direct channel, but through a much more pernicious indirect channel linked to the structure of production.

In Tunisia, the indirect channel (Exchange Rate rightarrow Production Costs rightarrow Production Volumes rightarrow Final Prices) is predominant. A depreciation of the exchange rate increases the cost of essential inputs (energy, semi-finished goods, equipment, raw materials). In a flexible and diversified economy, firms would react by substituting these expensive imported inputs with local inputs. However, this is precisely where the system fails. In many strategic sectors, this substitution is technically impossible in the short term because local production is "weak or absent."

Sectoral Analysis: The "Black Box" of Productive Desertification

We define this situation as "Productive Desertification." This phenomenon is particularly visible and critical in three key sectors:

- The Energy Sector: Dependence on imported hydrocarbons is near-total for electricity production and transport. The Pass-through here is immediate and total (often masked by costly state subsidies). There is not yet a dense fabric of SMEs producing renewable energy or energy efficiency solutions capable of taking over. The country essentially imports its growth inputs, exposing the entire value chain to dollar fluctuations.

- Miscellaneous Manufacturing: Many industrial chains (mechanics, electronics, fine chemicals) depend on over 80% imported inputs. The absence of local Tier 2 or Tier 3 subcontracting forces industrialists to import inflation. There is no local ecosystem to produce the necessary bolts, seals, or electronic components.

- Basic Agri-food (Coffee, Sugar, Cereals): Here, the dependence is twofold. Not only is national production insufficient (as in the case of cereals), but the processing and distribution are often dominated by state monopolies. For products like coffee or sugar, the country is a "price taker" on world markets. The lack of competition and innovation in these sectors makes demand perfectly price-inelastic.

In such a configuration of productive desertification, import demand is inelastic. Economic agents continue to import despite rising costs, which amplifies the initial inflationary shock and widens the trade deficit, further fueling currency depreciation. It is a vicious cycle.

Macroeconomic Consequence: A Structurally High Sacrifice Ratio

This sectoral diagnosis has a direct macroeconomic consequence on the Sacrifice Ratio. This ratio measures the real cost of disinflation: it quantifies the loss of output (GDP) and the rise in unemployment necessary to lower inflation by 1%.

In the absence of a local supply capable of substitution, the Central Bank finds itself in a strategic impasse. To reduce inflation, it uses its main tool: raising the policy rate. This hike aims to reduce aggregate demand.

However, since inflation is of imported origin (cost-push) and demand for essential goods is captive (inelastic), the rate hike does not lower the prices of imported goods. It merely increases the cost of credit for the few existing local firms, curbing investment and consumption. The result is a "painful" and inefficient monetary policy: inflation falls very slowly, but growth collapses brutally. This is the very definition of a high Sacrifice Ratio. It is, therefore, the structural rigidity of supply that makes monetary policy so costly for society.

Theoretical Framework II: Spin-offs as Vectors of Competence and Value Added

Given this diagnosis of productive rigidity, the solution cannot be monetary; it must be real. It requires a massive injection of new production capacities. We must fill the "empty box." Here, the Spin-off distinguishes itself from other forms of entrepreneurship as the most adapted lever.

From Ex-Nihilo Creation to Strategic Spin-offs

Not all forms of business creation are equal. In a context of economic urgency, *ex-nihilo* creation (a classic start-up starting from scratch) presents high failure rates and a scaling process that is too slow. The isolated entrepreneur often lacks capital, networks, and technologies.

The Spin-off appears as the superior organizational modality. It is defined as the process by which an existing organization (the parent company, whether public or private) encourages and supports the departure of its employees to create a new autonomous entity. Unlike the isolated entrepreneur who must build resources *ab nihilo*, the spin-off entrepreneur benefits from a significant "organizational inheritance." As demonstrated by the work of Metz & Nancy (1998) and more recently Parhankangas & Arenius (2003), this inheritance includes three critical intangible assets:

1. Technological Capital: Transfer of patents, proven industrial processes, or tacit know-how.
2. Relational Capital: Immediate access to the parent's supplier and client networks, and banking credibility.
3. Managerial Capital: Established management culture, quality processes, and industrial discipline.

This transfer of competence drastically reduces the "infant mortality" of new firms. It allows them to reach the break-even point and, crucially, the level of productivity required by international markets, much faster than an isolated creation.

Entrepreneurial Value Added: Kirznerian "Alertness"

Beyond technical transfer, the spin-off mobilizes the fundamental entrepreneurial competence: "alertness" as theorized by Israel Kirzner (1973). An employee of a large public enterprise (e.g., the National Electricity Company or Chemical Group) is often best placed to identify organizational inefficiencies, waste, or the specific need for imported inputs that could be produced locally more efficiently.

The spin-off allows this tacit internal knowledge to be transformed into an explicit market opportunity. By externalizing peripheral activities, creating local suppliers for the parent company, or valorizing dormant

technology, the spin-off transforms "costs" for the public entity into "value added" for the national economy. It creates local production where there was previously only passive purchasing or importation.

Entrepreneurship as a Driver of Productivity and Resilience

In this section, we connect the microeconomics of the spin-off to the macroeconomics of inflation, relying on endogenous growth theories.

Schumpeterian Innovation and the Structural Decline in Unit Costs

According to endogenous growth theory (Aghion & Howitt, 1992), the entrepreneur is the primary vector of technical progress. By introducing new production methods (process innovation) or new products, the spin-off enterprise improves Total Factor Productivity (the famous "Solow Residual").

Innovation driven by spin-offs allows for producing more output with fewer inputs. This productivity increase leads to a structural decline in unit production costs.

Macroeconomic Implication (The Anti-Inflation Effect): This is where the link to *Pass-through* becomes evident. An economy where production costs fall structurally due to technical progress possesses a "safety buffer" to absorb external shocks. If the price of imported raw materials rises by 10% (due to exchange rates), but the firm's productivity simultaneously rises by 5% thanks to innovation, the final impact on the selling price is mitigated. The *Pass-through* decreases because productivity gains partially compensate for the exchange rate shock. Inflation becomes less volatile.

Non-Price Competitiveness as a Shield Against Volatility

Entrepreneurship impacts not only costs (Price Competitiveness) but also quality, brand image, and technical differentiation (Non-Price Competitiveness).

Empirical work by Lileeva and Trefler (2010) shows that innovative firms are significantly less sensitive to exchange rate variations than firms producing standardized goods. Why? Because their products, endowed with high technological content, have a less price-elastic demand.

By promoting spin-offs in high-value-added sectors, we create a fabric of firms capable of maintaining their market share and production volumes even in the event of monetary depreciation. This stabilizes national production against external volatility and reduces the need for adjustment through recession.

Discussion: A Neo-Schumpeterian Synthesis (Coordinating the Pillars)

Our original contribution lies in coordinating three pillars of recent literature to demonstrate that the spin-off is "THE TOOL" to reduce the Sacrifice Ratio in Tunisia. We articulate here the synthesis of our reflection.

Recent economic literature has established three fundamental results separately, which we link here for the first time:

The Engine (Innovation rightarrow Growth):

Ufuk Akcigit (2018, 2022, 2024), a world reference on business dynamism, demonstrates that the lack of "entrepreneurial dynamism" curbs global productivity. His work, corroborated by Philippe Aghion (2020) in "The Power of Creative Destruction," proves that radical innovation comes almost exclusively from "new entrants."
Our Synthesis: We use Akcigit and Aghion to assert that spin-offs are the best way to inject this missing dynamism in Tunisia, as they allow for the creation of robust and productive "new entrants" from day one.

The Mechanism (Productivity rightarrow Pass-through):

Gita Gopinath (2010-2018) and Amiti, Itskhoki & Konings (2019) have proved that only highly productive firms are capable of absorbing exchange rate shocks (incomplete Pass-through).

Our Synthesis: Spin-offs, by transferring technology from mother to daughter, instantly create these high-productivity firms capable of "blocking" imported inflation, unlike traditional informal Tunisian micro-enterprises which suffer the full brunt of inflation.

The Macro Consequence (Market Structure rightarrow Sacrifice Ratio):

Recent work by the IMF (Harding et al., 2023) highlights that competition in the market determines the slope of the Phillips Curve. The more competition there is, the more flexible prices are, and the less costly disinflation is.

Our Synthesis: Spin-offs densify the economic fabric, break public and private monopolies, and increase competition. This competitive pressure forces price reductions and mechanically lowers the Sacrifice Ratio.

Global Logic of the Solution:

Spin-offs create Productivity (Akcigit) rightarrow Productivity blocks Pass-through (Gopinath) rightarrow Competition flexibilizes prices (IMF) rightarrow. The Sacrifice Ratio Decreases.

POLICY PERSPECTIVES AND CONCLUSION

Toward a Productive "Policy-Mix"

This demonstration calls for a paradigm shift for public decision-makers. The Central Bank can no longer be alone in the fight against inflation. A stable currency can only rest on a productive economy. Monetary policy must be coordinated with an active industrial supply-side policy.

The "Spawning" State

The Tunisian State must encourage its large public enterprises (Energy, Mining, Industry) to change their role. They must no longer just produce; they must spawn. They must become incubators that diffuse technical progress into the SME fabric via their former employees. The spin-off thus becomes a tool for massive technological transfer to the private sector, creating the import substitution so desperately sought.

Conclusion

In conclusion, it appears that the high Sacrifice Ratio is not a monetary fatality, but the symptom of entrepreneurial sclerosis and a productivity deficit. Our analysis demonstrates that the entrepreneurial spin-off is the most powerful lever to break this vicious cycle. By acting simultaneously on production volume (import substitution), price flexibility (competition), and productive efficiency (technical progress), the spin-off offers a path to recovery from the top. It allows for reducing inflation not by crushing demand through austerity, but by liberating supply through innovation. For Tunisia and emerging economies, this is the path to regained economic sovereignty and sustainable growth.

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