PUBLIC DEBT SERVICE AND ECONOMIC GROWTH: A SURVEY OF INTERNATIONAL LITERATURE

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Abstract. This paper provides a comprehensive survey of the analytical arguments and empirical evidence on the impact of public debt service on economic growth, in both developing and developed countries. Although most of the literature reviewed supports the classical view that public debt service negatively affects economic growth, a few other empirical findings revealed that the link between these two macroeconomic variables is non-existent. On the whole, the paper concludes that the impact of public debt service on economic growth is dependent on the size, structure and composition of both domestic and foreign public debt. Therefore, in a wider macroeconomic setting for public policy, governments are encouraged to ensure that both the level and rate of public debt growth is primarily sustainable, and can be serviced in a manner which lessens economic, political and social costs.

Key Words: Public debt service, Economic growth, Literature survey
JEL Classification: H52, H62, H63, O11

1. Introduction

The resurgence of the global financial crisis in 2007 has underscored the destabilising effects of excessive public debt service costs build-up in developing and emerging economies (International Monetary Fund "IMF", 2018). According to the IMF(2018), the current higher global interest rates could divert considerable budget resources to debt servicing from critical growth-enhancing infrastructure and social services; placing low-income and emerging economies at great risk. Estimates of underlying growth potential in most developing countries and emerging economies and the rising interest rates – the cost of servicing debt – will make it harder for debtor governments to refinance bonds and contracted loans (IMF, 2018).

With reference to sub-Sahara African (SSA) countries (excluding South Africa), towards the end of the 1980s there was a swift shift of focus by both debtor and creditor countries from the build-up in public debt towards debt-servicing capacity. During this period, most regional countries experienced: (i) rampant inflation and an excessive diversion of foreign borrowings from productive activities and social services towards debt servicing; (ii) severe loss of credit worthiness; and (iii) negligible net capital inflows (Ndikumana and Boyce, 2015; IMF, 2013). Danso (1990) and Green and Khan (1990) added that the debt overhang in SSA caused considerable changes in economic institutions, domestic policies, monetary expansion, flourishing of parallel foreign exchange markets, rising fiscal deficits and substantial capital flight. A few countries, such as Zimbabwe and Zambia, reverted to foreign borrowing to sustain public expenditures in the face of falling export earnings. Furthermore, many highly indebted African countries experienced meagre economic growths which were sacrificed for the payment of foreign debts.

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Thus, in the swiftly rising volume of literature on the snags for economic growth, considerable focus is being shifted towards the impact of public debt and public debt service costs on the rate of capital formation, mostly in low-income and middle-income countries.

While some traditional growth theories, such as in the Keynesian setting subscribe to a mono-causal theory of growth – that an increase in government indebtedness is an indispensable prerequisite to a long-term increase in gross capital formation, and hence economic growth; the Classical school view public debt and public debt servicing as disastrous as it entails either an outward flow of resources or uncertain future business environment, such as high imminent taxes (Bowen *et al.,* 1960; Buchanan, 1958). Keynesian analysis viewed the economic effect of government debt in terms of its income-generating potentialities, and considered public debt service costs as harmless to the society (Buchanan, 1964). The Keynesian theory further states that additional flow of income generated by increased government debt-financed expenditures enhances the payment of taxes to service the debt (Buchanan, 1964).

The post-Keynesian theories on the impact of public debt service on economic growth were written on the background of huge rises in both public debt and government expenditures on non-developmental programmes (De Broeck *et al.*, 2015). De Broeck *et al.* (2015) argued that, concerns among potential investors about the credibility of fiscal policies and sovereign debt service are contributing to the severity and recurrence of the financial disruptions and economic recessions in debtor countries. However, Easterly *et al.* (2007) concluded that the optimal balance between government debt, public debt service and economic growth has varied based on country specific factors, such as the volume of domestic revenues, the level and composition of public expenditures, the level of government indebtedness, and the structure of fiscal institutions.

Against this background, this paper provides a detailed survey of the existing theoretical and empirical literature on the impact of public debt service on economic growth. The discussions attempt to examine the effect of variation in government expenditures, brought about by debt payments, on the overall rate of economic growth. The rest of the paper is organised as follows; Section 2 discusses the theoretical literature on the impact of public debt service and economic growth; Section 3 reviews the empirical literature on the impact of public debt service and economic growth; while Section 4 provides the concluding remarks.

2. The impact of public debt service on economic growth: A theoretical literature review

The Classical view of the 18th Century, whose origins are in the works of Davenant (1700), Hutcheson (1714), Hume (1752), and Smith (1776), among others, argue that "either the nation must destroy public credit or public credit will destroy the nation" (Churchman, 2001: 137). The basis of this view is that domestic and foreign public debt service costs are very ruinous to economic growth via crowding out effect (Panizza and Presbitero, 2014; Kumar and Woo, 2010; Churchman, 2001; Cunningham, 1993). For instance, Smith (1776) pointed out that higher taxes required to finance public debt repayments cause productive capital to be transferred to the creditors of the public debt. In consequence, the public debt service payments will

induce a considerable reduction in trade and capital stock formation. Thus, Smith (1776), like Hume (1752) and Malthus (1886), argue for the "liberation of the public revenue" from debt service by reducing public debt to zero.

The proponents of the Classical school in the twentieth century have maintained that public debt payments, mostly foreign, crowds out economic growth by discouraging private savings and private investment, as well as deterring potential foreign investors (Krugman, 1988; Diamond, 1965; Modigliani, 1961). Krugman (1988) and Sachs (1989) posit that debt overhang and excessive public debt service commitments can be likened to an implicit tax on domestic revenues to repay the debt, thus, discouraging investment. Sachs (1989) concluded that, highly indebted poor countries allocate a high proportion of their critical foreign exchange reserves towards public debt service obligations. Consequentially, the servicing of contractual agreements restraints the financing of productive and welfare activities, which have a multiplier accelerator effect on the economy (Sachs, 1989).

According to Krugman (1988) and Serven (1997), both high levels of public debt and swift changes in domestic and foreign government indebtedness, increases resources misallocations, capital inefficiencies and economic uncertainty since the government might adopt distortionary measures to finance the debt repayments – leading to slowdown in economic growth. The economic uncertainty will either discourage potential investors from investing, preferring to wait, or will cause capital flight as the private investors would want to avoid the potential increase in taxes (Serven, 1997).

Diamond (1965) stated that the variations in tax levels required to finance the interest payments on both domestic and foreign public debt will impact negatively on the individuals' lifetime aggregate consumption and private saving patterns of tax payers, and hence on gross capital stock formation. The anticipation by the private sector of distortionary taxes to service government debts will crowd out current private investment, and hence depresses economic growth (Agenor and Montiel, 1996). Buchanan (1964) added that taxes levied in future periods for debt servicing signify a transfer of purchasing power from one generation to another with the economy bearing the cost of reduced overall gross capital formation.

The late 20th and the early 21st Centuries arguments on the impact of government debt service costs on economic growth are also centred mostly on the utilisation of domestic factors of production. The debt-resource-hypothesis states that excessive indebtedness amplifies the rate of both natural resource exploitation and more unsustainable patterns of resource use (Neumayer, 2005). Countries with high debt payment costs supposedly increase their extraction of fossil fuels and mineral resources, as well as their production, in order to meet debt payment commitments (Cunningham, 1993). According to Karagol (2002) and Cunningham (1993), labour and capital exploitation in the production process depend largely on the country's debt service burden and the size of the economy. In particular, public debt service costs negatively affect labour and capital productivity, with service payments benefiting foreign creditors rather than domestic investors. In other words, when foreign creditors rather than domestic investors profit from the rise in productivity, increase of capital and labour force will be discouraged – leading to depressed long-run economic growth rates in debtor countries (Cunningham, 1993). Cunningham (1993), thus, extended the traditional

growth models by adding public service as an independent input in the production process: Y = f(K, L, DS), where Y is the rate of economic growth, K is capital, L is labour and DS is public debt service payments.

Fiscal ineptness is the other channel through which government debt service costs is said to impede long-run economic growth. Fiscal ineptness refers to the budgetary indiscipline and severe rise in non-productive government expenditures, mainly driven by political extravagance (Reviglio, 2001). Fiscal ineptness causes economic, political and social instability especially if governments force residents to repay public debts through high taxes (Baneth, 2003). According to Fosu (1999) and Green and Villanueva (1991), if the borrowed public funds are committed to consumptive outlays, the outcome will be debt overhang, with debt service payments crowding out both private investment and long-run economic growth rates.

The crowding out effect of foreign public debt payments on economic growth is supported in literature by Chowdhury (2004), Pattillo *et al.* (2004), Clements *et al.* (2003), Elbadawi *et al.* (1997), Fosu (1996) and Cohen (1993), among others. Chowdhury (2004) states that high levels of public debt stocks and debt service costs can squeeze investment – through high levels of inflation and interest rates – which then ruin macroeconomic stability in debtor countries. Foreign public debt payments are assumed by Pattillo *et al.* (2004) and Cohen (1993) to cause severe domestic liquidity constraints. These liquidity constraints prompt a reduction in: (i) public expenditures on infrastructure development, (ii) human capital formation and (iii) the importation of critical industrial enablers, which lowers the rate of economic growth (Aizenman *et al.,* 2007). According to the IMF (2018), public debt service payments in most developing countries have considerably minimised the fiscal space to fund social expenditure programmes, such as education and health, and have also reduced public allocations meant to embark on meaningful research and development.

According to Clements *et al.* (2003), high foreign public debt service costs cause an exponential increase in the government's interest bill leading to unsustainable fiscal deficits. The implication of rising government spending towards foreign public debt repayments is a reduction in public savings and soaring of domestic interest rates (Clements *et al.,* 2003). Resultantly, the rising costs of borrowing crowd out private investment, thus dampen the rate of economic growth. Clements *et al.* (2003) added that foreign public debt servicing costs crowd out economic growth by worsening the terms of trade of the debtor country, forcing up domestic tax rates, and depressing returns on investment. In extreme circumstances, where countries use natural resources, especially minerals, and agricultural output to pay foreign debts, the rate of resource depletion will be high (Clements *et al*., 2003).

Similarly, Elbadawi *et al.* (1997) argue that foreign public debt payments cause uncertainties which can undermine the effectiveness and sustainability of otherwise credible economic reform programmes, with debt service payments crowding out public investment. Fosu (1996) highlights the negative impact of foreign public debt on investment choices due to the liquidity constraint effect stemming from debt service payments. According to Fosu (1996), a country suffering from large debt service payments is likely to have low productive investment mix due to foreign exchange liquidity constraints. The liquidity constraints are likely to reduce the availability of

investment funds and amplify increased dependence on relatively short-term investments, rather than long-term investments, in order to service the debt (Fosu, 1996). The author added that high debt service may result in decreased capital and labour productivity and referred to this effect as the "direct effect of debt hypothesis". Furthermore, Oks and Wijnbergen (1994) argue that high foreign debt repayments can lessen the government's incentive to implement important structural and fiscal reforms if the state anticipates that foreign creditors will benefit more than itself.

Similarly, the existing theoretical literature support the view that domestic public debt repayments have a negative impact on the growth process of an economy. Higher domestic debt service payments can impact negatively on the composition of government spending by squeezing the amount of resources available for, industrial, infrastructure, human capital, and welfare activities, with negative effects on economic growth (Soydan and Bedir, 2015; Abbas and Christensen, 2007). The rise in domestic public debt interest payments will lower the capacity for productive government spending, which eventually lowers economic growth rates (Teles and Mussolini, 2014). Soydan and Bedir (2015) argue that debtor countries use a substantial amount of newly borrowed resources in debt servicing thus negatively affecting productive investments. The growth in domestic public indebtedness, according to Clements *et al*. (2003), added to the growing uncertainty about actions and policies that the government will adopt in order to meet its debt servicing obligations – negatively affecting both private investment and foreign direct investment decisions.

Contrarily, the IMF(2012) argue that if borrowed public funds are used in productive activities, movements in future domestic interest rates, taxation rates and debt service payments will not be injurious to the economy. Feldstein (1988) added that when the national income increases at a rate higher than the domestic interest rate of public debt, then the government can increase its debt without reverting to distortionary taxation or issuance of new debt. Furthermore, Stein (1886: 230) points out that public debt servicing is harmless if "every debt-financing of public expenditure led to productivity increases that would cover the debt service". Conclusively, a large body of reviewed theoretical literature shows that: (i) debt-servicing ability and creditworthiness are compromised when public debt levels are growing faster than the economy, or when interest rates on public debt exceed economic growth rates (Baneth, 2003); and (ii) the negative impact of public debt service on real activity are mitigated when low-income countries are net recipients of resource transfers from donors - even when public debt repayments are high (Clemens *et al*., 2003: 3).

3. The impact of public debt service on economic growth: An empirical literature review

The empirical evidence on the impact of public debt service on economic growth predominantly suggests that heavy public debt service costs constraint public and private investment, and hence economic growth prospects. Empirical evidence from developing countries on the impact of public debt service on economic growth is concentrated around the period from 1990 to 2005, and is generally inconclusive. Studies supporting negative relationship between public debt service and economic growth include Karagol and Özdemir (2004), Hansen (2002), Karagol (2002), Serieux

and Samy (2001), Weeks (2000), Cohen (1993), Cunningham (1993), and Savvides (1992).

Karagol and Özdemir (2004) investigated the relationship between gross national product (GNP) growth rate and public debt burden (the sum of the interest payments and foreign debt repayments), with gross domestic investment, labour and 1973 oil crisis dummy as additional variables, for the period from 1958 to 1996. The results show that the impact of debt burden on GNP growth rate is significant and negative. A one percent increase in foreign debt interest payments and repayments reduced Turkey's GDP growth rate by 0.84 percent. According to Karagol and Özdemir (2004), the results indicate that a considerable amount of the foreign exchange was being diverted to the foreign creditors, thus reducing domestic output.

In 2002, Hansen analysed the impact of total debt service payments and official aid flows on real GDP growth rate and investment using a sample of 50 developing countries, both highly indebted poor countries (HIPC) and non-HIPC countries. The estimated cross-country study findings of Hansen (2002) show that total government debt service payments have a significant negative impact on both investment and real GDP growth rates. The study results show that for each one percentage point increase in total debt service payments to GDP, there will be a negative impact on real GDP growth, amounting to 0.145 percent.

Karagol (2002) examined the short-run and long-run impact of foreign debt service, capital stock, labour force and human capital on gross national product growth rate in Turkey for the period from 1956 to 1996. Employing the Johansen and Juselius maximum likelihood estimation technique, the results of Karagol (2002) show a negative short-run and long-run impact of debt service on gross national product growth rate in Turkey during the study period. The results of Karagol (2002) indicate that for each one percentage point increase in interest payments and foreign debt repayments, there will be a negative 0.01 percent decline in real GNP growth. Based on the study findings, Karagol (2002) concluded that potential increases in debt payments depress the returns to productive investment and discourage capital formation.

Serieux and Samy (2001) investigated the impact of public debt service, investment, human development on economic growth in 53 low-income countries and lower middle-income economies for the period from 1970 to 1999 using panel datasets. According to Serieux and Samy (2001) debt service costs crowd out both public and private investment spending by suppressing capital imports which are necessary in enhancing the productive capacity of the economy. The authors argue that, for countries with non-traded currencies, interest payments and foreign debt repayments leads to reduced import capacity of capital goods – resulting in reduced investment and lower GDP growth rates. Furthermore, Serieux and Samy (2001) stated that the reduction in debt repayment burden – following the debt relief of 1996 and 2005 – allowed HIPC countries to: (i) resume borrowing, taking advantage of low global interest rates, and (iii) trade securities on international capital markets resulting in partial improvements in economic performances. Moreover, the authors added that, despite the debt relief, the adverse developments in international commodity market prices between 1996 and 2005 compromised the ability of most HIPC countries to

settle their old and new foreign financial obligations leading to a built-up of sovereign debt vulnerabilities (Serieux and Samy, 2001).

Weeks (2000) studied the relationship between foreign public debt service and the rate of GDP growth in two groups of economies, that is, 18 Latin American countries and 4 highly performing Asian countries – Indonesia, Malaysia, Singapore and Thailand – over the period from 1960 to 1994. Using the ordinary least square estimation technique, Weeks (2000) found that the debt service variable was significant even at less than 1 percent significance level. The findings of Weeks (2000) show that a 1 percent increase in foreign public debt service lowers the rate of GDP growth by 1.6 percent in studied Latin American countries. However, Weeks (2000) found an insignificant relationship between public debt service and GDP growth in Asian countries.

Cohen (1993) examined the correlation between debt service and investment in 81 low-income countries for the period from 1965 to 1987 using the ordinary least square method. By dividing the study period into three-time periods, that is, 1965-1973, 1974-1981 and 1982-1987, the empirical results of Cohen (1993) found evidence consistent with the crowding out hypothesis. The results show that for every 1 percent of GDP paid abroad, domestic investment decreased by 0.3 percent of GDP.

Cunningham (1993) studied the link between public debt burden and GDP growth in sixteen heavily indebted countries over the period from 1971 to 1986, using standard production functions – which consisted of physical capital, labour and debt service. Cunningham (1993) classified debt servicing as a primary factor of production, just like capital and labour. The results of Cunningham (1993) show that between 1971 and 1979, debt service payments had a negative impact on GDP growth and that the productivity of capital and labour were significantly reduced. Contrary, Cunningham (1993) found no significant evidence of a relationship between these two macroeconomic variables for the period from 1980 to 1986.

Savvides (1992) investigated the relationship between public debt service and GDP growth by applying cross-sectional time-series data in 43 developing countries for the period from 1980 to 1986. Using a two-stage limited dependent variable model, Savvides (1992) states that, if a debtor country is unable to pay its foreign debt, debt payments will start depressing the country's economic performance. From the debtor country's perspective, Savvides (1992) added that public debt service payments have the same negative effect on GDP growth as a rise in marginal tax rate – thus, depressing investment return and amplifying disincentive effects on domestic capital accumulation. These empirical results by Savvides (1992) were confirmed by Stephens (2001) who used a panel of 24 highly indebted poor African countries to examine the impact of debt service on GDP growth. The results of Stephens (2001) show that for each additional US$1 in debt service, there will be: (i) a US$0.33 reduction in education spending; and (ii) a fall in government wage expenditure of between US$0.14 and US$0.23. Stephens (2001) therefore concluded that debt service payments reduce GDP growth by crowding out public spending in both critical production activities and human capital formation.

Empirical studies which have found no economic linkage between public debt servicing and economic growth include Jalles (2011), Hepp (2008), Pattillo *et al.*

(2002) and Hansen (2001). Jalles (2011) analysed the impact of government debt service on GDP growth in 72 developing countries over the period from 1970 to 2005. Using a combination of the fixed effects and generalised method of moments (GMM) estimation techniques, Jalles' (2011) results show an insignificant effect of public debt service on GDP in the studied countries. The results further reject the existence of a debt service-laffer curve relationship in the sample countries.

Hepp (2008) tested whether numerous debt initiatives of the 1980s and 1990s had a significant impact on GDP growth per capita in low-income countries. Applying both GMM and fixed effects regression techniques, Hepp (2008) concluded that, on average, public debt service relief had no impact on GDP growth rates per capita in beneficiary HIPC countries. However, the results of Hepp (2008) indicate that the 1996 Heavily Indebted Poor Countries Initiative and the 2005 Multilateral Debt Relief Initiative had a positive effect on GDP growth rates per capita in non-HIPC countries.

Table 1 presents a summary of empirical studies on the impact of public debt service on economic growth.

Pattillo *et al.* (2002) analysed the link between foreign debt payments and GDP growth rates per capita using panel data of 93 developing countries for the period from 1969 to 1998. After using four different econometric methodologies, that is, instrumental variables with lagged values, Least Square Method, system of GMM (with and without dummies) and fixed effects, Pattillo *et al.* (2002) concluded that there is no statistically significant relationship between foreign public debt service payments and GDP growth rates per capita in developing countries. Pattillo *et al.* (2002) argue that as long as these countries use the borrowed funds for productive investment and are not affected by macroeconomic instabilities, arising from policy uncertainties or sizable adverse shocks, GDP growth rates per capita should increase and allow for timely public debt repayment. However, Pattillo *et al.* (2002) concluded that if debt becomes larger than the country's repayment ability, then, public debt service costs would then dampen further domestic and foreign investment, in addition to lowering efficiency of investment – thus reducing GDP growth rates per capita.

Hansen (2001) investigated the impact of foreign public debt servicing on GDP growth rate using a sample of 54 developing countries, 14 being highly indebted poor countries. Hansen's (2001) model included three additional explanatory variables to public debt and economic growth, that is, fiscal balance, inflation and trade openness. The cross-country regression findings of Hansen (2001) found no evidence of a link between foreign public debt servicing and GDP growth in studied countries.

In sum, the reviewed existing empirical literature, in Table 1, provides limited evidence on how public debt servicing affects economic growth in recent years, particularly given the new changes in government debt structure and compositions.

Table 1: A summary of studies on the impact of public debt service on economic growth. Tables 1A and 1B.

Table 1A: Empirical studies consistent with negative impact of public debt service on economic growth

Author(s)	Title/Region or Country/Methodology	Model variables
Karagol And Özdemir, 2004	Is there externality from the government sector and the non-government sector? A Feder Model approach. Turkey. Time series Two-sector production function framework	➢ GNP growth rate ➢ Labour force ➢ Investment/GNP ratio ➢ Government debt burden/GNP ratio ➢ Government size ➢ 1973 dummy
Hansen, 2002	The impact of aid and external debt on growth and investment. 50 HIPC and Non-HIPC countries Cross-country regressions GMM method	➢ Real growth rate per capita ➢ Debt service as a percentage of GDP External debt as a percentage of GDP Fiscal balance as a percentage of GDP ➢ Inflation ➢ Institutional quality ➢ Sachs-Warner openness
Karagol, 2002	The causality analysis of external debt service and GNP: The case of Turkey Turkey Time series Johansen and Juselius Maximum likelihood cointegration technique	➢ GNP ➢ Labour force ➢ Debt service ➢ Human capital ➢ Capital stock
Serieux and Samy, 2001	The debt service burden and growth: Evidence from low income countries. 53 low and lower middle-income countries. Panel estimates Fixed effects model	➢ Investment ➢ Inflation ➢ Debt service to exports ratio ➢ Debt to export ratio
Weeks, 2000	Latin American and the "Highly Performing Asian Economies": Growth and debt 18 Latin American countries and 4 Asian countries Ordinary least squares	➢ Real GDP growth ➢ Export growth rate ➢ Investment/GDP ratio ➢ Foreign debt service/exports ratio ➢ Foreign direct investment/GDP ratio
Cohen, 1993	Low investment and large LDC debt in the 1980's. 81 least developed countries. Ordinary least squares.	➢ Investment rate ➢ Human capital (primary school enrolment) ➢ Per capita income ➢ Population growth ➢ Inflation ➢ Share of exports in GDP ➢ Time and regional dummies
Savvides, 1992	Investment slowdown in developing countries during the 1980s: Debt overhang or foreign capital inflows. 43 Severely indebted countries. Ordinary least squares	➢ Investment ➢ Debt service ➢ Debt-to-GNP ratio

Table 1B: Empirical studies consistent with no impact of public debt service on economic growth

Author (s)	Title/Region or Country/Methodology	Model variables
Jalles, 2011	The impact of democracy and corruption on the debt-growth relationship in developing countries 72 developing countries GMM estimator	➢ GDP growth ➢ Debt service/exports ➢ Trade openness ➢ Budget balance ➢ Terms of trade ➢ Population growth ➢ Schooling ➢ Investment ➢ Public debt/GDP ratio
Hepp, 2008	Can Debt Relief Buy Growth? 122 low-income, lower middle-income, and upper middle-income developing countries Fixed effects GMM technique	➢ GDP growth per capita ➢ Debt stock as a percentage of GDP ➢ Trade openness ➢ Budget balance ➢ Aid as a percentage of GDP ➢ Inflation ➢ Financial depth
Pattillo *et al.,* 2002	External debt and growth 93 developing countries Instrumental variables with lagged values, Least Square Method, SGMM approach (with and without dummies) Fixed effects	➢ Per capita GDP growth ➢ Debt/exports ratio ➢ Debt/GDP ratio ➢ Debt service/exports ratio ➢ Terms of trade ➢ Population growth ➢ Schooling ➢ Fiscal balance ➢ Investment ➢ Trade openness
Hansen, 2001	The impact of aid and external debt on growth and investment: Insights from cross-country regression analysis 54 developing countries Cross-country regressions GMM method	➢ GDP growth ➢ Foreign debt service ➢ fiscal balance ➢ Inflation ➢ Trade openness

Besides, Guisan (2018) analysed the dynamics of public expenditure and public debt in six OECD countries and found that the rising percentage of public debt on GDP during the period from 2008 to 2016 was associated with excessive austerity policies because of the difficulties to increase taxes. The findings of Guisan (2018) for the periods 1995-2005 and 2005-2015 show public debt progressing as follows: In France and Germany, the increase was 14.99% and 15.99% for the first period, respectively, and 38.62% and 35.56% for the second period, respectively. Conversely, in Italy, Spain and the United States there was an attenuation of 3.8%, 17.55% and 4.22% for the first period, respectively, and an increase of 35.56%, 66.46% and 46.28% for the second period, respectively. In the United Kingdom there was no change for the first period

and an increase of 60.75% for the second one. The author, therefore, concluded that "The net impact of public expenditure on the economy depends of the regime of Gross Domestic Product (limited by demand, supply of primary inputs or supply of intermediate inputs), the competition with the private sector for access to restricted credit, and the type of expenditure" (Guisan, 2018, p.157).

Guisan (2018) added that an increase of government revenue and public expenditure usually leads to increased social welfare, unless it implies excessive taxes or high levels of public debt, which may have negative consequences on the private sector and on economic growth and development. For developing countries, Guisan (2018) argue that there is need to address the supply side and expand their demand capacity, both from the private sector and from the public sector, to guarantee positive economic growth and welfare enhancement, thus ultimately ensuring increased debt repayment capabilities.

5. Conclusion and recommendations

This paper has reviewed existing theoretical and empirical literature on the impact of public debt service and economic growth, in both developing and developed countries. The bulk of the studied literature on the impact of public debt service on economic growth mostly support the debt overhang hypothesis.

The theoretical review found evidence that optimal borrowing decisions were predominantly determined by the availability and cost of funds, while debt service ability was influenced by the way the borrowed funds were used. On the whole, the conventional empirical results on the relationship between public debt service and economic growth were seen to be mixed across countries depending on the choice of variables used, time periods, country coverage and methodology used. Overall, the reviewed literature shows that public debt repayment costs crowd out economic growth through numerous channels.

These include: (i) driving up domestic interest rates, leading to high borrowing costs – amplifying the crowding-out effect on private sector investment; (ii) net out-flow of domestic resources, comprising of minerals, foreign grants, aid and foreign exchange resources; (iii) uncertain future business environment, arising from tax uncertainty and fall in real returns on investment; and (iv) active government involvement in domestic capital and money markets, which induces credit rationing.

Based on the literature surveyed, this paper conclusively argues that excessive public debt repayment costs can serve as a useful pointer for the collection of susceptibilities in both the real sector and financial sector. Hence, public debt servicing requires strong fiscal, political and governance institutions – to reduce budgetary imbalances, raise more government revenues and expand the tax base, without compromising the efficient allocation and utilisation of resources in the economy. Thus, in a wider macroeconomic setting for public policy, governments are encouraged to ensure that both the level and rate of public debt growth is primarily sustainable, and can be serviced in a manner which minimises economic, political and social costs.

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