Emerging Theoretical Approach for Sustainable External Debt and Economic Growth

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Abstract

The issue of external debt sustainability has evolved around the globe since World War II. A country requires foreign borrowing to support the continuality of its economic activities in good and poor times of economic performance. External debt can be growth-enhancing if it is not excessive. In contrast, successive external debt obligations faced by those substantially indebtedness countries can be detrimental. It can jeopardize the growth of developing countries that largely rely on external funding to support domestic development and growth. This paper reviews the emerging theoretical approach for sustainable external debt and economic growth. The predominant theories are the growth-enhancing debt theory, dual-gap theory, debt-overhang theory, and the crowding-out effect.

***Keywords*:** *external debt, economic growth, growth enhancing-debt, dual-gap theory, debt-overhang, debt Laffer curve, crowding-out effect*

1   Introduction

As defined by the International Monetary Fund (IMF), "Gross external debt, at any given time, is the outstanding amount of those actual current, and not contingent, liabilities that require payments of principal and/or interest by the debtor at some points in the future and that are owed to non-residents by residents of an economy" (International Monetary Fund, 2014, p.5).

External debt or foreign borrowing is necessary for a country to supplement its internal source of capital to accelerate economic growth. The recent 2008/09 global financial crisis has generally caused many countries' budget balances and debt ratios to deteriorate, forcing those countries to take actions to counteract the crisis. Some countries resorted to external borrowing to sustain its economic growth during the crisis. Indeed, there is a need to look into the external debt sustainable level to identify the level of debt that starts to impair economic growth of a country.

The objective of this paper is to provide a literature review to show theoretical approach for sustainable external debt and economic growth. A section 2 discusses the growth-enhancing debt theory. Section 3 pays attention to the dual-gap theory.

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Section 4 has a focus on debt-overhang theory, while Section 5 is on the crowding-out effect. Section 6 concludes this paper.

2   Growth-Enhancing Debt

Reasonable levels of current debt inflows are expected to have positive effect on growth as long as the borrowed funds are used for economic development. Eaton (1993) has concluded that through the models of endogenous growth, the access to international capital markets can lead to faster growth. The study has noted that the rates of growth are the consequences of differences in the technologies and the patience of the country. In the long run, long-term investment projects are allowed through foreign debt without the sacrifice of current for future consumption that would otherwise be necessary. Hence, external borrowing can supplement domestic savings and speed up capital accumulation to promote economic growth.

A study by Abu Bakar and Hassan (2008) found positive effect of external debt on economic growth. The study analyses the effect of external debt on economic growth by considering both aggregate and disaggregate debt levels and suggests that low level of borrowing has a positive relationship with economic growth in Malaysia. Specifically, one per cent increase in total external debt generates 1.29 per cent increase in economic growth in the long-run. In addition, Jayaraman and Lau (2009) find that the coefficient of external debt is positive and significant in all countries with real GDP as dependent variable, in which, an increase in external debt would trigger analysed an upward rise in economic growth.

3   Dual-Gap Theory

The financing gap idea is originated in April 1946 by Evsey Domar (1946), in which the difference between required investment and available domestic resources can be closed by borrowing from abroad. Rostow (1960) has surface this idea in his work through "The Stages of Economic Growth" in which he suggests that, the change from underdevelopment to development can be described in terms of a step or stages. Mobilization of domestic and foreign saving is one of the principal components of development, in order to ensure sufficient investment to generate economic growth. In addition, the necessary condition for development to take place is the increase in investment between the ranges of 5 – 10 per cent of income. However, if domestic resources are not enough in developing countries, the gap must be filled with foreign aid or external borrowing.

Recently, Chenery and Strout (1966) augment the Harrod-Domar/Financing Gap model with recognition of the need of a national saving. This theory also points out the need for foreign resources in accelerating economic growth. It has been used extensively to justify aid. This theory indicates typical sequence of investment-saving gap and it is followed by export-import gap to be filled for accelerating growth in developing countries. It explains that development is a function of investment and investment that depending on domestic savings, is insufficient for development to take place. There must be possibility of obtaining certain amount of borrowing from abroad that can be invested to fill the gap. In national income accounting, an excess of investment over domestic savings is equivalent to excess surplus of import over export.

$$Income = Consumption + import + savings$$
$$Output = Consumptio + export + investment$$
$$Income = Output$$

Then,

$$Investment - Savings = Import - Export$$

The above equation is the basis of dual gap analysis. Note that, if the available domestic saving is inadequate to achieve the target rate of growth, a savings-investment gap is said to exist. On a similar note, if the maximum import is greater than the maximum export that needs to achieve the growth target, then, the export-import of origin exchange gap exists.

In essence, these models emphasize on the importance of savings and investment in economic growth. In which, the assumption about capital mobility or the ability of a country to lend or borrow help increases transitional growth following the traditional neoclassical growth models such as, the Solow-Swan model (Solow, 1956; Swan, 1956). The existence of investment-saving gap has to be filled by foreign resources to accelerate growth in developing countries. The contribution of foreign aid is questionable if it fails to improve the economic conditions of the recipient countries.

Foreign capital or external debt that used to fill the gap may accelerate the process of economic growth; however, there are contradicting views about its contribution to growth. Adegbite et al. (2008) state that, in developing countries the level of domestic savings is not sufficient to fund the investment necessary to ensure economic growth. Mosley (1980) finds that the relationship between aid and economic growth is positive for U.K. aided countries and negative for the French and Scandinavian aided countries. Shabbir and Mahmood (1992) find that net foreign capital investment and disbursement of grants and external loans have positive impact on the economic growth of Pakistan. On the other end of the spectrum, Khan and Rahim (1993) find that foreign aid negatively affects domestic savings, with no significant impact on

economic growth. The reason why foreign resources may not significantly increase growth is because it may not supplement but substitute inadequate local resources, and thus fail to increase overall available capital to enhance investment (Khan, Hassan & Malik, 1992).

4   Debt-Overhang Theory

External debt could be a hindrance to economic growth through several reasons. One dominant explanation for the negative relationship between external debt and economic growth is the debt-overhang hypothesis. Debt-overhang hypothesis states that at very high debt levels in a country, the government has no incentives to carry out macroeconomic reforms and to implement policies, as the returns of the reforms will only be used to service the outstanding debt. According to Reinhart, Reinhart, and Rogoff (2012a), one of the varieties of debt overhang is through external debt, where external debt creates a particularly intense overhang problem as a country generally has a much narrower range of tools for reducing debt.

Debt overhang may derive from public debt, private debt, external debt that includes both government and private debts owed to foreigners, and the actuarial debt implicit in underfunded, or simply underfunded, old age pension and medical care programmes, where each of these can distorts economic growth (Reinhart, Reinhart, & Rogoff, 2012b). The original formulation of debt overhang theory is actually centred on the adverse effects of external debt on investment in physical capital. However, the theory's scope is so much broader; for example, a high level of external debt can reduce government incentive to carry out structural and fiscal reforms as these may sharpen the pressure to repay foreign creditors.

At the other end of the spectrum, Krugman (1988a) has proposed a theory of debt overhang to illustrate the effect of debt on economic growth. According to his study, debt overhang means the presence of an existing 'inherited' debt that is sufficiently large and the creditors do not expect with confidence to be fully repaid, and that the 'inherited' debt is larger than the present value of the resource transfer that their creditors expect them to make in the future or larger than the repayment ability in the future. Specifically, creditors may choose to provide new lending with the hope that the debtor's ability to pay will improve and the full amount of debt will be repaid. However, if the debtor is unlikely to be able to repay except in exceptional circumstances, then there will be little incentive to adjust. In other words, if debt's level of a country is expected to exceed a country's repayment ability, the expected debt service is likely to be an increasing function of a country's output level since the benefits obtained from growth are constrained by huge debt servicing requirements.

This leads to a situation where some of the returns from investing in the domestic economy will be effectively 'taxed away' by existing foreign creditors and thus discouraging economic growth, due to the resulting low level of current and future investment. Thus, debt overhang from the perspective of debtor country, acts like a high marginal tax rate on the country that can lower the investment return and restraint formation of domestic capital. The reason is that, the increase in the debtor country's incentive to consume income rather than save and invest. In these circumstances, creditors may choose to forgive part of the debt in the hope that the remainder is repaid. Krugman shows that the choice between financing and forgiveness represent a trade-off (see Krugman, 1988a).

Sachs (1989) has also given an explanation for the debt crisis puzzle, by introducing the concept of a debt Laffer curve which complements the debt overhang theory. According to Sachs, debt overhang can be defined as a situation in which the expected repayment on foreign debt does not reach the contractual value of debt. In addition, the debt overhang hypothesis states that external debt burden provides disincentive to domestic investment in developing countries, thus slowing down economic growth. This is because; the earning from domestic investment will be used for paying foreign creditors. Moreover, debt payments can be linked to a country economic performance if a debtor country is unable to pay its external debt (Savvides, 1992). Their finding is suggestive that there is only a partial benefit a country can get from an increase in output or exports, because the other fraction of the increase is used to service the debt and accrues to the creditors.

On the other hand, Borensztein (1990) defines debt overhang as follows: "The debt overhang arises in a situation in which the debtor country benefits very little from the return to any additional investment because of debt service obligation. When foreign obligations cannot be fully met, existing resources and actual debt payments are determined by some negotiation process between the debtor country and its creditors. The amount of payments can be linked to the economic performance of the debtor country, but at least part of the return to any increase in production would in fact be devoted to debt servicing. Thus, it will create disincentive to investment from the point of view of the debtor country (Borensztein, 1990, p. 316).

To put in simple words, the basic idea behind the debt overhang is that when countries accumulate large foreign debts, higher tax rates in the future that are required to service the foreign debts, will be anticipated. In turn, this will discourage and reduce the level of investment. The decline in investment will ultimately reduce economic growth. Hence, in debt overhang, the outstanding foreign debt affects economic growth adversely through its disincentive effect on investment.
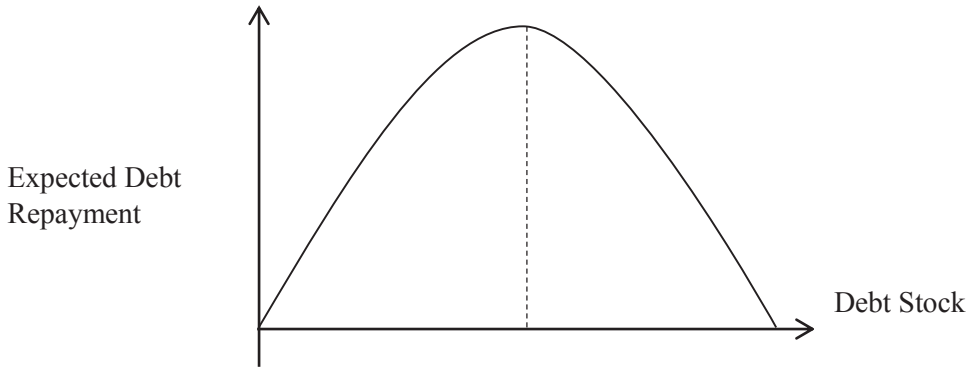
4.1   Debt Laffer Curve

There is theoretical literature that suggests foreign borrowing can affect investment and economic growth positively up to a certain threshold level, but beyond this level, the effect is negative. In other words, this idea is focusing on the nonlinear relationship between debt and growth. As posited by Cohen (1993), the relationship between the face value of debt and investment can be represented as a "Laffer curve" which illustrates that as outstanding debt increases beyond a threshold level, the expected repayment will fall. Cohen (1993) studies the correlation between the least develop countries' debts and investments. He has concluded that it is not the large debt that lowering investment but actual service of debt. Thus debt Laffer curve is a graphical explanation of debt overhang theory.

According to Bachvarova (2008), debt Laffer curve was first introduced by Jeffery Sachs (1989a) in the context of 'debt overhang' argument, while Krugman (1988b) formalised the actual derivation of the curve and the underlying logic behind it. The ability of countries to service and finally repay their actual levels of debts has been linked by Krugman in his study on Market-Based Debt-Reduction Schemes. That is, the obligation of servicing debt will act like a high marginal tax rate when a country has accumulated too much debt or when its obligation exceeds the amount it is likely to pay. The upshot of this situation will be a disincentive for any government to do well to improve its economic performance. This is because much benefits from growth will go to creditors rather than the country itself. Besides, the financing of debt will be at the expense of taxpayers through the taxation of capital that will further discourage investment. The debt Laffer curve on Krugman study is based upon the market value and face value of debt.

Similarly, a theoretical model developed by Calvo (1998, 2001) also shows that the impact of debt on growth is nonlinear which depends on the magnitude of the initial debt stock. His model consists of three distinct areas, in which, the first area, growth is an increasing function of the debt, the second area is an intermediate region where economic growth can either be high or low, and third growth is a decreasing function of debt. Specifically, the economy will exhibit high growth equilibrium for a lower debt-to-GDP ratio and low growth equilibrium for a higher debt-to-GDP ratio. The higher growth equilibrium is when there is a modest cut in debt that leads to high growth. The lower growth is due to the higher debt service payments when the there is a high debt. In order to service debt, a higher tax rate on capital will be needed leading to a lower rate of return on capital, thus lowering investment and economic growth. Following Calvo (1998, 2001), the only channel through which debt affects growth is the changes in tax rates that are required to finance debt service payments.

Meanwhile, Pattillo, Poirson and Ricci (2002) through their published work "External Debt and Growth", have studied the debt Laffer curve, based on expected debt repayment and debt stock value.

Figure 1 Debt Laffer curve

Source: Pattillo et al. (2002).

Figure 1 above shows that larger debt stocks are associated with lower probabilities of debt repayment. The Laffer curve has an upward sloping regime and downward sloping regime. In the upward sloping regime is the "good" section while the downward sloping regime is the "bad" section of the curve. In the "good" section, increases in the face value of debt are associated with increases in the expected resource transfer required to stimulate economic growth and also an increase in expected debt repayment. In "bad" section; increases in debt stock reduce is expected repayment as certain portion of the returns from investment in the domestic economy is effectively 'taxed away' by existing foreign creditors, thus discouraging investment (Domar, 1994); Krugman, 1988); Sachs, 1989; Borensztein, 1990).

In other words, the Laffer curve denotes a situation in which, if a country borrows a lot, until exceeding a certain threshold debt level, this may upshot in efficiency losses. Debt servicing obligation makes the country unable to invest part of its income (Cohen, 1993; Calvo, 1998, 2001). The debt Laffer curve shows there is an optimal level of debt that a country can sustain without facing the debt overhang problem.

Patillo et al. (2002) is among the previous studies that has explored the nonlinear effect of external debt on economic growth. As suggested by Patillo et al. (2002), doubling the debt ratio for a country with average indebtedness will reduce growth by one third to a half percentage point after controlling for endogeneity. The findings also suggest that the average impact of debt becomes negative at about 160 – 170 per

cent of exports and 35 – 40 per cent of GDP. Cordella et al. (2005) explore how debt-growth relationship varies with the indebtedness levels. They find that debt overhang only valids in non-HIPCs (Highly indebted poor countries) and not in HIPCs, which suggests that high level of debt may not contribute to economic growth in HIPCs. The results reflect a non-linear relationship, positive at low levels of debt, negative at intermediate levels, and nil at high levels. The debt overhang threshold at which the marginal effect of debt turns negative is situated between 30 and 40 per cent of GDP, while the debt irrelevance threshold is between 50 and 60 per cent of GDP.

Sen et al. (2007) test the existence of debt overhang hypothesis for five selected Latin American countries and six South East Asian countries. They suggest that debt overhang has impeded growth in the Latin American economies, while the Asian region has received only moderate negative impact. Reinhart and Rogoff (2010) find that some emerging markets have lower thresholds for external debt. The authors have determined the threshold for external debt (public and private) as 90 per cent and 60 per cent for the advanced economies and emerging markets, respectively.

5   Crowding-Out Effect of External Debt on Economic Growth

Another theoretical perspective used to explain the negative effect of external debt on economic growth is the crowding-out effect, through debt servicing in contrast to the total debt stock. Crowding-out effect happens when external debt servicing crowds out investment or altering the composition of public spending. In other words, it is a situation where revenue obtained from foreign exchange earnings by a nation is used for debt service payments.

According to Clements, Bhattachaya and Nguyen (2003), high-debt service can raise government's interest rates or crowd out credit available for the private investment, hence, dampening economic growth. The composition of public spending is altered because of the high-debt service payments that squeezes the amount of resources available for infrastructure and human capital. This may lead that lead to negative effect on growth. Cohen (1993) presents a crowding out effect framework for a country with a large external debt which cannot be rescheduled. The actual service of debt may crowd out investment, while the level of debt stock does not appear to have much power to explain the investment slowdown in developing countries during 1980s. The slowdown of investment is due to the flows of net transfers, where, the point estimate of the crowding out effect is 0.35, which means that for every 3 percentage point of GDP transferred abroad for debt service payments, investment declines by 1 percentage point.

6   Conclusion

This paper has reviewed the theoretical approach related to external debt sustainability and economic growth. Several theories have been discussed in this paper. The theoretical models explain the impact of external debt on economic growth, both positively and negatively. The debt-enhancing growth theory supports the claim that external debts positively enhance economic growth, while the dual-gap theory states that external debt is required to be used to supplement the capital gap in a country. Debt-overhang theory and the debt Laffer curve emphasize that excessive debt owed by a country increases the obligation to service debt. Crowding-out effect states that economic growth is likely to be dampened when the return from investment is used to pay debt.

Most empirical studies reviewed so far find that external debt is growth-enhancing when the external debt level is below a certain threshold. External debt starts to impair economic growth when the debt level is beyond the threshold. The main argument in this paper is that there are good reasons for countries to borrow from abroad to supplement its capital need, while it is also important to avoid excessive external debt as it can negatively affect economic growth.

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