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Effect of Currency Devaluation on Performance of Small and Medium Firms in Beirut, Lebanon

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## Effect of Currency Devaluation on Performance of Small and Medium Firms in Beirut, Lebanon

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### Abstract

Currency devaluation refers to a deliberate and official reduction in the value of a country's currency in relation to other currencies. It can occur through various mechanisms, such as adjusting interest rates, intervening in foreign exchange markets, or implementing monetary policies aimed at reducing the supply of domestic currency. Currency devaluation can create financial challenges for SMEs. Financial institutions may be more cautious in extending credit due to increased risks associated with exchange rate fluctuations. Devaluation reduces the value of collateral assets, making it harder for SMEs to secure financing. The research used the descriptive research design. The target population was 200 small and medium firms in Beirut, Lebanon. The study did sampling of 150 participants that were chosen from the target population of 200 small and medium firms in Beirut, Lebanon. Questionnaires were utilized to gather data. In conclusion, the devaluation of the Lebanese currency has presented numerous challenges for these businesses, impacting their competitiveness, profitability, and sustainability. It is crucial for SMEs to understand the direct and indirect impacts of currency devaluation. Increased import costs, inflationary pressures, and reduced purchasing power have placed significant strain on SMEs. By recognizing these challenges, SMEs can develop effective financial management strategies and explore hedging mechanisms to mitigate currency risk. The study recommended that Lebanese SMEs should consider developing export-oriented strategies, including identifying new export markets, conducting market research, and adapting their products and services to meet international demand. By capitalizing on export opportunities, SMEs can diversify their revenue streams and reduce their vulnerability to the domestic economic challenges caused by currency devaluation.

Keywords: Currency Devaluation, Performance, Small and Medium Firms, Lebanon



#### 1.0 Background of the Study

Small and medium-sized firms (SMEs) in Beirut, Lebanon play a vital role in the local economy (Ghayad, Hamdan & Hammoud, 2022). These businesses are characterized by their relatively small scale and typically employ a limited number of employees. SMEs in Beirut span various sectors, including manufacturing, retail, services, and technology. Beirut serves as a hub for entrepreneurial activity and innovation. SMEs contribute significantly to job creation, economic growth, and social development in the region. They often serve as drivers of innovation, adaptability, and flexibility within the economy, contributing to its resilience and competitiveness (Surya, Menne, Sabhan, Suriani, Abubakar & Idris, 2021). SMEs in Beirut face both opportunities and challenges. Also, they benefit from a strategic location, access to a skilled workforce, and a vibrant business ecosystem. Beirut's diverse market provides SMEs with opportunities to tap into local and regional demand, collaborate with larger corporations, and participate in international trade. SMEs in Beirut also encounter several challenges. These may include limited access to finance and credit, bureaucratic hurdles, regulatory complexities, and infrastructure deficiencies.

Additionally, political instability, economic uncertainties, and currency devaluation have posed significant challenges for SMEs in recent years, affecting their competitiveness, profitability, and growth potential (Aksenov, Li, Abbas, Fambo, Popkov, Ponkratov & Vasiljeva, 2023). Despite these challenges, SMEs in Beirut demonstrate resilience, adaptability, and an entrepreneurial spirit. They play a crucial role in driving innovation, creating employment opportunities, and contributing to the overall economic development of Beirut and Lebanon as a whole. Recognizing the importance of SMEs in Beirut, policymakers, government agencies, and support organizations are increasingly focusing on creating an enabling environment for these businesses (Skafi, Yunis & Zekri, 2020). Efforts are being made to streamline regulations, enhance access to finance, provide tailored support programs, foster entrepreneurship education, and promote collaboration among SMEs. These initiatives aim to address the specific needs of SMEs, enhance their competitiveness, and support their long-term sustainability in Beirut's dynamic and evolving business landscape.

Currency devaluation refers to a deliberate and official reduction in the value of a country's currency in relation to other currencies, typically carried out by a country's central bank or monetary authority (Evdokimova, Zhirnov & Klaver, 2019). This reduction is achieved by implementing policies that decrease the exchange rate of the domestic currency compared to foreign currencies. Currency devaluation can occur through various mechanisms, like adjusting interest rates, intervening in foreign exchange markets, or executing monetary policies aimed at reducing the supply of domestic currency. The main objective of currency devaluation is to make the domestic currency relatively weaker, thereby making exports more competitive and stimulating economic growth. A devalued currency makes exported goods and services more affordable and attractive to foreign buyers (Javadov, Feyzullaev & Jabbbarov, 2021). It can also discourage imports by making foreign products relatively more expensive. These effects aim to enhance a country's trade balance, boost export-oriented industries, and potentially stimulate domestic industries by reducing competition from imports. However, currency devaluation can also have negative consequences. Devaluation makes imported goods more expensive, leading to increased costs for businesses and potentially higher inflation (Hussain, Hussain, Rehman, Saqib &



Phulpoto, 2021). It can also reduce the purchasing power of domestic consumers, impacting their ability to afford imported products and potentially leading to reduced domestic demand. Additionally, devaluation can cause uncertainties in financial markets, capital flight, and potential disruptions in international trade relations.

SMEs often rely on imported raw materials, components, and equipment for their production processes (Atieh, Cooke & Osiyevskyy, 2023). When the domestic currency is devalued, the cost of these imports increases. SMEs may face challenges in managing higher procurement costs, which can directly impact their profitability. They may either need to absorb the increased costs or pass them on to consumers, potentially affecting their competitiveness in the market. Currency devaluation may bring about higher inflation and low purchasing power for domestic consumers (Vo & Vo, 2023). This can result in a decrease in overall domestic demand for goods and services, affecting SMEs that primarily serve local markets. SMEs may experience decreased sales and lower revenue, which can hinder their growth prospects and financial stability. Currency devaluation can present opportunities for SMEs involved in exporting. A devalued currency can make their products and services more price competitive in international markets, potentially leading to increased export demand (Elias, Dachito & Abdulbari, 2023). SMEs that rely on exports may benefit from currency devaluation, as their revenue in foreign currencies will be higher when converted back to the domestic currency.

Civelek, Ključnikov, Kloudová and Vozňáková (2021) argued that currency devaluation can create financial challenges for SMEs. Financial institutions may be more cautious in extending credit due to increased risks associated with exchange rate fluctuations. SMEs may face difficulties in obtaining loans, trade finance, and working capital, affecting their ability to invest in growth initiatives, research and development, and operational expansion. Currency devaluation introduces a level of uncertainty for SMEs, as it can lead to unpredictable exchange rate fluctuations (Belghitar, Clark, Dropsy & Mefteh-Wali, 2021). This makes financial planning and forecasting more challenging, as SMEs need to navigate potential currency risks and their impact on revenues, costs, and profitability. SMEs may need to develop robust risk management strategies, including hedging mechanisms, to mitigate the adverse effects of currency devaluation.

#### **1.1 Statement of the Problem**

The effect of currency devaluation on the performance of SMEs firms in Beirut, Lebanon presents a significant challenge to the local business landscape. Currency devaluation refers to the deliberate reduction in the value of the Lebanese currency (LBP) relative to other currencies, resulting in changes in exchange rates. This phenomenon has had far-reaching consequences for SMEs in Beirut, impacting their competitiveness, profitability, and overall performance. Understanding the specific challenges faced by SMEs in Beirut due to currency devaluation is crucial for developing targeted strategies to mitigate the negative effects and support their sustained growth and economic contribution. The problem arises from the fact that currency devaluation in Beirut poses numerous difficulties for SMEs. It leads to increased import costs as SMEs rely on imported inputs, raw materials, and equipment for their production processes. The depreciation of the Lebanese currency elevates the prices of these imported goods, directly affecting SMEs' cost structures and eroding their profit margins. This hampers their ability to compete both locally and internationally, potentially leading to decreased sales and market share.



Currency devaluation in Beirut exacerbates inflationary pressures, which have a direct impact on SMEs' operational costs. Rising prices of goods and services, particularly those tied to imported inputs, not only increase production expenses but also influence general operating costs such as rent, utilities, and wages. As a result, SMEs in Beirut face difficulties in maintaining profitability and may struggle to meet their financial obligations, hindering their growth and sustainability. Currency devaluation affects SMEs' access to finance and credit facilities. The uncertainty caused by exchange rate fluctuations makes financial institutions more cautious and less willing to extend loans or credit to SMEs. Additionally, the devaluation reduces the value of collateral assets, making it harder for SMEs to secure financing. Limited access to finance impedes SMEs' ability to invest in new technologies, expand their operations, and innovate, further hindering their performance and stifling economic growth in Beirut.

#### 2.0 Literature Review

According to Shahbaz, Chaudhary and Shahzad (2018) noted that there may be substantial effects on energy use and carbon dioxide emissions from the devaluation of Pakistan's national currency across many exchange regimes. Therefore, the research analyses the effects of currency depreciation on CO2 emissions and energy consumption in Pakistan between the years 1995 and 2018. Researchers found that short- and long-term increases in CO2 emissions and energy consumption were associated with a depreciation in the value of the currency via the application of the Autoregressive Integrated Moving Average (ARIMA) cointegration method. The results suggest that currency depreciation stimulates economic development by increasing energy use and carbon dioxide emissions. The government needs guidelines and an exchange rate strategy to reduce CO2 emissions. To meet the country's energy needs and cut down on carbon dioxide emissions, the government should explore renewable energy options.

Ali and Khan (2022) study investigates if Pakistan's current account deficit operated as a relationship between currency devaluation and economic development from 1972 to 2016. All variables were shown to have a heterogeneous order of integration using the Augmented Ducky Fuller (ADF), Phillips-Perron (PP), and Ng-Parron unit root tests. In order to establish the interconnections between the variables, the Auto regressive Distributive Lag Model (ARDL) is used. The results demonstrate that the current account balance fully mediates the connection between currency depreciation and economic development (with a coefficient value of -0.22). Currency depreciation, the research shows, slows economic development and reduces the current account surplus. The devaluation also has an adverse effect on the current account balance, which stunts economic growth in a roundabout way.

Bahar, Molina and Santos (2018) study investigates the impact of Venezuelan devaluation on small and medium-sized firms through chosen mini-importers in Caracas, Venezuela. The goal of this study is to evaluate the extent to which SMEs rely on foreign goods and services, to determine the impact of the bolivar depreciation on Venezuelan SMEs' performance, to assess the effect of the bolivar depreciation on the import volume of SMEs in Venezuela, and to examine Bolivar's effectiveness in encouraging the development of indigenous small and medium-sized firms in Venezuela, in terms of methodology. The research looked at the impact of the bolivar depreciation on the production of 40 businesses in Caracas. Respondents were mostly Caracas-based importers of businessmen and ladies. And they were picked among Caracas' businessmen and women,



largely importers. A total of 150 respondents were drawn from the research population using the most feasible sampling method. The data reveal that the bolivar's devaluation has an impact on both enterprises and Venezuela as a whole. Primary data (questionnaire) was used to collect information. The report proposed to the government and the general public that Value Creation be the hallmark of Venezuela's SMEs. To mitigate the impact of the bolivar depreciation, goods and services that are appealing to foreigners should be developed. Therefore, policies should be developed and executed to accelerate Venezuela's economic diversification. Other fields, such as agriculture, tourism, and education, should be investigated in order to attract more foreign exchange and revenue, and an atmosphere conducive to corporate growth should be fostered.

Delavary, Ghayeninezhad and Lavallière (2020) noted that devaluation is among the most significant but divisive trade policy advocated by the IMF for most growing nations in reinstalling trade balances and promoting real GDP growth. Using 15 years of time series data from SPSS, the study identifies and assesses the impact of currency devaluation on economic growth in Germany via the mediating role of five main macroeconomic indicators: export, import, inflation rate, FDI, and interest rate. The study's primary objectives could be measured, hence the researchers relied on a quantitative methodology. In addition, the study's overarching structure was developed using a causal or explanatory method for assessing the relationship between the variables. According to the data, the devaluation led to severe price increases, which hurt the domestic and international economies of the country. In addition, the rate of growth in imports increased while the rate of growth in exports decreased, suggesting that devaluation had little to no effect on the German economy. According to the results, the study recommends a rapid structural economic policy reformation to address the country's current difficulties. Furthermore, there is an evident necessity to integrate monetary and fiscal policy actions in order to achieve long-term economic growth.

Abuselidze (2019) discovered that currency devaluation is a key problem in global economics and financial history. It has been shown to have a wide range of effects on particular economies; although it is beneficial to certain economies' commerce, growth, and development, it is detrimental to others. How does a drop in the value of a country's currency affect commerce and economic growth. Is a meta-analysis of previous studies on the topic. In different studies, some going back to the 1940s and others more recent, found conflicting results about the impacts of currency devaluation. Taking into account the contrasting results, it was determined that the research on currency depreciation is still in its infancy. The most recent findings in this area of study highlight the need for both continuous research on the topic and multiple reviews to provide summarized research for public policymakers who are still uncertain of the impact of devaluation on their economy. According to the study, only countries that produce products and services for both domestic utilization and exports should lower their currency when necessary. Moreover, nations on the edge of devaluation ought to make efforts to strengthen local technology and infrastructure in order to boost GDP and employment.



#### 3.0 Research Methodology

The study used the descriptive research design. The target population was 200 small and medium firms in Beirut, Lebanon. The study did sampling of 150 participants that were chosen from the target population of 200 small and medium firms in Beirut, Lebanon. Questionnaires were used to collect the data.

#### 4.0 Research Findings and Discussion

#### 4.1 Correlation Analysis

The findings presented in Table 1 shows the correlation analysis

#### Table 1: Correlation Analysis

		Performance	Currency Devaluation
Performance	Pearson Correlation	1.000	
	Sig. (2-tailed)		
Currency devaluation	Pearson Correlation	. 306 **	
	Sig. (2-tailed)	0.000	0.000

The correlation results from Table 1 show that the currency devaluation was positively and significantly associated with performance (r=.306, p=.000). This concurs with Delavary, Ghayeninezhad and Lavallière (2020) who argued that there is an evident necessity to integrate monetary and fiscal policy actions in order to achieve long-term economic growth. Devaluation makes imported goods more expensive, leading to increased costs for businesses and potentially higher inflation.

#### 4.2 Regression Analysis

The section includes model fitness, analysis of variance and regression of coefficient. The results in Table 2 indicate the model fitness

Table	2:	Model	Fitness
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Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.306a	0.249	0.119	0.000876

The results from Table 2 reveal that currency devaluation was found to be satisfactory in explaining the performance of small and medium firms in Beirut, Lebanon. This was supported by the coefficient of determination, which is R square of 0.249. It indicates that currency devaluation explain 24.9% of the variations in the performance of small and medium firms in Beirut, Lebanon.

#### Table 3: Analysis of Variance

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6.98	1	6.98	155.11	.000b
	Residual	9.08	200	0.045		
	Total	16.06	199			

The findings in Table 3 reveals that the overall model was statistically significant. The results indicate that performance is a good predictor in explaining the currency devaluation among the small and medium firms in Beirut, Lebanon. This was supported by an F statistic of 155.11 and the reported p-value of 0.000 which was less than the conventional probability significance level of 0.05.

#### **Table 4: Regression of Coefficient**

	Unstan Coeffic	dardized ients	Standardized Coefficients	t	Sig.
	В	Std. Error	Beta		
(Constant)	0.391	0.113		3.460	0.098
Currency devaluation	0.756	0.352	0.532	2.158	0.032

According to the results in Table 4, it was found that currency devaluation was positively and significantly associated to performance ( $\beta$ =0.756, p=0.032). This was supported by a calculated t-statistic of 2.158 that is larger than the critical t-statistic of 1.96. These results implies that when currency devaluation increases by one unit, the performance of small and medium firms in Beirut, Lebanon will increase by 0.756 units while other factors that influence the performance of firms remain unchanged. Ali and Khan (2022) articulated that depreciation has a negative impact on the current account balance, stifling economic development through an indirect channel. Currency devaluation affects SMEs' access to finance and credit facilities. The uncertainty caused by exchange rate fluctuations makes financial institutions more cautious and less willing to extend loans or credit to SMEs.

#### 5.0 Conclusion

In conclusion, the effect of currency devaluation on SMEs in Lebanon has been profound and farreaching. The devaluation of the Lebanese currency has presented numerous challenges for these businesses, impacting their competitiveness, profitability, and sustainability. It is crucial for SMEs to understand the direct and indirect impacts of currency devaluation. Increased import costs, inflationary pressures, and reduced purchasing power have placed significant strain on SMEs. By



recognizing these challenges, SMEs can develop effective financial management strategies and explore hedging mechanisms to mitigate currency risk. Access to finance and credit is another critical area requiring attention. Collaborating with financial institutions to design tailored financial products and facilitating alternative financing options can help SMEs overcome liquidity constraints. Additionally, promoting financial literacy programs will empower SMEs to make informed decisions regarding pricing, cost management, and investment.

To diversify revenue streams and reduce reliance on domestic consumption, SMEs should be encouraged to explore export opportunities. Identifying new markets, enhancing product quality, and participating in export promotion initiatives will enable SMEs to expand their customer base and increase resilience against domestic economic fluctuations. Moreover, fostering business competitiveness and productivity is essential. Supporting technology adoption, improving production processes, and enhancing product design and branding will enable SMEs to maintain competitiveness in both domestic and international markets. A robust business support infrastructure is crucial for SMEs to thrive. Streamlining regulations, reducing bureaucracy, and establishing incubators and entrepreneurship centers will provide SMEs with the necessary resources, mentorship, and networking opportunities to navigate the challenges of currency devaluation. Collaboration and knowledge exchange among SMEs are key drivers of success. Facilitating industry clusters, business associations, and networks will foster collective resource sharing, enabling SMEs to pool their strengths and overcome common obstacles. Lastly, a stable macroeconomic environment and supportive government policies are fundamental. Advocating for stable macroeconomic policies, engaging in policy dialogue, and addressing specific challenges faced by SMEs will create a favorable business environment and instill confidence among entrepreneurs.

#### 6.0 Recommendations

Small and medium-sized firms (SMEs) in Lebanon need to prioritize effective financial management and develop robust risk mitigation strategies in response to currency devaluation. This includes closely monitoring exchange rate fluctuations, conducting regular financial assessments, and implementing hedging mechanisms to manage currency risks. SMEs should also consider diversifying their supplier base to minimize dependence on imports and explore opportunities for local sourcing. Additionally, adopting sound accounting practices and engaging professional financial advisors can provide SMEs with the necessary tools to navigate the challenges posed by currency devaluation. Access to finance is crucial for SMEs to sustain their operations and invest in growth opportunities amidst currency devaluation. To address this, financial institutions should collaborate with SMEs and develop specialized financial products tailored to their needs. These may include foreign currency loans, trade finance facilities, and credit guarantees. Furthermore, fostering public-private partnerships and encouraging the development of alternative financing options, such as venture capital and crowdfunding platforms, can provide SMEs with additional avenues for funding. It is vital for SMEs to actively engage with financial institutions, seek expert advice, and explore these financing opportunities to overcome the constraints imposed by currency devaluation.

Currency devaluation can present opportunities for SMEs to enhance their competitiveness in international markets. Lebanese SMEs should consider developing export-oriented strategies,



including identifying new export markets, conducting market research, and adapting their products and services to meet international demand. Support from government agencies and trade promotion organizations can provide SMEs with valuable assistance, including market information, export training programs, and participation in international trade fairs and exhibitions. Moreover, strengthening collaboration among SMEs through industry clusters and networks can facilitate knowledge sharing, joint marketing efforts, and collective representation in foreign markets. By capitalizing on export opportunities, SMEs can diversify their revenue streams and reduce their vulnerability to the domestic economic challenges caused by currency devaluation.

#### REFERENCES

- Abuselidze, G. (2019). Modern challenges of monetary policy strategies: inflation and devaluation influence on economic development of the country. Academy of Strategic Management Journal, 18(4), 1-10.
- Aksenov, G., Li, R., Abbas, Q., Fambo, H., Popkov, S., Ponkratov, V., ... & Vasiljeva, M. (2023). Development of Trade and Financial-Economical Relationships between China and Russia: A Study Based on the Trade Gravity Model. Sustainability, 15(7), 6099. https://doi.org/10.3390/su15076099
- Ali, N., & Khan, K. (2022). The Effects of Devaluation of Currency on Economic Growth: The Mediating Role of Current Account Deficit. https://doi.org/10.31703/ger.2022(VII-I).12
- Atieh, A. M., Cooke, K. O., & Osiyevskyy, O. (2023). The role of intelligent manufacturing systems in the implementation of Industry 4.0 by small and medium enterprises in developing countries. Engineering Reports, 5(3), e12578. https://doi.org/10.1002/eng2.12578
- Bahar, D., Molina, C. A., & Santos, M. A. (2018). Fool's Gold: The Impact of Venezuelan Currency Devaluations on Multinational Stock Prices. Economia, 19(1), 93-128. https://doi.org/10.1353/eco.2018.0009
- Belghitar, Y., Clark, E., Dropsy, V., & Mefteh-Wali, S. (2021). The effect of exchange rate fluctuations on the performance of small and medium sized enterprises: Implications for Brexit. The Quarterly Review of Economics and Finance, 80, 399-410. https://doi.org/10.1016/j.qref.2021.03.002
- Civelek, M., Ključnikov, A., Kloudová, J., & Vozňáková, I. (2021). Digital local currencies as an alternative digital payment method for businesses to overcome problems of covid-19 pandemic. *Polish journal of management studies, 23(2).* https://doi.org/10.17512/pjms.2021.23.2.04
- Delavary, M., Ghayeninezhad, Z., & Lavallière, M. (2020). Evaluating the impact of increased fuel cost and Iran's currency devaluation on road traffic volume and offenses in Iran, 2011–2019. Safety, 6(4), 49. https://doi.org/10.3390/safety6040049
- Elias, A., Dachito, A., & Abdulbari, S. (2023). The effects of currency devaluation on Ethiopia's major export commodities: The case of coffee and khat: Evidence from the vector error https://doi.org/10.53819/81018102t5178



correction model and the Johansen co-integration test. Cogent Economics & Finance, 11(1), 2184447. https://doi.org/10.1080/23322039.2023.2184447

- Evdokimova, T., Zhirnov, G., & Klaver, I. (2019). The Impact of Inflation Anchor Strength and Monetary Policy Transparency on Inflation during the Period of Emerging Markets Volatility in summer 2018. *Russian Journal of Money and Finance*, 78(3), 71-88. https://doi.org/10.31477/rjmf.201903.71
- Ghayad, R. M. A., Hamdan, M. A., & Hammoud, M. (2022). What are the Challenges that SMEs have Faced During the Financial Cri-sis in Lebanon?. https://doi.org/10.55365/1923.x2022.20.105
- Hussain, J., Hussain, N., Rehman, M. U., Saqib, G., & Phulpoto, K. (2021). Effects of Money Devaluation on Macroeconomic Indicators of Developing Countries: Evidence from Pakistan. Journal of Contemporary Issues in Business and Government Vol, 27(1). https://doi.org/10.47750/cibg.2021.27.02.192
- Javadov, R., Feyzullaev, M., & Jabbbarov, A. (2021). Impact of Devaluation of National Currencies on Sustainable Economic Development. Economic and Social Development: Book of Proceedings, 67-77.
- Shahbaz, M., Chaudhary, A. R., & Shahzad, S. J. H. (2018). Is energy consumption sensitive to foreign capital inflows and currency devaluation in Pakistan?. Applied Economics, 50(52), 5641-5658. https://doi.org/10.1080/00036846.2018.1488059
- Skafi, M., Yunis, M. M., & Zekri, A. (2020). Factors influencing SMEs' adoption of cloud computing services in Lebanon: An empirical analysis using TOE and contextual theory. IEEE Access, 8, 79169-79181. https://doi.org/10.1109/ACCESS.2020.2987331
- Surya, B., Menne, F., Sabhan, H., Suriani, S., Abubakar, H., & Idris, M. (2021). Economic growth, increasing productivity of SMEs, and open innovation. *Journal of Open Innovation: Technology, Market, and Complexity*, 7(1), 20. https://doi.org/10.3390/joitmc7010020
- Vo, H. L., & Vo, D. H. (2023). The purchasing power parity and exchange-rate economics half a century on. *Journal of Economic Surveys*, 37(2), 446-479. https://doi.org/10.1111/joes.12504