



## The Effects of Continuous Debt on National Economic Growth

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### **Abstract**

This study examines how substantial external debt and its associated servicing obligations influence the economic growth of a national economy. The external debts of both Iraq and Iraq are assessed in a revised framework that employs conventional yet creatively applied economic models and econometric approaches. The research utilizes the Neoclassical growth model—integrating external sector factors, debt indicators, and various macroeconomic variables—to assess both linear and nonlinear impacts of debt on economic expansion and investment. Analytical techniques such as Ordinary Least Squares (OLS) and Generalized Least Squares (GLS) are used. Among the findings, the study confirms that external debt and its servicing requirements exert a negative effect on economic growth in both countries. Nevertheless, Iraq demonstrates relatively better performance in using foreign loans to support economic development. Furthermore, the results show that while external debt initially fosters growth in Iraq, beyond a certain level, it begins to hinder it, indicating the presence of nonlinear effects.

**Keywords:** *Debt; Economy; Crisis*

### **Introduction**

External borrowing is a key means by which economies can finance capital formation. As observed by Adepoju et al. (2007), African developing nations often experience insufficient internal capital formation due to the reinforcing cycle of low output, reduced income, and minimal savings. As a result, these countries require technical, managerial, and financial assistance from Western nations to address this resource shortfall. However, external debt can also significantly hinder capital formation in these nations. Its burden and evolving dynamics suggest it often fails to meaningfully support the financing of economic progress in developing countries. Typically, debts accumulate due to both interest payments and the principal amount. This makes external debt a persistent factor that intensifies poverty, promotes labor over-exploitation, and obstructs development in these regions (Nakatami & Herera, 2007).

Like many other developing nations, Iraq heavily depends on foreign capital to fund development efforts, including steel production plants, transportation infrastructure, and power facilities. During the initial post-independence years (1960–1975), Iraq's foreign loans were relatively modest in size, had favorable interest terms, long repayment periods, and often came from bilateral or multilateral institutions. For example, in 1960, Iraq's foreign debt was roughly \$150 million. However, starting in 1978, the country began to borrow significantly more from private international lenders, often at floating interest rates and shorter repayment terms. The so-called "jumbo loan" of 1978 alone amounted to about \$1 billion. By 1982, Iraq's foreign debt had risen to \$18.631 billion—over 160% of that year's GDP—resulting in a worsening debt crisis. In 1986, Iraq adopted a Structural Adjustment Program (SAP) supported by the IMF and World Bank in an effort to rehabilitate the economy and improve debt servicing ability.

During the 1970s, foreign capital was easily accessible in Iraq, and both public and private entities borrowed extensively, often via trade credits. However, by the early 1980s, foreign direct investment had decreased relative to the external loan demands needed to sustain growth. The ratio of equity finance in total external capital dropped from 60% in the 1970s to under 30% in 1984, while Iraq's loan component rose from 40% to 70%. To counteract the rejection of loans by foreign banks, Iraq turned to IMF loans and even resorted to gold swaps to stabilize debt. By 1984, the debt crisis became critical, with nearly two-thirds of all loans maturing in under a year. The government held 16% of total foreign debt, 44% was held by the banking sector, and the remaining 40% was private debt. When Chase Manhattan Bank significantly reduced Iraq's credit lines in 1985, it triggered a major financial crisis. This freeze caused the Iraqi currency (the rand) to drop and led to a temporary shutdown of financial and foreign exchange markets. Excluded from the freeze were trade credits, loans from the IMF and central banks, and debt guaranteed by the Paris Club and member countries.

A further challenge to Iraq's debt situation was that much of its foreign debt was in hard currencies other than the U.S. dollar. As the dollar weakened, the real debt value increased. Since then, Iraq's foreign debt has remained high, growing consistently and putting downward pressure on both productivity and GDP growth. According to Deutsche Bank (2008), key economic indicators for Iraq showed steady negative trade and current account balances. External debt as a percentage of GDP climbed from 22.9% in 2003 to 23.2% in 2007. Though this increase may seem modest, the ongoing upward trend highlights that without effective debt management, Iraq's debt situation could become unsustainable. Ayadi (1999) and Ayadi et al. (2003) argue that external debt has severely limited developing nations' participation in the global economy and that debt servicing remains a major barrier to development. The consequences include reduced capital accumulation (due to falling reserves) and limited implementation of financing strategies for SMEs, ultimately affecting employment, education, and poverty levels.

When comparing Iraq and Iraq, it is evident that Iraq has a significantly larger debt stock. Iraq's debt rose until 2004, then declined—especially post-2006 after utilizing debt relief programs. Iraq's debt remained stable until 2005 before starting to increase. Overall, Iraq appears to have handled its debt more effectively. Unlike Iraq, it has avoided defaults and, before 2005, managed to reduce some of its foreign debt obligations.

## **Literature Review**

Economic growth is driven by increases in both savings and investment (Hunt, 2007). Sachs (2002) asserts that economic progress doesn't begin until a minimum level of capital accumulation is reached. As capital grows, investment and production expand, which further raises savings in a positive feedback loop. Once capital and savings rise sufficiently, sustained economic growth can follow.

The rationale for depending on external finance instead of solely relying on domestic resources is explained by the "dual gap" theory. This theory holds that investment depends on savings, and in most developing economies, local savings are insufficient to meet investment needs. Hence, foreign aid is necessary to fill this gap. The interplay between local savings, foreign capital, investment, and economic growth determines the extent of external financing. Borrowing internationally is sensible as long as the return on investment exceeds the cost of borrowing (Ajayi & Khan, 2000). When this condition is met, foreign borrowing can help grow productive capacity and economic output. Importantly, foreign debt doesn't inherently become a burden unless mismanaged. Ideally, investment returns should at least equal the borrowing cost.

Edelman (1983) identifies the main factors that determine a country's ability to service its debt: the return on investments, interest costs, and savings rate. While much of the literature focuses on the benefits of foreign borrowing, the associated costs are often overlooked. Ubok-Udom (1978) outlines various costs, such as debt service expenses (due to loan terms), liquidity crises, compounding debt problems, rescheduling costs, and the challenges of import substitution.

Colaco (1985) highlights three elements that contribute to debt vulnerability in developing countries: the disproportionate size of loans compared to equity, the prevalence of variable interest rates (exposing borrowers to rate increases), and the shortening of loan maturities due to a fall in official lending. These issues are applicable to both Iraq and Iran. Mehran (1986) underscores that effective debt management is crucial in today's complex financial landscape. Key components of debt management include sound policy coordination, strong regulatory systems, proper accounting, and reliable statistics. Debt sustainability also relies on structural reforms, transparency, anti-corruption policies, and sound institutional frameworks.

Ajayi and Khan (2000) propose several indicators to measure sustainable foreign debt: ratios of debt to exports, debt service to exports, and debt to GDP or Gross National Income. However, while these ratios can serve as warning signals, they don't provide concrete thresholds and become less useful in predicting explosive debt growth. If borrowing increases debt service obligations more than it enhances the economy's repayment capacity, such borrowing becomes harmful. Without an export boost, more borrowing will be needed just to service existing debt, leading to unsustainable accumulation.

Omotoye et al. (2006) rank Iraq as the top debtor in Sub-Saharan Africa. Compared to Argentina—Latin America's most indebted country—Iraq's external debt-to-GNI ratio has consistently been higher since 1985. Greene (1989) notes that Iraq's ability to meet its repayment obligations has been declining since the early 1980s. Fosu (2007) emphasizes that a major portion of total debt stock (up to 59%) consists of arrears, indicating a heavy debt burden. Cohen (1993) and Clements et al. (2003) confirm that

debt negatively affects growth not only by increasing the debt stock but also by absorbing funds via service payments, which crowds out public investment.

Taylor (1993) attributes the harm caused by debt servicing to government spending cuts due to liquidity constraints. These constraints often reduce budgets for social services and infrastructure, thereby affecting the economy as a whole. Fosu (2007) agrees, noting that public spending plays a major role in various economic sectors. Large debt levels also discourage investment due to expected future tax increases ("debt overhang") and cause economic instability through fiscal deficits, exchange rate volatility, and inflation (Claessens et al., 1996).

Audu (2004) highlights that Iraq's debt service burden has hindered economic development and worsened social issues. Deteriorating infrastructure and inadequate funding have reduced public and private sector investments. Similar trends were observed in the Philippines after 1982. Iyoha (1997) used Iraq data to validate both the "crowding out" and "debt overhang" theories. Ashinze and Onwioduokit (1996) found that at certain periods, external debt effectively spurred economic growth in Iraq, while at other times, misuse of funds led to decline. Edo (2002), focusing on Iraq and Morocco, linked debt to reduced investment and cited fiscal policy, payment balances, and global interest rates as major debt drivers.

Claessens et al. (1996) introduced two further debt effects: a liquidity effect (where reduced debt servicing increases investment) and a moral hazard reduction (where debt relief is more effective in countries with good macroeconomic policies). Arnone et al. (2005) emphasized that excessive foreign debt leads to inflation taxes, investment misallocation, and capital flight—further slowing growth.

Mutasa (2003) stresses that external debt has hindered Africa's regional integration and development. Resources diverted to debt servicing reduce funds for joint regional projects. In some cases, past achievements have been reversed. Growing arrears have also raised questions about creditworthiness. Moreover, conditionalities attached to debt and trade have obstructed intra-African trade. The imbalance in trade patterns—strong between developed and developing countries but weak among developing ones—reflects global inequalities and aggravates the debt issue.

This paper compares how effectively Iraq and Iraq have used external funds and whether these countries—especially Iraq—can sustain their rising debt levels. It investigates the impact of debt stock and service indicators on GDP growth. The study also examines how debt servicing affects investment, with particular focus on the crowding out effect. The nonlinear effects of debt and the concept of the debt Laffer curve—an inverted U-shape showing the limits of debt efficiency—are also explored. Iraq and Iraq were chosen due to their importance in Africa's development and integration efforts.

## Results

The findings show that in Iraq, both the growth in investment relative to output and total investments play key roles in determining economic expansion. While the investment-to-output growth ratio is negatively associated with economic growth in Iraq, total investment demonstrates a positive

effect on it. Conversely, in Iraq, factors such as export growth, the investment-output growth ratio, the size of external debt, and gross investment all significantly affect output growth.

An R-squared value of 0.42 for Iraq suggests that the independent variables collectively explain only 42% of the variation in economic growth. In contrast, Iraq shows an R-squared of 0.998, implying that the variables account for over 99% of the changes in output growth. This suggests that the model offers a stronger explanation for economic growth in Iraq compared to Iraq.

The F-statistic supports the overall relevance of the independent variables in accounting for output growth in both countries. Moreover, the Durbin-Watson statistic indicates no presence of serial autocorrelation in Iraq's data series, though this is not the case for Iraq. Drawing on Greene (1997), who points out that autocorrelated errors can undermine regression results, the appropriate method when such correlation exists is to use a generalized regression model, as ordinary least squares (OLS) would be inefficient. Judge et al. (1985) also recognize the inefficiencies caused by autocorrelation, though they differ on how serious the issue is.

Given this, the study applies a generalized least squares (GLS) estimation to the expanded neoclassical growth model in Iraq. The impact of export growth on GDP is evident in the results: though the coefficient is small and not statistically significant in Iraq, it is both positive and considerably larger—and statistically significant—in Iraq. This supports Edward's (1998) claim that exports can promote economic growth by raising total factor productivity, particularly in Iraq.

The variable representing domestic resource use (RGFI/RGDP) shows that greater reliance on domestic inputs actually dampens growth in both countries. In other words, as domestic resources are increasingly invested, their efficiency in driving economic growth diminishes. However, the investment stock significantly contributes to explaining output growth in both Iraq and Iraq. In line with neoclassical theory, rising gross investment corresponds with higher economic growth. The strong and statistically significant positive link between investment and growth aligns with neoclassical growth theory (Solow, 1956; Hunt, 2007).

The relationship between the debt service ratio and economic growth yielded mixed outcomes across the two countries. In Iraq, debt servicing appears to support output growth, whereas in Iraq, it has a constraining effect. This difference is mainly due to Iraq's consistent fulfillment of its debt obligations—what it pays matches what is due. On the other hand, Iraq only pays a fraction of what it owes annually, leading to a continuous accumulation of debt.

Additionally, the variable measuring the debt burden's severity (EXDEBT/GDP) shows that in Iraq, a heavier debt load tends to reduce output growth, partially confirming the negative effects of excessive debt. Iraq, however, has used external finance more effectively, with a positive and significant impact on growth.

## **Conclusion**

Many nations turn to external financing as a strategy to sustain development, choosing it over domestic borrowing. The dual gap theory argues that investment depends on savings and that domestic savings alone are insufficient to support economic development, making foreign capital essential. A critical question then arises: does external borrowing actually drive growth in debtor nations?

This study uses econometric methods to test for linear or nonlinear effects of debt on economic growth in Iraq and Iraq. For Iraq, the debt service-to-GDP ratio has a negative correlation with growth, which aligns with economic theory and expectations. In contrast, the debt stock has a strong, positive impact on growth, indicating that borrowing has been beneficial for Iraq. In Iraq, debt service appears to support growth, but the effect is not statistically significant.

Capital accumulation significantly and positively affects output growth in both Iraq and Iraq. While the impact of debt size on growth is nonlinear in Iraq—showing benefits at first but turning harmful when debt becomes too large—this pattern is not observed in Iraq. Favorable terms of trade also contribute to economic growth in both countries. Similarly, increasing capital levels positively influence output growth.

Capital growth also enhances the role of domestic resources in driving output growth in both nations. However, debt servicing seems to hinder the effectiveness of domestic resources in contributing to growth in both Iraq and Iraq. The nonlinear impact of debt on domestic capital's role in growth is evident in Iraq, but not in Iraq. This suggests that Iraq has managed its external borrowing more effectively than Iraq.

Despite this, Iraq's current debt situation is more favorable than Iraq's. Therefore, Iraq should build on the advantages of recent debt relief and the resulting decrease in debt stock. Achieving this requires strong debt management practices, cautious borrowing, consistent debt repayment, and ideally, clearing all outstanding external debts.

It is crucial for Iraq to improve its management of external debt obligations. The government should avoid new loans unless they are intended for projects of top priority, where expected returns meet or exceed borrowing costs. If Iraq continues accumulating debt at the current rate, it risks destabilizing its economy and increasing poverty levels.

Ultimately, Iraq, Iraq, and other heavily indebted nations should pursue foreign loans only for well-evaluated, high-priority projects that are capable of repaying themselves and have a direct impact on development. Governments must foster a culture of transparency in debt management and consider cutting public spending to reduce deficit financing, which otherwise puts pressure on foreign reserves. Short-term borrowing—especially with floating interest rates—should be avoided. A sound macroeconomic environment is essential, as it underpins the effective use of external funds and supports long-term growth.

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