Examination of interest rate-growth differential and government debt sustainability dynamics under multiple regimes

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بِسْمِ اللَّهِ الرَّحْمَٰنِ الرَّحِيمِ

In the Name of Allah, the Most Gracious, the Most Merciful

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This is to certify that the thesis titled **" Examination of interest rate-growth differential and government debt sustainability dynamics under multiple regimes"** submitted by Raja Waqas Shabbir, Registration number 02091813009 is accepted in its present form by School of Economics, Quaid-i-Azam University, Islamabad, as satisfying all the requirements for the partial fulfillment of the degree of Master of Philosophy in Economics.

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Submitted for the partial fulfillment Philosophy (M.Phil.) degree in economics in my own work. All the errors and omissions are lonely goes to me and I also soberly pronounce that it will not be submitted for attaining any other degree in the future from my institution.

Raja Waqas Shabbir

Dedication

This thesis is dedicated to Almighty Allah Who Always blessed me with the best in every walk of life and to my beloved **Grandmother, Shamim Akhtar.**

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All praise to the Almighty, who has always helped me throughout my life. I would like to express my gratitude to my supervisor Dr. Tahir Mehmood for supporting me during this research. Besides, I am thankful to my family—who were generous enough and showed immense patience as it was difficult to manage work and study at the same time.

Raja Waqas Shabbir

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LIST OF ACRONYMS

Acronym	Description
HP	Hodrick-Prescott Filter
GDP	Gross Domestic Product
IMF	International Monetary Fund
WB	World Bank
WDI	World Development Index
GFC	Great Financial Crises
FED	Federal Reserve Systems
PB	Primary Balance
SD	Standard Deviation
DSA	Debt Sustainability Analyses
SME	Small and Medium Entities
ECB	European Central Bank
EU	European Union
UK	United Kingdom
USA	United States of America
EMU	Economic Monetary Union
LR	Long Run
DS	Debt Sustainability
NPG	Non-Ponzi game
FD	Fiscal Deficit

ABSTRACT

This study examines the debt sustainability of the 141-countries based on their democratic credentials and subsequent categorization into the liberal, electoral (flawed), hybrid, and autocratic regimes. The facts documented in this study—spanning from 1971 to 2018 reveals that as the democratic credentials decline, debt sustainability levels decline, and conversely, as we move from liberal democracy to autocratic regimes, unsustainability levels start to surge. On the contrary, in the context of GFC, this trend was reversed. The autocratic regimes were the least-worst sufferers among all four groups—with a plunge of 18% (sustainability) and a surge in the unsustainability of 26%. Its significant impact on liberal democracies is obvious from staggering proportional decline (-62.89%) in sustainability, examined over the 6-years before and 6-years after the GFC. Observations with $r - g < 0$ represent, merely 36.11% of the sample and significantly higher values of standard deviation for all four groups depicts the high volatility in $r - g < 0$ differential. High SD means, $r - g < 0$ can be either positive or negative, proving it cannot be used as a norm, and its lower value in the last decade or so is a result of failure in the recovery of global economic meltdown in liberal democracies. The results for the proportion of deficit changes depending on the sign of $r - g$ consolidate the notion that primary deficits matter and are of supreme importance, irrespective of the democratic credentials of the regimes. The Liberal democratic group is the only group with a negative correlation coefficient of -0.05%. On the contrary, the electoral democracies (0.10), hybrid regimes (0.10) and the autocratic countries (0.16) also demonstrate positive correlation coefficients. There exists a potential risk that flawed, hybrid and autocratic countries, may opt for the pro-cyclical policies and end up badly hurting their underlying economies. The external shocks and unexpected swings in the differential $r - g < 0$ pose catastrophic consequences for the electoral democracies and hybrid regimes, in particular. Amid squeezed fiscal space, and the existence of a tradeoff between debt accumulation and interest rate differential and deficit bias leads to a surge in primary deficits and sudden positive $r - g$ offers misguided fiscal policies, potentially pushing countries into debt traps, especially, if investors lose confidence (due to self-fulfilling crises).

Chapter 1

INTRODUCTION

This study aims to examine and demonstrate debt sustainability under multiple regimes. The prime objective of the study is to assess/examine and compare the debt sustainability of the world economies (141-countries) based on their democratic credentials.

In order to achieve this objective, I divided the countries into four subsets; Liberal democracy, Electoral democracy, Hybrid regime, and Closed autocracy affects its debt sustainability. There is always a chance that countries in any of the regimes—liberal democracy, electoral democracy, hybrid regime, and autocratic regimes, might start using the $r - g < 0$ as a norm and put in place the undesirable and problematic pro-cyclical fiscal policies. There is a tendency for the governments to follow the procyclical policies—when the cyclical gaps are positive (boom). It can escalate the debt-pile, leading to the familiar inflationary pressures.

In this study, firstly, the hypothesis—put forward by Olivier Blanchard (2019) that the $r - g$ < 0 0 can be used as a norm is tested. Some commentators claim that it can be generalized, (where $r - g < 0$) holds, across the world.

To examine the claimed hypothesis and carry out the desired analysis, the interest rate-growth differential $r - g < 0$ would be calculated, and proportional positive and negative differentials will be sorted. It will allow us to study the behavior of the $r - g < 0$ in all four-selected democratic levels.

Moreover, the accounting approach would be used to examine the debt sustainability of the countries—based on their democratic credentials. Besides, the volatility of the differential $r -$

$g < 0$—which can confirm, if it is feasible to use it as a norm—will be assessed based on volatility across the political spectrum/sphere.

Furthermore, the impact of the sudden changes in the interest rate-growth differential on the primary balance and debt-ratios would be examined.

43% and 63% of GDP. IMF has advocated retiring the debt gradually to avoid future shock—which remains the inherent feature of the financial system.

Ostry (2016) argued, that IMF in its fiscal policy advice, shows concerns, with the pace of reduction in fiscal deficits and debt levels. It claims that sudden and speedy retirement of debt may jeopardize the recovery, and in case of a slow reduction of debt, markets may turn jittery.

Developed states like the US, Germany, and United Kingdom (UK) have allowed the public debt to soar despite the warnings against the expected drop in growth and risk of default in case of future financial crises.

While, the developing countries (with lack of fiscal space) by default generally need to engage in fiscal consolidation, because markets restrict the borrowing ability of such states. However, this cannot be true for a country having stealer fiscal records.

Moreover, reducing the debt to GDP ratio is not always bring benefits. According to Baldacci (2011), lowering the debt ratio over the years, under austerity, is not linked to defusing crises risk.

Similarly, Ostry, Ghosh, and Espinoza (2015) argue, that in order to reduce debt, the costs associated with the cut in expenditures and tax-hikes are larger than the debt-related cost. It is a proven fact that high debt hampers growth and is bad for the welfare of the country. The welfare cost, however, from the higher debt is a sunk cost. The choice to either live with the debt and slowly improve the ratios or run budgetary surpluses entirely depends upon its fiscal space.

Depending on the fiscal space of a country, austerity policies can have a profound effect on employment levels and growth prospects. In the case of fiscal consolidation, monetary losses incurred due to a decline in employment, and lower output are underplayed and states having ample fiscal space and allowing the higher debt levels and slowly cutting down the ratios is underappreciated (Ostry 2016). In some cases, severe austerity under IMF/ lender's pressure, regimes have to adopt such harsh policies which may lead to deflation and even the possible depression.

Interestingly, there has been a hot debate among policymakers on whether governments should live with the debt pile or should seek ways to retire it. There are no hard and fast rules, countries have to follow the country-specific guidelines.

1.1.1 Spain's sufferings

Spain has been a challenge for the Eurosceptics, and the problems in Spain, were paramount including; property bubble, in-competitiveness, rigid and complicated labor laws. During the height of the crises, under the brunt of austerity measures, the budget deficit hit 7% of GDP, and unemployment peaked at a 27% record level.

Amid sharp fiscal consolidation and the structural reforms advocated by ECB and IMF, the rate on long-term bond yields declined, and the budget deficit plunged from 11% to 7% of the GDP (Economist, 2013).

During Davos 2013, BBC's former economics editor, Stephanie Flanders, stated that the Spanish economy is now 6% smaller than it was before the crisis and shrunk by 0.6% in the last quarter of 2012, which is the worst since the spring of 2009. Also, 3,75000 civil servants are out of a job, and Troika—ECB, IMF, and EU is doing the trick for them- having injected 100 billion Euros for a bailout for Spanish banks so far (Economist, 2013).

1.1.2 Greek Economic Quagmire

Greece is a case study for ECB's austerity and structural revamp programs. The Greek economy was the first one that was bailed out by ECB. The troika injected cash at regular intervals amid fears of Greece's exit from the EU. Greece had staggering unemployment of 27%, youth unemployment of 60%, a surge in the suicide rate, and 25% of the output was wiped out of the system. Greece struggled miserably and austerity measures punished the masses, even further (Economist, 2013).

1.1.3 Italy's Epic Economic Woes

The political victories of the far-right in the EU, including Italy, were based on anti-austerity slogans as the public got agitated, facing wage cuts and welfare reduction. Kenneth Rogoff and Carmen Reinhart argued in their research, that when the public debt increase beyond 90%, the growth rate of a country slows down. The research economists at MIT questioned the data and assumptions used in this research and pointed out mistakes in it.

It is believed, that Kenneth Rogoff and Carmen Reinhart appeared to have called the spell on the politicians, and they decided to work on these policy lines, assuming that to get out of the public debt was the only hope to recovery.

1.4 Europe's debt dilemma and replicating 1930's

The penetrating effect of all the austerity measures was apparent after the surge in homelessness in Athens, and youth unemployment in peripheral economies.

Paul Krugman, again, warned and suggested, that the EU is replicating the mistakes of the Great Depression, and its policies are akin to economic suicide. These were his comments, over the increasing debt and sheer inability of these liberal democracies to deal with it.

But International Monetary Fund managing director Christine Lagarde, argued in Davos 2013, when she paraphrased German chancellor Angela Merkel, "we have solved our all economic problems, now we just have to wait seven years to see the effect". Amid the unprecedented Covid19 crises, the EU and the rest of the world are again at a crossroads. The old wounds have resurfaced, and debt crises have again engulfed the world.

The economies were growing and showing signs of recovery, but cut in benefits after those harsh austerity measures, questioned the adaptability of the plan, and today after Covid-19, balance sheets are again in red. It's very hard to predict, but if we go by the current trends in European economies; especially England, Spain, and Greece, things don't look rosy at all.

1.5 Debt challenge in liberal and Electoral economies

As discussed earlier, what are the fundamental challenges facing liberal economies in particular? It's a lack of competitiveness.

So in this situation, what is the way forward for Europe; well answer to this question lies in history. It's important to understand the struggles of Western Europe's peripheral economies and their inability to deal with debt in even of crises. If, it's extremely difficult for such states with well-functioning inclusive institutions to struggle with debt, how about the struggling hybrid and autocratic economies.

The reason for emphasis is that ECB forces the economies to act the same way, IMF and WB—pushes struggling hybrid and autocratic economies to enforce certain austerity measures and fiscal pacts.

led to improved employment and export numbers, and most significantly, revived confidence in the markets.

Otherwise, if they will stick with monetary and fiscal policies dictated by ECB, this recessionary phase will be a routine matter, after every few years. Liberal and electoral democrats went through a prolonged recessionary period, which is quite evident from the dismissal performance of mainstream and peripheral economies, especially in the property and banking sector.

ECB overwhelmingly has overlooked Keynes and by and large, arguably committed the same mistakes as made in the Great Depression and Keynesians have been issues warnings over this attitude.

1.5.3 No easy credit

Generally, during the crises, despite huge funding and bailouts, banks fail to extend loans to businesses. In the aftermath of GFC, banks did not show confidence in the EU and across the developed world, despite the availability of easy access to cheap money. Neither SME's and nor the public were beneficiaries/recipients of low-interest rates in the EU. But why the banks show reluctance to provide credit? Generally, it is assumed that they doubt the credibility of the public as they lose trust in the public and businesses to pay them back, given the deep woes facing the economy. Moreover, those who have access to cheap money are using it in restructuring their existing debts.

During the boom, people spend more banking on better prospects. While in the case of crises such as GFC, and Covid-19, the surge in unemployment, inflation, and decline in incomes force people to reduce spending, sending the economy into turmoil and a downward spiral.

1.5.4 Question marks over liberal economies success?

Despite any apprehension, the project EU helped the continent prosper, as the intra-trade doubled among the EU countries. But there is nothing wrong with saying that the emergence of neoliberalism did not share the gains equally across the continent.

The working class is expected to spend more to help the nations and the rich prosper at the cost of the poor. Prosperity is not shared evenly across all classes.

1.6 Keynes expansion theory and debt dilemma

As Keynes argued in his book General Theory of Employment, Interest, and Money (1936) that at times of recession and depression government should adopt expansionary policies and should increase spending and decrease spending.

Keynes argued in his book General Theory of Employment, Interest, and Money (1936) that at times of recession and depression government should adopt expansionary policies and should increase spending and decrease spending.

Critics argue that the government should reduce spending in wake of the crises because out of control public spending can risk more bubbles as witnessed in Italy, Spain, and Ireland. Similarly, 27% were unemployed in Greece, and Italy and England experienced a high rate of unemployment. High unemployment led to a surge in savings and a huge cash pile in company coffers (Elliot, L. 2012).

1.6.1 Targeting twin deficits and hoping for a decline in LT-borrowing costs

Eurocrats did not care much, it seems like because they have been busy targeting fiscal and trade deficits at any cost.

With austerity measures in place, countries' bid to clamp down deficits through a cut in their spending and rise in taxes have undermined the growth rates, which could also undermine their ability to pay the interest on their ever-increasing debt piles.

Greece, Spain, and Italy were presented with yearly targets to cut, and there is always a deadline for most of the countries on bailout packages, and otherwise, they would get punished.

Therefore, it could be argued that the only way to keep market confidence intact is to have a grip on public debt. And, ensuring the fall in long-term borrowing costs, and this was only possible through budgetary retrenchment, across Europe.

1.6.2 Global debt, exchange rate, and housing crises

GFC and the previous financial and foreign exchange crises offer some fundamental lessons. For example, to an extent, similar events took place in the last two decades, leading up to GFC—which includes, developing world debt crises (1982), Mexican crises (1994), Asian crises (1997), Russian

Therefore, it could be argued that his kind of measures had an immediate effect on alarming situations facing the EU countries in the form of low liquidity but it is not the permanent cure as the problem resurfaces once the credit is absorbed by the system.

It could be concluded that, so far under the IMF programs, ECB's tough bailout conditions, and immense political pressure, countries like Greece, Spain, and Italy have implemented austerity measures. Consequently, it caused, even a deeper recession, widespread unemployment, increasing suicide rates, decreasing immigration in Greece, Spain, and Italy, and elsewhere.

Despite these appalling conditions, affected countries pledged to cut the deficits, drastically in the coming few years. For example, Spanish, Italian, and Irish governments sought to reduce their budget deficit—which means more misery for common people and more youth on the risk of becoming a lost generation.

In short, austerity/ fiscal policies have made life more difficult and whether these policies can improve the current account, increase consumer spending, or businesses stepping up investment (or a combination of all three) remains to be seen in the future.

But it is up to policymakers in liberal, democratic (flawed), hybrid regimes, leading politicians and technocrats sitting at ECB, IMF, WB, to decide that do they want to tradeoff increased unemployment with lower deficits and cause misery.

In the context of liberal EU economies, it's pertinent to ask, that why these countries were allowed to become EU and EUM members when they did not satisfy the pre-conditions to become EUM members? And, why are they forced now to maintain their debt to GDP ratios?

1.6.5 Debt redemption plans and reality checks

In the wake of GFC, Economist (2011) claimed that Germany's economics experts were trying to emulate America's 1790's debt redemption plan, which proved vital in re-establishing the faith in the national credit. However, they have failed to analyze that people in the EU have different cultures, language, and other traditions and their desire to stay together.

government reactions, when $r - g$ switches from negative to positive, can lead to financial crises and possible bankruptcy.

The curiosity to check, if $r - g < 0$ can be applied across the world and particularly in the hybrid, and autocratic regimes tempted the writer to dig in to shed light on the proportional changes in debt in comparison to swings in the interest rate-growth differential $(r - g)$.

1.8 Objectives

I investigated the following questions. First, is it possible to use the $r - g < 0$ as a norm, as claimed by Blanchard (2019), and can it be extending to other countries—regardless of the democratic credentials and strength of the institutions?

Secondly, the main objective of the study is to assess the proportional debt sustainability (using accounting approach)—based on democratic credentials of the countries in the last-half a century— with emphasis on pre-and-post GFC—proportional swings in the DS.

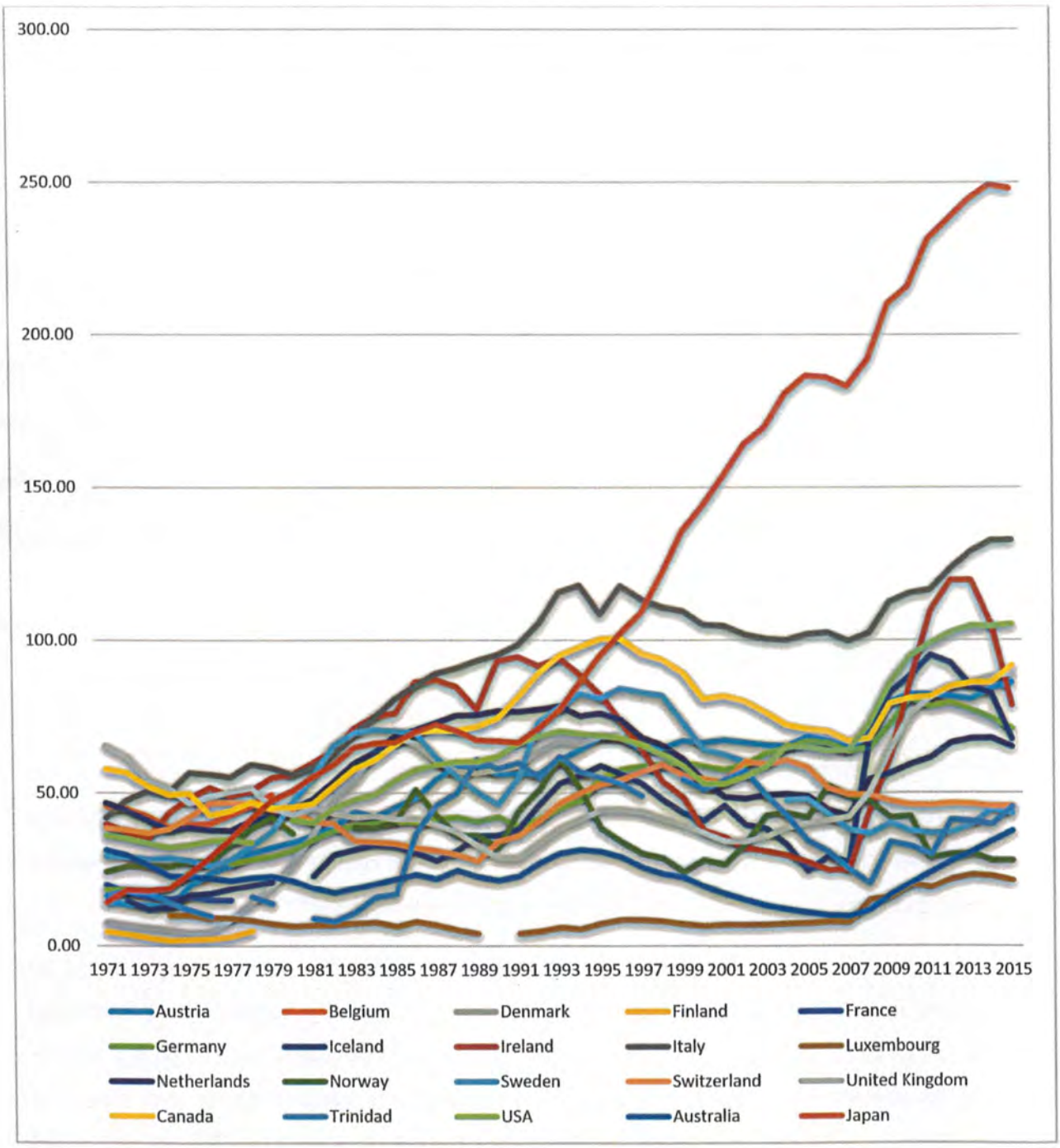
Third, the risk related to procyclical policies is assessed by calculating the correlation coefficients and output gap. Finally, the link between the interest rate-growth differential with the primary balance is explored—across all the countries—divided into four groups.

Finally, the link between the interest rate-growth differential $(r - g)$ with the primary balance is explored—across all the countries—divided in four groups.

In the next section of the study, a literature review is discussed, followed by the methodology in the third section. After the methodology, estimation results are explained in the next section and finally, in the last part, the conclusion is presented.

Figure A

Debt-to-GDP ratios for Electoral Democracies

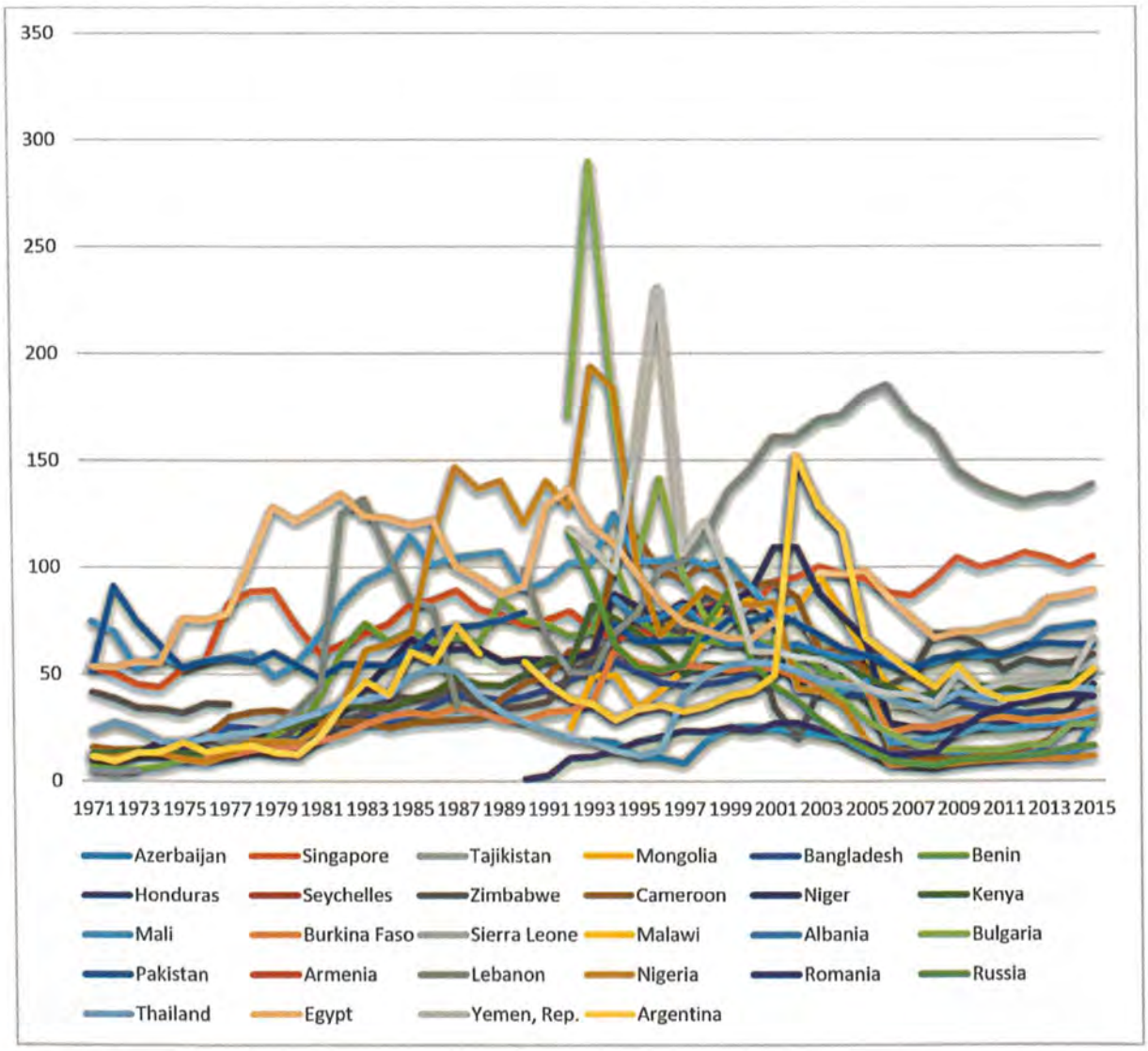


Source: IMF Data Mapper

recovery from the long-term effects of the GFC. Similarly, the following graphs reflect the debt to GDP position of hybrid and autocratic regimes.

Figure C

Debt-to-GDP ratios for Hybrid Regimes



Source: IMF Data Mapper

Showing the same apprehension as Reinhar et al, Gill, I. and Pinto, B. (2005) expressed similar concerns and offered a rather pessimistic view that public debt (in emerging economies) has likely enhanced macroeconomic vulnerability rather than growth.

Chapter 3

LITERATURE REVIEW

3.1 Introduction

Debt sustainability aims to answer a question, when can a country's debt (either the external debt or the public debt) balloon beyond a threshold stage that it would not be possible to fully service it with ease. Debt sustainability as defined in the previous section works, or in other words—debt becomes sustainable if it satisfies the solvency conditions. Solvency can be achieved if the external debt—which is linked with the primary current account balance becomes surplus and will be large enough to pay back the debt, principal, and interest on it.

In more technical terms, the present discounted value of all revenues should be greater than the current debt plus the present discounted value of all expenditures. In other words, the present discounted value of future revenues net of non-interest expenditures should be greater than the current debt.

Overall, it mainly depends upon how do the primary balance looks like, regardless of the magnitude of the debt.

3.2 Economic growth and debt dynamics

Ming, C. et al. (2013) conducted research to examine the effect of debt accumulation on growth in multiple regimes. They found strong evidence, that in low democratic regimes, relying on the threshold effects based on democracy, an increase in debt-pile led to lower growth.

There exists comprehensive empirical literature—which examined the impact of the surge in public debt on the economic growth of a country. Under multiple regimes, researchers employed the threshold level of debt to GDP ratios to investigate the effect of public debt on economic growth.

In another research, Reinhart and Rogoff (2010) concluded, that in the case of countries with debt to GDP $< 90\%$, there exists a weak relationship between the economic growth and public debt of a regime. Furthermore, in regimes, where countries dare to cross the threshold level of 90%, it can bring forth disastrous consequences for the economy, they added.

The debt sustainability literature uses the accounting, and the present value approaches to study the debt sustainability of a country (Cuddington, 1996).

Initially, both approaches use the government budget constraint. As stated earlier, however, the accounting approach uses the necessary and sufficient conditions to assess debt sustainability in a regime. Econometric testing can be used to evaluate debt sustainability for the present value budget constraint approach.

This study, however, applied the second approach, i.e. the accounting approach, based on the theoretical models to assess the debt sustainability conditions for the public debt.

A high fiscal deficit would be the core problem of rising total debt. Nonetheless, if the fiscal deficit increases, due to pressure on current expenditures, then there will be no payback in the future, and thus debt will go up. Bilquees (2003) explains that high deficits worsen macro indicators such as savings, interest rate, investment, current account deficit, growth, etc.

A study by Pasha and Ghaus-Pasha (2000) deals with different sections. It evaluates and identifies the macro determinants playing a role in increasing or decreasing the debt-pile in the country.

They use a basic debt accumulation equation. It shows that depending on the magnitude of interest rate-growth differential, the primary balance may go into surplus or deficit, pushing the all-important debt-to-GDP ratio along the way.

Two channels are in play here. If r is smaller than g, as stated earlier, it will put downward force on debt to GDP ratio and vice versa. The latter case results in capital loss, pushing the real exchange rate to depreciate, and if this devaluation is greater than the difference between the world and domestic rate of inflation so the debt to GDP ratio will rise.

There exists an enormous amount of empirical research on public debt sustainability under different regimes. In research on the Turkish economy, Yilanci and Ozcan (2008) concluded that Turkey's external debt is unsustainable, proving that during the period 1990- 2007, its external debt-to-GDP ratio witnessed a threshold effect.

In another study, to assess the sustainability of public debt and fiscal policy, Heyjin Ko (2018) concluded, that interest rate-growth differential (r-g) should be positive. Secondly, large primary surpluses provide much-needed sustainability, and governments should formulate policies to

In highly indebted poor countries (HIPCs), the major chunk of revenues generated from internal resources (taxation, tariffs and excise duties etc.) and external resources (exports) are utilized in debt servicing, rather than allocated to health, education, the welfare of the communities, and on research and development. Moreover, due to the lack of investment in sectors in dire need of funds, the growth of the economy sputters and poverty becomes a constant feature.

3.4.1 Solvency issues

Most governments in the world have run huge debts for decades and remained indebted forever. For instance, the examination of the US government debt reveals that the US borrowed its way to the revolutionary war. As a colonial state, the US borrowed money from France and the Netherlands to fund their war for independence from Great Britain.

By 1790, its debt to GDP ratio reached 30% with a debt of $75 million, though after Hamilton's plan, debt to GDP plunged to 10% by the war of 1812 and during the civil war (1866) the national debt ballooned to some $2.76 billion.

After World War I (33%) and World War II (113%), the US faced a record surge in the debt-to-GDP ratio. In 2001, nearly after five decades, the debt level plunge to the WWI levels and currently, it hovers around 100% of GDP.

Similarly, during the last 300-years, the evolution of the British public debt shows that it never dropped below 20% of GDP and witnessed the ratio of 270% and currently stands at 113% of GDP.

In the above-quoted examples, debt may look sustainable but in case of liquidity crises, states can default. How does it work then, remains a simple yet deceptive question? Since the countries generate the revenues, to service the debt, and given any unexpected fluctuations (deteriorating taxing ability) in the revenues, it may lead to an unsustainable situation.

Moreover, in the case of external debt, the amount of foreign revenue depends on the magnitude of exports—which again may not remain constant. Furthermore, domestic and foreign interest rates may change unexpectedly, depending on unpredictable political-economic situations.

Financing costs can change over time and therefore, could become unpredictable. Assumptions regarding future foreign interest rates may change due to country risk premia. Resultantly, the

the intensity of differences between interest groups may lead to delay in the adoption of stabilization policies.

In a highly influential paper, Alberto Alesina (1990) concludes that if the equilibrium level of public debt is exceedingly larger, it reflects the existence of a high degree of polarization between the alternating regimes. It depicts, in other words, that the incumbent government will lose the general elections.

3.5.1 Democrats VS Conservatives

Liberal democratic countries following neoliberalism and capitalism in its true spirits are seemingly more inclined to go for restrictive fiscal policies. Political parties—particularly conservatives overwhelmingly win the elections winning over the masses despite running austerity measures and opting for the policies—which allow secular stagnation Since the general public fails to understand the fundamental reasons behind the recessions, it's difficult to predict, if, in any time future, these ultra-democracies can overcome the old habit of adopting the restrictive policies and lingers the economic recovery, in the name of balancing the budget.

3.6 Budget balance and imbalance: a dilemma

The macroeconomic goals of stability in prices, low unemployment, and economic growth get affected by the three variables under the control of the federal government. It includes the government—tax receipts, transfer payments, and purchases of goods and services. Moreover, automatic stabilizers reflect the changes in government transfer payments and taxes, after the change in the income levels.

The deficit incurred when the economy performs at a low level of economic activity is called cyclical deficits. While, on the contrary, the federal deficit, when the economy is at its potential level of output, is called a structural deficit.

3.6.1 Deficit bias

The majority of the public choice writers believe that bias towards the deficits is the characteristic of democratic government fiscal policies.

3.6.5 The public-choice view and the partisan theory

In democratic countries, two theories—the public-choice view and the partisan theory play a crucial role in macroeconomic policymaking. The public-choice theory argues that "macroeconomic policy makers act to maximize their own welfare rather than to maximize the social good" (Froyen, R.T. 2015). One of the most critical hypotheses derived from the public choice literature points out that voters are myopic, and as a result, aggregate demand (AD) is highly expansionary before elections. And, subsequently, inflation follows the elections—indicating the existence of the political cycle. In other words, politicians are directly responsible for budget deficits. On the contrary, Partisan theory says that "politicians are ideologically motivated leaders of the competing parties—primarily; liberal (labour) and conservative parties".

3.6.6 Conservatives balanced vs Labours unbalanced budget

Akin to the political business cycles, regimes in different countries face partisan party cycles—which mitigate the fiscal policy rules such as balanced budget. Parties in different regimes manipulate the aggregate demand.

Re-distribution efforts may require increased taxes, and increased spending may require external loans.

On the contrary, conservatives, generally, put austerity in place, hampering the efforts of the liberals, running havoc into the economy, as unemployment shoots up and recession looms. But in case of recession, and deep recession, even they will opt for fiscal stabilization when monetary policy fails in the face of zero lower bound.

For example, in the US, Republicans have always favored the balanced budget amendment to curtail ever-growing deficits. Even the public becomes sophisticated and understands some of the implications of inflation, such as deficits and the long term costs of accumulating debts born by the next generations.

3.7 Balance sheet recessions and soaring debt

Amid an unprecedented increase in debt levels in recent decades, fiscal stabilization policy has become an important tool for governments. They often run themselves into budget deficits, the balance of payment crises, and look up to external institutions and friendly countries to avert the crises.

But, he, along with British PM Gordon Brown lost the polls and Fiscal hawks revered the global fiscal stimulus sending the European economy into double-dip recessions and Japan, itself got stagnated. These events reflect that importance of fiscal stimulus cannot be denied in events of crises.

Koo concludes that "there is no need to suffer secular stagnation if the government offsets private sector deleveraging with fiscal stimulus. However, until the general public understands the fallacy of composition, democracies will struggle to implement such policies during balance sheet recessions".

3.8 The classic nexus between fiscal policy and gross public debt dynamics

The sustainability of public debt is the central question in any macroeconomic analysis of fiscal policy. It importance has increased manifold after the Great Financial Recession (GFC) of 2007-08. "Fiscal space" in times of ineffective/impotent monetary policy (due to lower bound) emerged as one of the most important tools to effectively work along with the subdued monetary policy. Central governments are forced to free up the space for the fiscal policy maneuver. And, despite the policy objectives to restrict the debt levels, it has become seemingly difficult for the government to respect the fiscal space. Fiscal space is the difference between the debt limit implied by the country's historical record of fiscal adjustment and the current level of public debt (Ostry, J. D. et al. 2010). Furthermore, the rising debt levels and increasing stress levels in certain sovereign markets suggest that sustainability can never be taken for granted.

Given the complexities attached to solvency and sustainability and rising public debt, economists have shown distress that the theories of optimal government debt policies are apparently inconsistent with the long-term trend in debt accumulation (Yared 2019).

The celebrated its economists have concluded that assessing the debt sustainability is hard. The celebrated economists have concluded that assessing debt sustainability is hard, and it's a subjective decision, at its best. However, they can draw meaningful conclusions using multiple methodologies (D'Erasmo et al. 2016). For example, as Debrun et al. (2019) argues, that Japan sustained the debt-to-GDP ratio of higher than 200%, while, on the contrary, Ukraine defaulted, when its ratio soared to 30% of the GDP.

Chapter 4

METHODOLOGY

3.1 Introduction

The prime objective of the study is to assess/examine and compare the debt sustainability of the world economies (141-countries) based on their democratic credentials.

It emphasizes the pre-GFC years –when the seeds of the crises were sowed, and post-GFCyears—when the world community under the severity of the crises faced an unprecedented upheaval. It squeezed the fiscal space under different regimes, across the continents and changed the debt sustainability of countries from positive to negative.

The economic instability due to GFC and other less painful financial crises—may either temporarily or for a good span of times, wildly swings the interest rate-growth differential, and tempt the countries to increase their deficits (when the $r - g < 0$). This debt-financed spending on development or non-development ventures puts the stability of the economy in question. The problem lies with the possibility that some countries may wrongly treat $r - g < 0$ as a norm. It poses a potent threat and disastrous consequences.

There is always a chance that countries in any of the regimes—liberal democracy, electoral democracy, hybrid regime, and autocratic regimes, might start using the $r - g < 0$ as a norm and put in place the undesirable and problematic pro-cyclical fiscal policies. There is a tendency for the governments to follow the procyclical policies—when the cyclical gaps are positive (boom). It can escalate the debt-pile, leading to the familiar inflationary pressures.

In this study, firstly, the hypothesis—put forward by Olivier Blanchard (2019) that the $r - g < 0$ 0 can be used as a norm is tested. Some commentators claim that it can be generalized, (where $r - g < 0$) holds, across the world.

To examine the claimed hypothesis and carry out the desired analysis, the interest rate-growth differential $r - g < 0$ would be calculated, and proportional positive and negative differentials will be sorted. It will allow us to study the behavior of the $r - g < 0$ in all four-selected democratic levels.

Based on the condition for the sustainability of public debt found in the literature suggests that the debt-to-GDP ratio will be sustainable if the primary balance is positive. In other words, the overall balance, after deducting the net interest payments should be positive. Besides, the real interest rate (r) should be less than the real GDP growth rate (g). When the interest rate exceeds the GDP growth, it reflects the increase in the debt-pile and vice versa.

The necessary condition for debt sustainability effectively means that the real foreign interest rate must be less than GDP growth, i.e. $r_t^* < g_t$. The interest rate-growth differential is one of the most critical assumptions in debt dynamics.

Secondly, under sufficient conditions overall balance after deducting the net interest payment i.e., the primary balance should be positive. Mathematically, we can write; $P_b > 0$.

Furthermore, in any period, debt (stock) grows by the existing debt accumulated from previous periods (d) multiplied by $r - g$, less the primary budget balance (Pb).

In addition, a primary surplus leads to a fall in debt stock and allows the government to pay off its existing liabilities. On the contrary, the primary deficit demands the government to finance its needs by further borrowing.

Regarding the usefulness of the theoretical/ accounting sustainability test, Bohn (1998, 2005) shows that the "test is valid regardless of whether debt and the primary balance are measured at constant prices, in levels or in relation to GDP". Moreover, it does not depend on knowledge about any fiscal rules that may have been adopted or the portfolio of public debt instruments (Bohn, 2005).

Though, the literature suggests the responsiveness/sensitivity of fiscal policy to the rise and fall of public debt beyond a threshold level. It is not always possible that the primary balance would show enough surge in response to increasing interest payments due to the explosive rise in debt levels, as long as the primary balance exceeds GDP and fails to cover the rise in interest payments.

However, in the case of ever-rising debt levels, it may not be possible for primary balance to increase continuously and fails to keep up with the higher effective interest payments needed to service the debt if it moves beyond an established threshold.

Wyplosz conducted a study on selected OECD countries [1980-2017] and concluded that there exists a negative correlation between the interest rate-growth differential and the output gap, with some exceptions.

He argues that "If indeed r – g is countercyclical, governments that follow the suggestion would increase their deficits when the output gap is positive and, conversely, reduce their deficits when the output gap is negative, which means procyclical fiscal policies" (Charles Wyplosz, 2019).

Therefore, deficit bias can lead to an unnecessary surge in primary deficits—which may misguide or delays government reactions, when the sign of r – g switches from positive to negative and vice versa.

3.3 Interest rate-Growth differential and Debt dynamics

Interest rate-growth differential $(r - g)$ is the difference between the interest rate (on which the government pays its debt) and the nominal growth rate of any economy. It is a key variable to assess the debt dynamics and sustainability analysis.

The change in debt (ΔD) is primarily determined by the $(r - g)$ and the primary balance. There are established rules to assess the change in debt.

1. If the interest rate-growth differential is strictly positive $(r - g > 0)$, a primary fiscal surplus is required to either reduce or stabilize the debt-to-GDP ratio. The magnitude of the primary surplus needed depends on accumulated debt levels.
2. In the presence of strictly negative interest rate-growth differential ($r - g < 0$) and that too persistently negative reflects the probable decline in the primary budget deficits.

However, despite the strictly negative interest rate-growth differential ($r - g < 0$), a large primary deficit can prevent the economies from stabilizing.

Blanchard (2019) revived a debate on the role of fiscal policy given the persistent presence of negative interest rate-growth differential. He argued that strictly negative interest rate-growth differential ($r - g < 0$) public debt may have no fiscal cost and a much lower welfare cost, as usually is the case and typically assumed. This notion presumably allowed the US to either sustain or roll over the high debts without incurring significantly high costs.

- 40% is the recommended debt-to-GDP ratio, which should not be exceeded in the Long run (LR).

The critical question remains. Does it make the established threshold level an optimal level, crossing which might raise alarm bells and becomes a potent threat to debt sustainability?

According to IMF's global macroeconomic model, fiscal policy plays a critical role to ensure that debt sustainability targets are met in the LR. Nevertheless, IMF explains in one of its papers that the 40% benchmark is a useful tool to assess sustainability.

IMF emphasizes that any country crossing the 40% level does not reflect the looming crises. There is a higher probability that a country crossing this optimal level does not face any imminent risk. Nevertheless, the IMF suggests, that for the sake of prudence, it's better to stay well below the established limits.

3.5 Theoretical foundations of debt sustainability

To ensure its solvency and honor its financial obligations, some measures are established and identity is given below—which reflects that how much the nominal GDP should grow to ensure that ensure the control over growing debt and expenditure. According to this identity, debt facing any country at any particular time is the addition of a combination of the primary deficit and the interest of debt stock and the principal itself.

$$D_t = (1 + r_t)D_{t-1} + P_t$$

Here, $P_t = G - T$ is the primary deficit—which is equal to the difference between the total revenues and the primary expenditures. The variables in the above equation are converted into ratios by dividing with nominal GDP. The above-mentioned equation can be shown in terms of growth ratios and in an intertemporal fashion to link the current debt with the net present values (NPV's) of all future primary balances. The detail is presented in appendices.

Fears over default make the solvency and sustainability of a country ever more significant. Though governments are expected to stay afloat and always honor their debt, it may never be true after all, given the defaults seen in the past. Nevertheless, government bonds are still deemed safe.

After a couple of years, moving the research forward, Trehan, B. and Walsh, C. (1988) demonstrate that even if debt and primary balance are non-stationary, solvency condition is satisfied, if both the time-series are co-integrated.

Afterward, in a seminal article, Bohn, H. (1998) show the conditional relationship between public debt and the primary balance and negated the authenticity of the previous researches. He said that tests conducted entirely based on "time-series properties of debt and the primary balance miss the general equilibrium conditions linking fiscal policy to the rest of the economy". Under the reasonable assumptions, Bohn proves that the positive conditional response of the primary balance to public debt (i.e. PB >0) is sufficient to fulfill the solvency condition in a general equilibrium model. This reflects that fiscal policy is responsible and satisfies the intertemporal budget constraint.

Chalk, N. and Hemming, R. (2000) c0nducted a test on past data and captured the sufficient conditions for solvency and debt sustainability. It concluded that both the public debt and the primary balance series are stationary and they don't exhibit any trend in its mean.

Bohn, H. (2005) argues that how do governments (in terms of fiscal actions) react to debt accumulation and demonstrate the corrective actions in the form of a rising primary balance ratio.

Bohn's test remains the most widely used in the literature to assess the success and failure of the fiscal policy. It reflects that how much the fiscal policy remains consistent with solvency. The basic criticism on the work of econometrics used here arises based on its failure to predict the future.

Mendoza, E. G., and Ostry, J.D. (2008), using panel data, concludes a robust positive conditional relationship between primary balances and debt across a range of specifications.

Moreover, Ghosh et al. (2013) and Ostry et al. (2010) found strong empirical evidence that primary balance responds strongly to an increase in public debt. But this response slows down, and consequently, decreases at the higher level of debt.

As the debt limit approaches, the cost of financing may explode. There exist a chance of credible shocks to primary balance, and sudden changes in debt dynamics, pushing a sustainable country

3.6 Description of variables

In this section, the key variables are closely examined. It mainly covers the relationship between these variables and how do the swings in interest rate differentials can have such a profound impact on the debt accumulations, deficits, and downturns in the economy.

3.6.1 Interest-rate growth differential and primary deficit

Real interest rate as generally measured by the GDP deflator, is the lending interest rate after adjusting inflation. On the other hand, Real GDP is calculated by deducting the inflation from the nominal GDP—which is the monetary value of final goods and services produced in a given period of time.

It helps to consider, only the growth in the total output of goods and services of an economy to draw a better comparison between the sizes of the economies. The differential between the real interest rate and the percentage increase in the real GDP shows if the underlying growth in GDP due to real economic activity is greater than the interest payments or vice versa. Generally, it is believed that lower interest rates result in higher growth and vice versa. To stimulate the economy, without any fundamental changes, interest is required to be reduced.

But, an examination of the relationship between the 3-month and 10-year rates and nominal GDP growth, over five decades in the U.S., U.K., Germany, and Japan reveals that both the variables are consistently positively related and have positive correlation coefficients (Lee, and Werner, 2017). This means that to increase the GDP, one must increase the interest rates—which is against the established theory—suggesting that policymakers should focus more on quantity variables rather than conventional monetary policy.

A lower interest rate reduces the fiscal cost and improved the primary balance position. The consistent decline in the interest rates and growth in the GDP can improve the primary balance position of any country and vice versa.

3.6.2 Interest rate-growth differential and the Output gap

One of the core functions of any government is to ensure a smooth fiscal policy, to stabilize the economy. The evaluation of the policy indicators is exceedingly important for any policy maker to assess the true picture/state of the economy. But unfortunately, not all information is available and the procedure used to estimate a particular variable determines the right results. The output gap is

3.7 Estimation Methodology

Since, the different techniques—used to generate potential output and output gaps don't differentiate between the neoclassical and Keynesian traditions. Resultantly, there is a number of approaches—which are applicable and can be classified into; economic and statistical approaches. The prominent methods which are used to measure the output gap are a linear trend, quadratic trend, Hodrick Prescott filter (HP), structural vector autoregressive, and production function approach.

To achieve the desired objectives, the Hodrick-Prescott (1997) fill technique is used. This study is dealing with data spanning –five decades and there is missing data in this unbalanced panel. To avoid the elimination of more countries due to the unavailability of data required for production function technique—HP-fill is used. It's a time series approach to generate potential output and output gaps by applying a univariate technique.

It's a detrending technique/procedure---which sets the potential component of output to minimize the loss function and ensure that the output gap remains stationary over the wide range of smoothing values (Hodrick and Prescott, 1997). The main advantage of the technique is that it allows the trend to change with time. Though, derided with many advantages—like difficulty in identifying the appropriate smoothing parameter (λ) —because HP is related with this smoothing weight and its performance depends on how λ affects responsive potential output to movements in actual output. Its true identification makes HP-filter less effective.

The yearly data for the financial year (FY) 1971 to FY2019 for 141-countries is used to determine the cyclical gap. Firstly, the log function is applied to convert all the GDP values into GDP in reviews, and then HP-filer is applied for de-trending and cyclical (gaps). Subsequently, the correlation figures are calculated for all four groups of countries and cross-comparison is established based on the average correlation coefficients.

3.8 Data and variables

Oxford University has classified the data for political regimes into a democracy index. The states are assigned a number depending on their respective categories. For example, 0 = Closed autocracy; 1 = Electoral autocracy; 2 = Electoral democracy; and 3 = Liberal democracy. Besides, The Economist Intelligence Unit-Democracy Index containing data for 167 countries has also been

Chapter 5

RESULTS AND DISCUSSIONS

4.1 Introduction

In this chapter, we will explore the results of the econometric and statistical techniques mentioned in the chapter. First, we will explain with data, that why the interest rate-growth differential (r-g) cannot be used as the norm, across the world.

Secondly, the reasons for the volatility in the differential $r - g < 0$ are discussed. Furthermore, the proportional debt sustainability (using accounting approach)—based on the democratic credentials of the countries in the last five decades—with emphasis on pre-and-post GFC—proportional swings in the debt sustainability is analyzed. Besides, the risk related to pro-cyclical policies is assessed by calculating the correlation coefficients and output gap. Finally, the link between the interest rate-growth differential with the primary balance is explored—across all the countries—divided into four groups.

4.2 Why is the interest rate-growth differential $r - g < 0$ is not the norm?

Observations with $r - g < 0$ represent 36.11% of the sample. Blanchard claims that (differential) is a norm. The cross-country data negates his claim. The above graph shows that except Switzerland (0.74), even the states with high credit ratings like Australia, Canada, and Norway did not show the observations, with r – g <. o more than 60% of the sample.

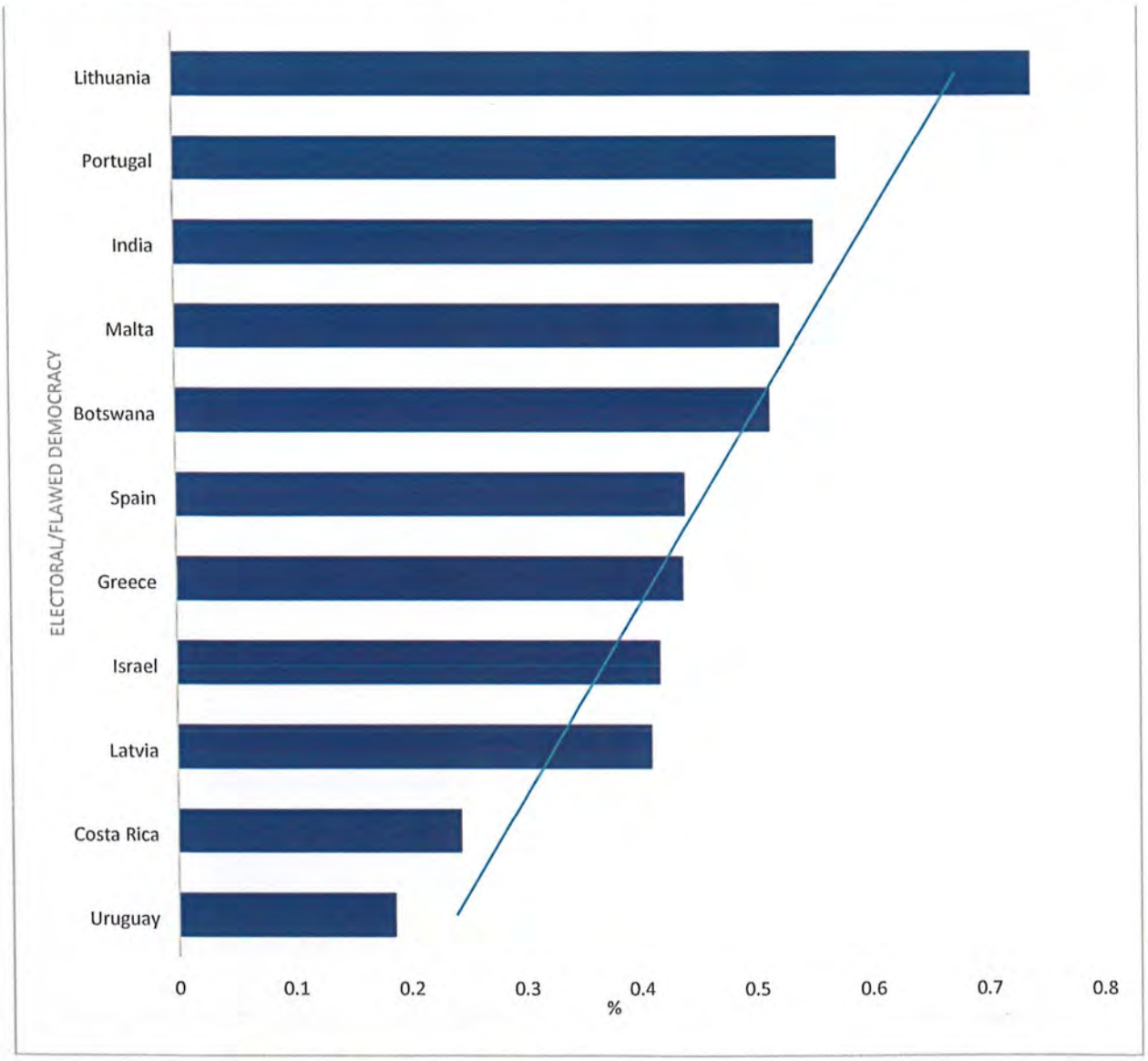
The observations used in the above graph are on average above 40-years, i.e., (41.45-y) to be precise, with Slovenia and Estonia as the only two outliers, with 16 and 12 observations, only dragging down the average from 44-y to 41.45y.

The following graph depicts the overall situation of the selected countries, in terms of the panel averages.

Similarly, the differential for the electoral/flawed democracy reflects a similar trend. It overwhelmingly depicts that $r - g < 0$ cannot be used as a norm. Some countries with a number of observations greater than 20 show that $r - g < 0$ can be used as a norm.

Figure F

The proportion of years when r – g < 0 (for Flawed Democracy)

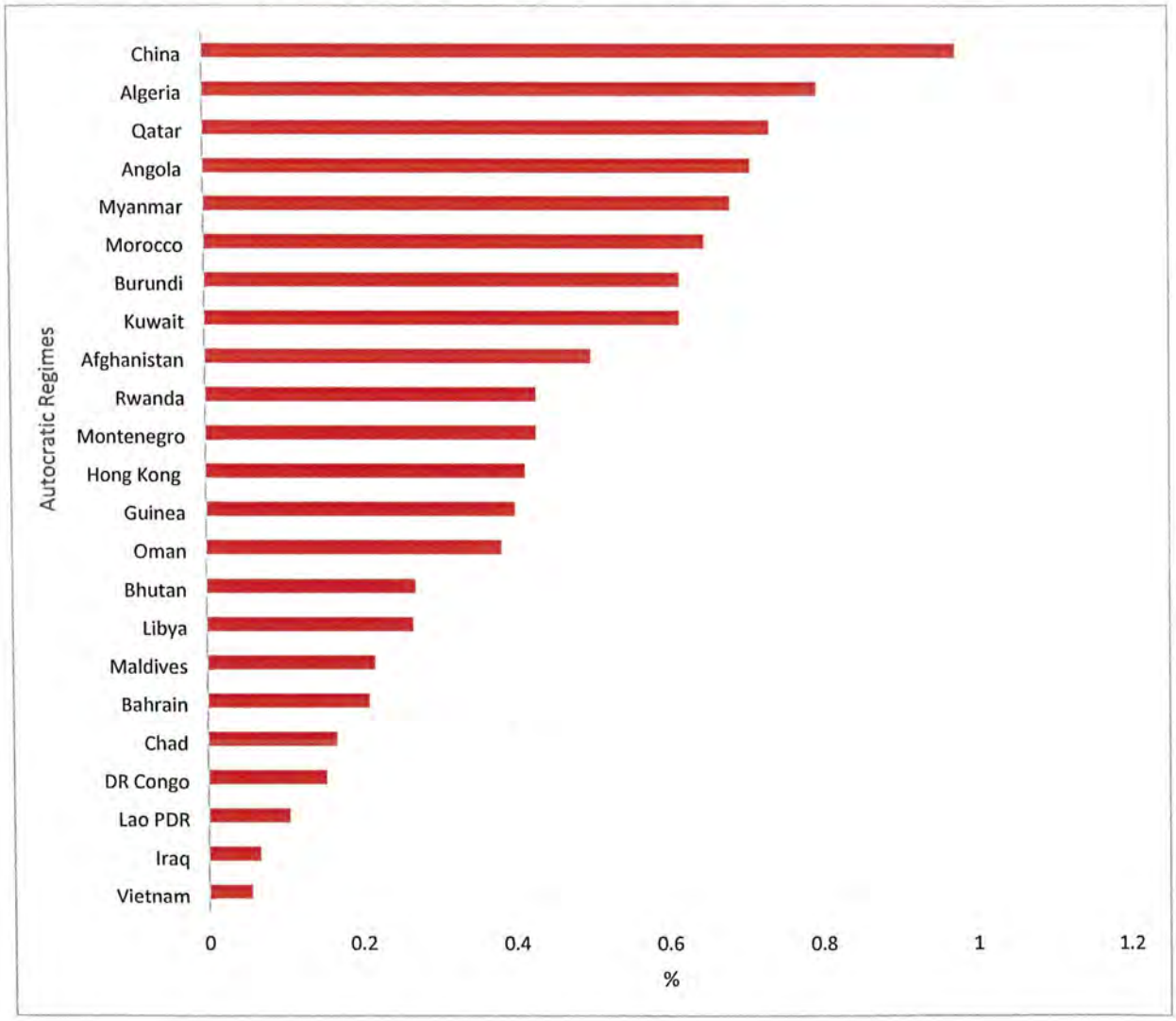


Source: Author's calculations based on data from IMF World Economic Outlook database, IMF Data Mapper and WDI

next section, where more countries with higher averages, more tilted towards the electoral democracies are presented.

Figure H

The proportion of years when $r - g < 0$ (for Autocratic Regimes)



Source: Author's calculations based on data from IMF World Economic Outlook database, IMF Data Mapper and WDI

Autocratic countries are shown in figure-H. Observations with $r - g < 0$ represent 47.9% of the sample. China is the leading country with a maximum percentage (97.5%) of observations depicting the highest proportion of occurrences $r - g < 0$ taking place in the last 40 years. The

among all the groups, the sign (positive/negative) of $r - g$ has gone through swings, sometimes at very high frequency and vice versa.

What happens is that, when GDP growth rate declines, and confidence in the underlying economic health deteriorates subsequently, due to multiple factors such as declining Financial Direct Investment (FDI), worsening external position, ballooning external and internal debt, hike in lending rates, subdued exports, and despite a depreciation in exchange rates, and high import bill, all this, can be disastrous for any country.

Amid, such a despicable situation, in hybrid and autocratic regimes, when the interest rate-growth differential swings from negative to positive, and that too, where the SD is (already) extremely high (as shown in table-I), the situation worsens, and they have no choice but to seek help from the international monetary institutions like IMF and WB.

The increasing twin deficits (trade account and current account deficits) force countries to seek bailouts to avoid bankruptcy. All this happens because the debt accumulation process switches from stable to unstable. The cash scant government and business entities, and households look to increase their leverage position. It leads to an increase in all types of debt including, government debt, household debt, and debt to the private sector, more significantly, in particular, if the interest rates are low and government falsely believes that the interest rate would be on average lower than the growth rate.

Table A

Standard Deviations for Strictly liberal, flawed democracies and Hybrid and Autocratic Regimes

	Liberal Democratic	**Flawed Democracy**	**Hybrid Regimes**	**Autocratic Regimes**
Mean	1.1	3.46	7.52	-0.16
Std. Dev.	3.53	11.61	58.52	33.28

Sources: Authors calculations based on data from IMF mapper, WDI, and OECD

therefore, ignoring the primary deficit to grow beyond universally accepted threshold—when $r - g < 0$ (and is wrongly assumed to be the norm), can prove disastrous for the economy.

Moreover, switching the countries between the hybrid and autocratic regimes—prompts the writer to come up with more tables—explaining the SD for the multiple regimes. These tables can be found in the appendix—under the heading of SD for Strictly liberal, flawed democracies and Hybrid and Autocratic Regimes.

Blanchard, in his research, underplayed the importance of primary deficits after witnessing prolonged episodes of $r - g < 0$ —which according to him was the reality in the case of the US. Despite the factual necessity of the practice of prudent fiscal policy for the fiscal growth nexus, Blanchard emphasized carrying out debt-financed productive public investment spending when $-g < 0$. The increasing trend in the SD Of interest rate-growth differential w.r.t change in the democratic credentials of the countries show that with the decline in the democratic credentials, the interest differential wings/fluctuates more rapidly and by far greater margins.

Furthermore, this swing is surprisingly less in autocratic regimes. Since the countries—which are part of the group-4 (autocratic regimes), based on low average score in democratic credentials, have fared in recent decades, therefore, the majority of the observations with low-SD decreases the overall increasing trend of SD. Some of the prominent countries, part of it are; Argentine, Malaysia, Thailand, Egypt, Pakistan, Nigeria, Iran, Tunisia, Kyrgyz Rep, Kazakhstan, and Russia.

4.4 The Swing in r-g <0 and proportional change in deficit

There is a systematic tendency in any political process to produce excessive deficits. The deficit bias hypothesis is a proven fact and extensive research has taken place to uncover the possible sources of deficit bias. Buchanan and Wagner (1977) argue that incomplete knowledge is a vital source of deficit bias. The literature shows that countries generally tend to not scrutinize the long-run implications of budget deficits (Alesina and Tabellini, 1990; Alesina and Drazen 1991; and von Hagen and Harden 1995).

The bulk of the research on "new political economy" and in the case of fiscal policy, in particular, proves that strategic interactions can cause the political process to produce outcomes that are

D_{t+1}- $D_t < 0$	0.35	0.58

Sources: Authors calculations based on data from IMF mapper, WDI, and OECD

Based on the sample of liberal democrat countries, Table B, indicates the consequences of the swing in the sign of the r – g differential on the debt accumulation.

Starting from the left side, the debt rises (0.65) more often than it decreases (0.35)—when $r - g > 0$. On the contrary, on the right side— the debt decreases more often than it increases when $r - g > 0$, for 58.0% of the time. And, it increases by 42% of the time. It clearly shows that primary deficit—is an exceedingly important measure and one of the primary conditions to establish—debt sustainability.

The initial studies by Roubini and Sachs and Grilli, Masciandaro, and Tabellini's on OECD countries argue that the political characteristics (divided governments, and divisions of power in decision-making) affect their deficits. They don't find any systematic tendency or deliberate efforts to sabotage the successive/preceding governments by leaving a large debt to restrict their spending in countries like the UK, but in countries like Belgium and Italy—having a succession of the coalition and minority governments. Since the division of power leads to the deficit, it's a common phenomenon in flawed democracies and hybrid and autocratic regimes.

In weak governments, negative r-g encourages the governments to spend big and their unsustainable growth rates, typically, lead to high inflation, particularly hybrid states use bogus/false tactics—against the macroeconomic principles and make way for future disaster.

Table C

The proportion of deficit changes depending on the sign of $r - g$

(percentage points)

Electoral Democratic States	$r > g$	$r < g$
D_{t+1}- $D_t > 0$	0.54	0.39

For example, during GFC and currently, during the Covid-19, low growth rates deteriorate the government's ability to service the debt, and primary deficit increases due to a reduction in taxable income. It's become critical for any country to determine that by how much the debt should be reduced when r-g changes suddenly from negative to positive or vice versa.

Al the tables, in this section, indicate that how (under different regimes across the world) the debt accumulation either increases or decreases, in reaction to change in the $r - g$ differential. The results do not differ much across the spectrum and show similar trends.

Table D

The proportion of deficit changes depending on the sign of $r - g$

(percentage points)

Hybrid States	$r > g$	$r < g$
$D_{t+1} - D_t > 0$	0.59	0.43
$D_{t+1} - D_t < 0$	0.41	0.57

Sources: Authors calculations based on data from IMF mapper, WDI, and OECD

In the case of hybrid regimes (Table D), debt decreases (57% of the time) more often than it increases when $r - g < 0$. Conversely, when $r - g > 0$, it shows the increase more often, i.e., 59% of the time.

Debt grows drastically, when the interest rate differential is positive—which makes the situation alarmingly precarious, particularly when the investor confidence goes down and amid the worsening macroeconomic fundamentals. Under those circumstances, when there is no imminent threat to the full-blown crises on the external front and a country manages to somehow honor the interest payments, self-fulfilling crises can quickly alter the ground realities. And, the consequence of pessimistic expectations of investors' can jeopardize the economies. In such scenarios, self-fulfilling crises are a serious threat. (Blanchard, 2019).

$D_{t+1} - D_t < 0$	0.40	0.64

Sources: Authors calculations based on data from IMF mapper, WDI and OECD

While it is vital for policymakers/ and economists alike to know that when public debt is too high, however, the answer to this question is rather frustrating and hard to find. D'Erasmo et al. (2016) argue that this in fact boils down to mere judgment informed by multiple methodologies. And, it is mission impossible to assess debt sustainability given the futuristic notion involving the judgment and knowing it with certainty remains a challenge, he argues.

Since debt sustainability relies on future debt dynamics and the future is uncertain, and what makes it extremely unpredictable is regime score on the select indicators. For the developed countries with inclusive institutions and controlled debt dynamics, going to IMF remains a rarity. But hybrid regimes and autocracies remain vulnerable to losing sovereignty and undermining their future. By compromising their future to vested interests of world powers and ongoing power struggles to control the trade routes and trade in general, hybrid regimes fail to break the shackles. Given the fact that majority of stakeholders (with limited public financial literacy (taxpayers, voters, and small investors) gives considerable value to the simplicity and transparency of sustainability assessments

Assessing sustainability is linked to the future of debt dynamics, and in the same way, it is linked to the regime—how does it fare on the democracy Index? And how inclusive are its institutions?

There seems to be no one magic policy or one size fits all for all the countries. It's difficult to set the goals for individual country and there is no debt to GDP number. Depending on the interest and growth rate differential, one country's high debt may well be sustainable, while another's low debt may not. And going forward, both conceptually and analytically, stochastic debt sustainability analysis remains the most appropriate tool, at the International Monetary Fund (Olivier Blanchard, 2015).

Full blown crises, in case of market confidence weakens and interpretation of debt is indicating ballooning deficit,

External shocks such as acute international natural events such as floods and earthquakes impose remarkable pressure on the country's balance of payments position and force the country to secure more loans. Developing countries, generally, reach such a point/stage because of political reasons for short-term gains, and the country ends up paying the price in the long-run. And, if the gross financing needs (i.e. new borrowing requirements to finance the budget deficit and the maturing debt) starts increasing as compared to the averages observed in other developing and emerging economies, it puts the country in a tricky position, however, if the proportion of gross financing needs going towards financing maturing debt increases significantly, amid the surge in both international and domestic markets, it can put the country on the back foot as the recent experience of Argentine suggests—when it had to refinance maturing debt at an increasing rate.

In developing countries, the decline in remittances, weak exports, the surge in import bill, higher cost of borrowing, lower maturity of loans, and shift in the composition of external (foreign assistance) contributes towards a high rate of debt accumulation. External shocks such as acute international natural events such as floods and earthquakes impose remarkable pressure on the country's balance of payments position and force the country to secure more loans. Political corruption and cronyism push the developing countries to a tipping point, as its leaders sell the country for short-term gains, and the long-term future of the country goes to ruins.

And, if the gross financing needs (i.e. new borrowing requirements to finance the budget deficit and the maturing debt) start increasing as compared to the averages observed in other developing and emerging economies, it puts the country in a tricky position. And, if the major proportion of gross financing needs going towards financing maturing debt increases significantly, amid the surge in both international and domestic market rates, it can put the country on the back foot as the recent experience of Argentine suggests—when it had to refinance maturing debt at an increasing rate.

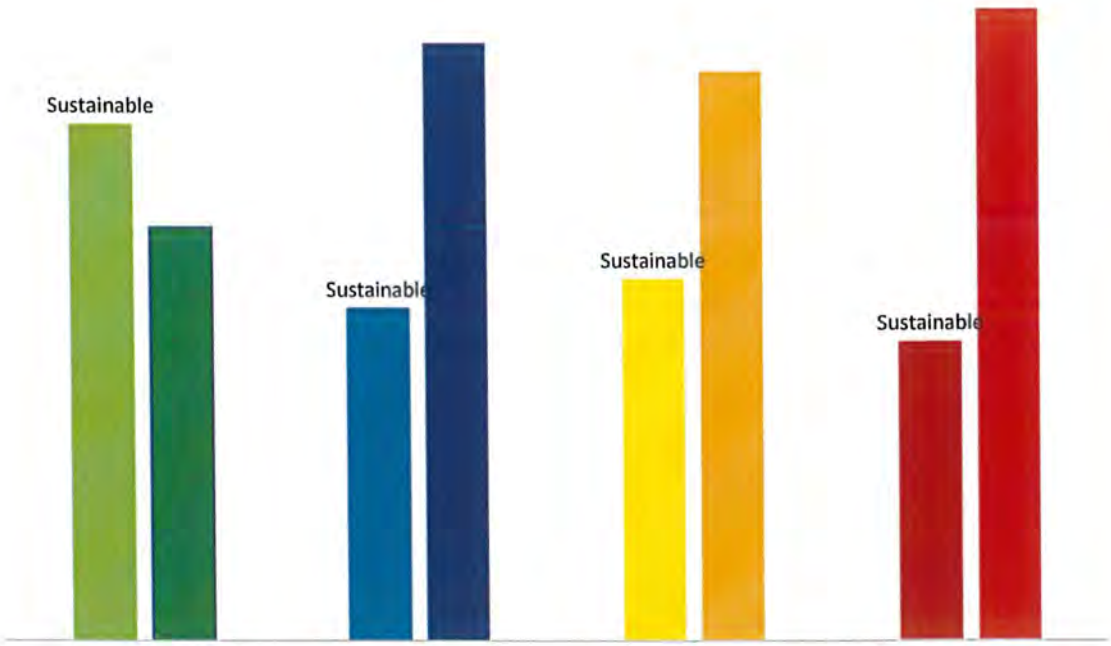
4.4.1 Argentine: A prime example for self-fulfilling tendencies

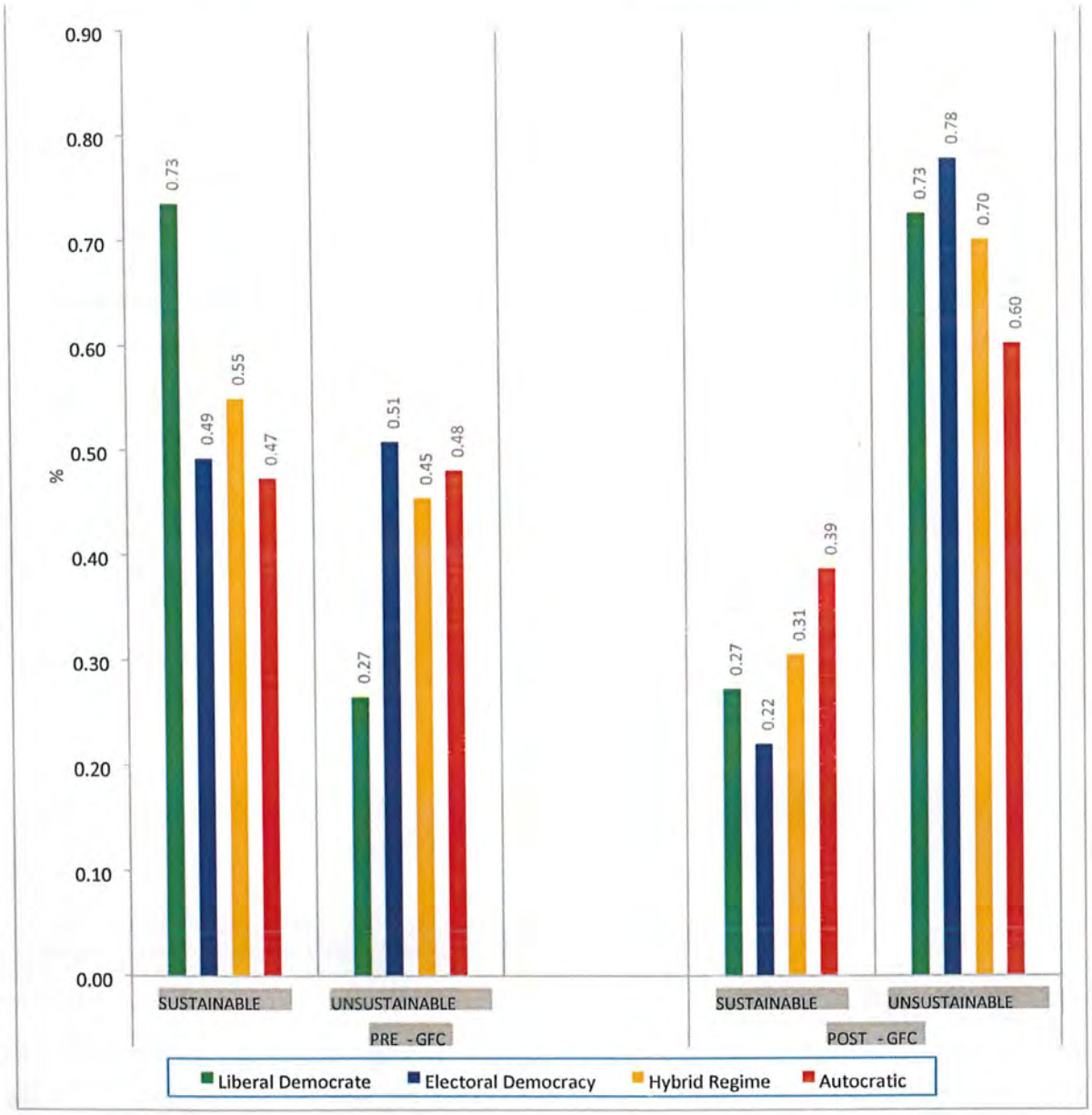
In the wake of a ballooning debt accumulation across the Atlantic and in the world, in general, a recent crisis in Argentine reminds one of the dangers of self-fulfilling crises.

electoral regimes and as expected the liberal democrat countries across the Atlantic and even, in Asia pacific, demonstrate greater debt sustainability. Similarly, the panel data shows that debt sustainability (based on democratic rating averages) remains higher in liberal democratic countries with a fair bit of margins, and allows the stated countries to use fiscal space to rise unscathed, in case of unknown endogenous shocks. Moreover, as the trend line shows, autocratic regimes have the least proportion (0.32%) of sustainability, and hybrid regimes and electoral democracies remain marginally ahead of the dictatorships. The results point towards the escalation in debt accumulation in last few decades, particularly after the inception of neoliberalism.

Figure J

Debt Sustainability under democratic credentials/ratings





Source: Author's calculations based on data from IMF World Economic Outlook database, IMF Data Mapper and WDI

The above graph (figure K) shows the changes in the proportional sustainability in the pre-GFC and post-GFC world. GFC rocked the developed world. Its significant impact on liberal democracies is obvious from staggering proportional decline (-62.89%) in sustainability, examined over the 6-years before and 6-years after the GFC. Furthermore, the proportional plunge in

reason for the drastic decline in the sustainability of almost all the liberal economies—USA, UK, France, Austria, Belgium, Denmark, Finland, France, Germany, Iceland, Ireland, Italy, Australia, and Japan. Globalization and integrated economies ran havoc across these countries and hit the real economy, as demand plunged and unemployment soared.

The electoral democracies were the second-worst sufferer after the liberal democracies, followed closely by the hybrid regimes. Some of the emerging economies—which didn't feel the brunt of the global economic collapse are part of these groups.

The autocratic regimes didn't have much stake in the global economy and were, subsequently not the worst sufferers among all four groups—with the plunge of 18% (sustainability) and surge in the unsustainability of 26%. Moreover, the autocratic countries have economic cycles and demonstrate the unsustainability of public debt.

4.6 Correlation coefficients r – g and output gap

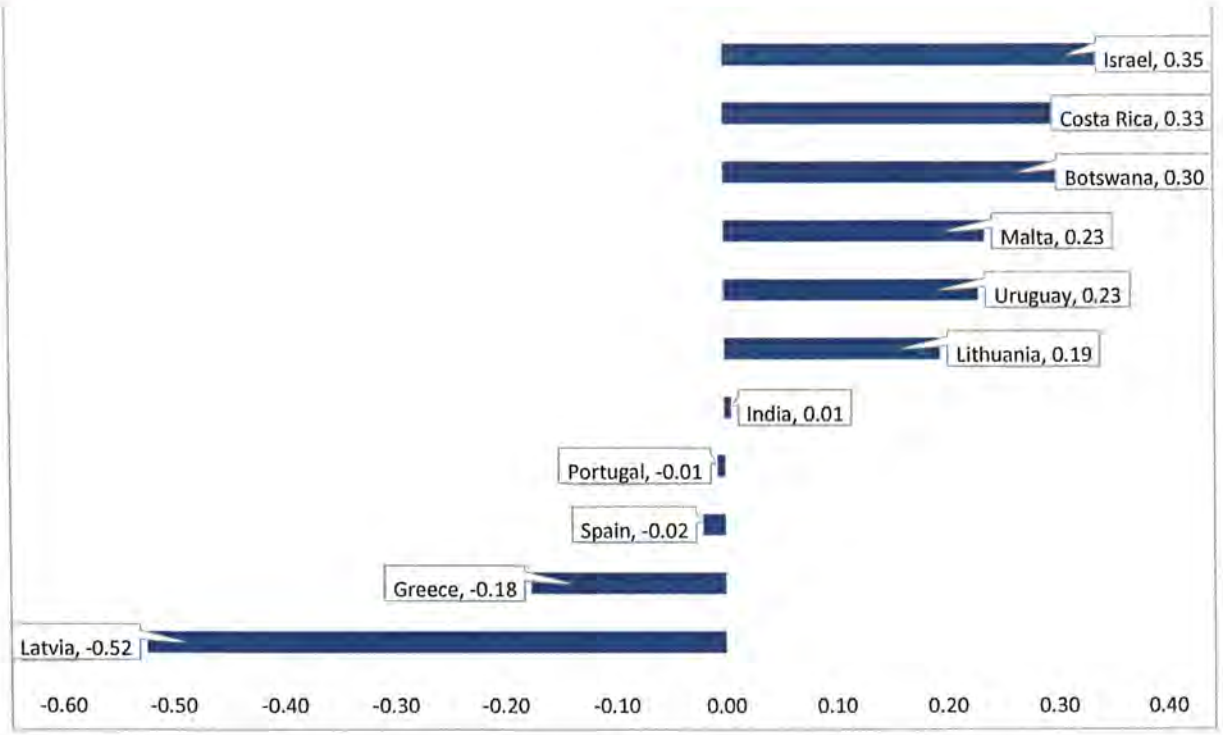
Generally, it is expected that governments increase the political spending (particularly) in the case of developing and emerging countries, at the time when interest rate shows the downward trajectory and GDP grows and differential $r - g$ is negative. In the previous sections, it is proved that when interest rate-growth differential $r - g < 0$ is not the norm, and rather swings, the fiscal freedom/fiscal space remains in doubt. The examination of the pre-GFC and post-GFC indicates the drastic surge in unsustainability (particularly) in the case of liberal democracies, OECD countries, and electoral democracies due increase in the positive $r - g$ differentials.

The majority of the countries show the negative correlation coefficients between the output gap and $r - g$. The figure-6 displays the correlation coefficients between for output gap and $r - g$ over the period spanning from 1971 to 2018.

This study used the Hodrick-Prescott filter to estimate the output gap. Negative correlation coefficients demonstrate countercyclical fiscal policy. Conversely, the positive-correlation coefficients indicate procyclical fiscal policy.

Figure M

Liberal democracies- Country Correlation coefficients between the $r - g$ and output gap, 19712019



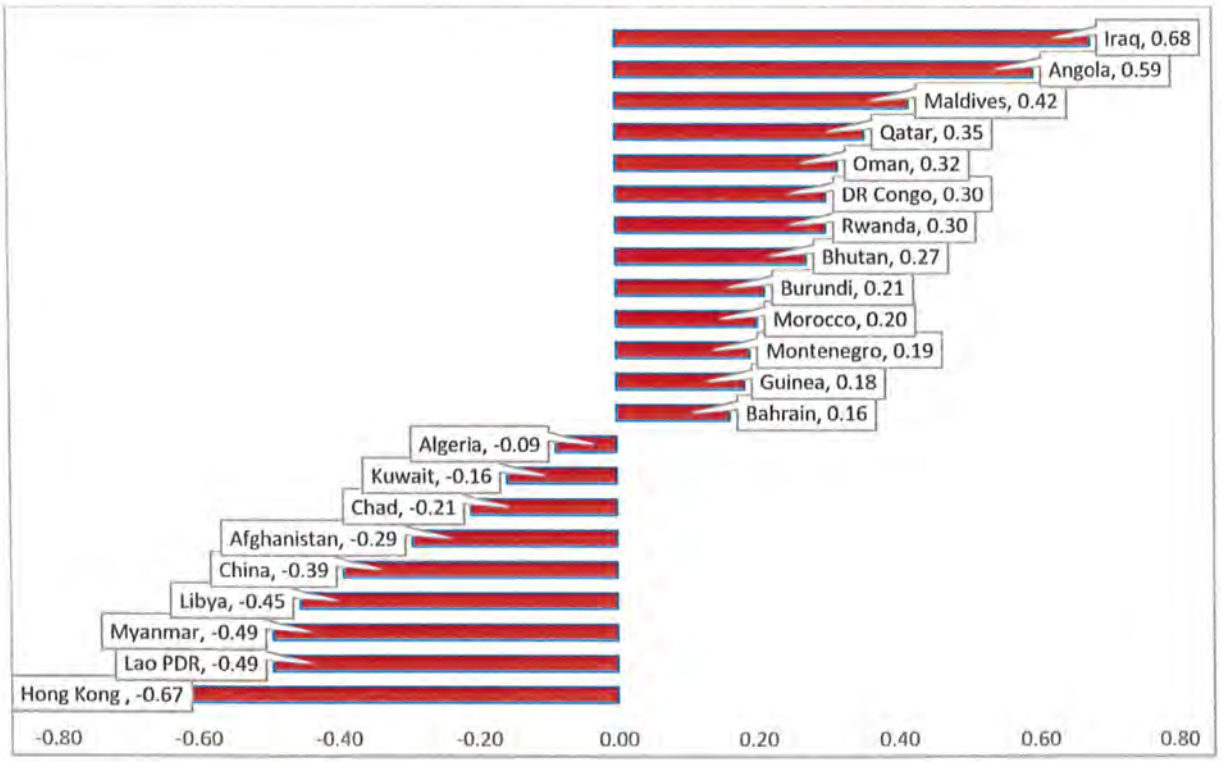
Source: Author's calculations based on data from IMF World Economic Outlook database, IMF Data Mapper and WDI

The electoral democracies display an overall/net positive correlation coefficients (0.10) between $r - g$ and the output gap. Some countries—which are part of the liberal democrat group (if only the democratic credentials in the last two and three- decades are taken into consideration) depict the negative correlations. It reminds that when the differential $r - g$ is countercyclical, governments are expected to increase the deficits, having a positive output gap. Here, Portugal, Spain, and Greece show the negative correlations and is in line with the findings by the (Wyplosz, C. 2019). It effectively means that $r - g$ is countercyclical and the governments—in harmony with this notion/axiom (that $r - g$ remains negative) would increase their deficits, when the output gap is positive. Nevertheless, among the strictly flawed group of countries, India shows marginally positive correlation coefficient and rest of the countries—Israel (0.35), Costa Rica (0.33), Botswana (0.30), Malta (0.23), Uruguay (0.23), and Lithuania (0.19) demonstrate a positive correlation between the output gap and interest rate-growth differential.

when the output gap is positive and, conversely, reduce their deficits when the output gap is negative.

Figure P

Autocratic Regimes- Country Correlation coefficients between the $r - g$ and output gap, 19712019



Source: Author's calculations based on data from IMF World Economic Outlook database, IMF Data Mapper and WDI

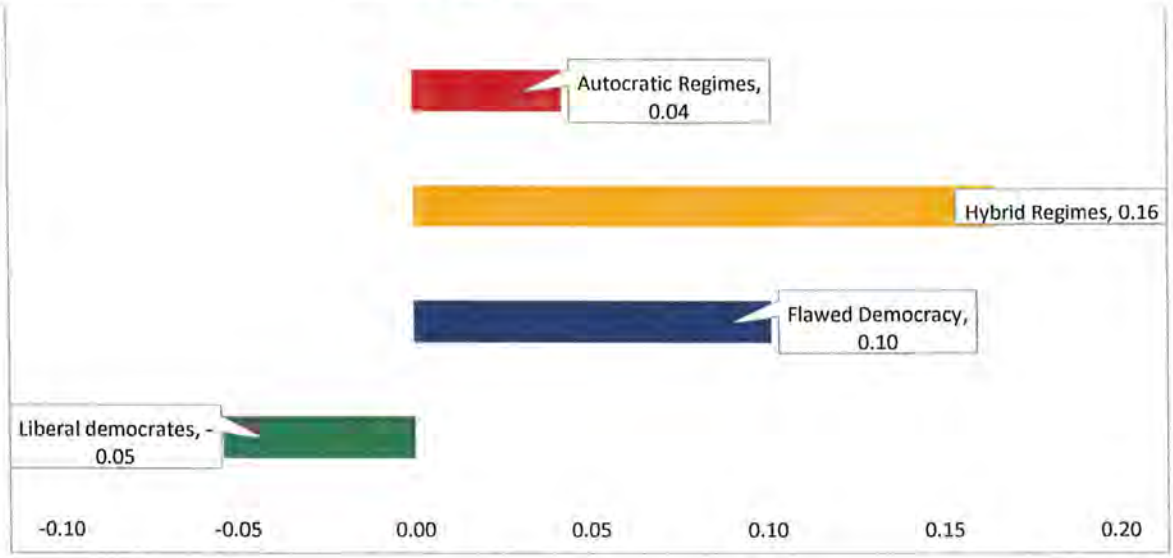
Similarly, the calculations for the strictly and overall—flawed democracies demonstrate an overall positive correlation between the interest rate differential $r - g$ and the output gap. The average for electoral democracy, hybrid regimes, and autocratic countries is. 0.10, 0.16 and 0.04 respectively.

The figures are not highly positively correlated and are on the lower side—reflecting the huge disparity between the countries, as an overwhelming majority of the blue, golden, and red bars lie on the right side of the respective graphs. Precisely, it shows a positive correlation or procyclical government spending in developing countries.

which were expected to show even higher correlation. One of the reasons for lower-average is few number of $r - g$ values, due to lack of data in the autocratic regimes.

Figure R

Correlation coefficients r – g and output gap



Source: Author's calculations based on data from IMF World Economic Outlook database, IMF Data Mapper and WDI

The available evidence points out that pursuing a procyclical policy can be extremely dangerous to the economic stability of any country—particularly those already mired with chronic debtburden. It is particularly true for liberal countries, where interest rate-growth differential is considered a norm. After the prolonged GFC due to subdued demand, and weak economic activity picked up slowly. In some select countries, though it reached the pre-cries level, the uncertainty keeps looming, and interest rates remained on the lower side. It is why procyclical policies are dangerous.

Given the negative-interest rate-growth differential, and the positive output gap, and the assumption that fiscal policy is countercyclical, there is a tendency for the deficit to decrease. It means that countries, which follow the suggestion would opt for countercyclical fiscal policies.

The positive-output gap (boom), under the countercyclical policy, refers to the strategy by the respective countries to counter boom or recession through fiscal measures. In pursue to stabilize

taking place in the last 40 years. A similar trend is seen among the electoral/flawed democracies, hybrid regimes, and autocratic countries that exhibit the same trend with $r - g < 0$ representing less then 50% of the total observations.

Furthermore, significantly higher values of standard deviation depicts the high volatility of the differential. High SD means, r-g can be either positive or negative, therefore, it cannot be used as a norm.

The major structural break in 2007-08, when the GFC hit the world economy—reveals the drastic changes witnessed in the proportional sustainability in the pre and post-GFC world. Its significant impact on liberal democracies is obvious from staggering proportional decline (-62.89%) in sustainability, examined over the 6-years before and 6-years after the GFC. Besides, the proportional plunge in sustainability shows an increasing trending in unsustainability, and conversely a decreasing trend in sustainability, with the decline in the ranking/level of democracy.

The unexpected swings in the differential $r - g < 0$ is a major problem for the electoral democracies and hybrid regimes. The inadequacy in fiscal space and unsustainable growth rates due to weak export structure, lack of industrialization, failure in inclusive development, and high inflation, and may allow these countries to use false tactics paving way for impending disaster and boom/bust cycles. In the case of any unpleasant external shock, when $r - g$ subsequently becomes positive, and the cost of debt servicing drastically increases forces the governments to limit its spending in critical areas. Consequently, this restricts the long-run potential of the economy, pushing the country towards inequitable economic growth.

On the contrary, liberal democracies grow rather quickly, and have adequate fiscal space and capacity, to refinance maturing debt and clear interest payments every year.

In liberal democratic states, debt decreases (0.58% of the time) more often than it increases when interest rate-growth differential is negative ($r - g < 0$). On the contrary, when interest rategrowth differential is positive ($r - g > 0$), it shows the increase more often, i.e. 0.65 % of the time. Figures are similar for electoral and hybrid democracies—with decrease in debt (0.57% of times), and when interest rate-growth differential is negative ($r - g < 0$), but marginally different at 0.54 % and 0.59, respectively as compared to when interest rate-growth differential is positive

differential, in contrast to what is actually required of them, to be cautious. There is a huge fear regarding the possibility of the wrong diagnosis and suggestions—when $r - g$ is perceived to be negative as a norm and is subsequently considered countercyclical.

This research recommends that pursuing procyclical policies in countries with exclusive institutions and weak governance systems under the hybrid and autocratic regimes, can be extremely dangerous. It can jeopardize the economic stability of any country—particularly those, already mired with chronic debt-burden. A wrong policy can lead to a drastic increase in the primary deficits and delayed and an ill-informed decision, when the interest rate differential $r - g$ switches from negative ($r - g < 0$) to positive ($r - g > 0$).

The application of negative interest rate-growth differential may be possible in a country like the US for a short period. But its application in liberal democracies is questionable as they remain prone to financial crises due to the inherent flaws of capitalism. Furthermore, its application across the world, regardless of the political standings, democratic credentials, and underlying strength of the institutions is not wise at any level. There exists a potential risk that flawed, hybrid, and autocratic countries, may opt for the procyclical policies and end up badly hurting their underlying economies.

The certainty in the examination of debt sustainability remains a challenge and a mission impossible, given the futuristic notion involving the judgment. Debt sustainability relies on uncertain future debt dynamics.

For the developed countries with sound institutions and controlled debt dynamics, going to IMF remains a rarity. But hybrid regimes and autocratic countries remain vulnerable to losing sovereignty and undermining its future and compromising its future to vested interests of world powers and ongoing power struggles to control the trade routes and trade in general.

Recommendations

There is no one size fits all for all the countries. Depending on the interest and growth rate differential, one country's high debt may well be sustainable, while another's low debt may not (Olivier Blanchard, 2019). Nevertheless, the policy recommendations for the four set of countries are given below:

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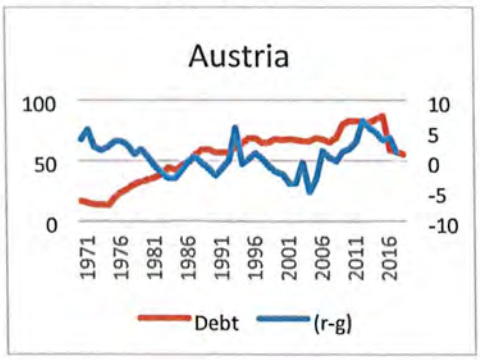
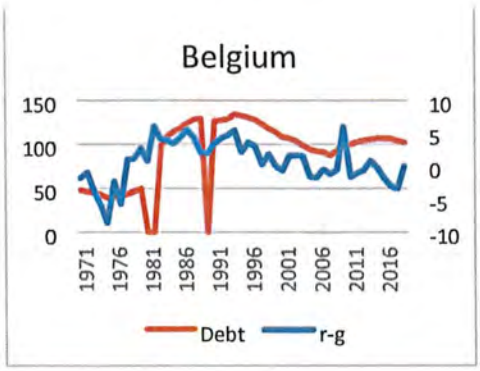
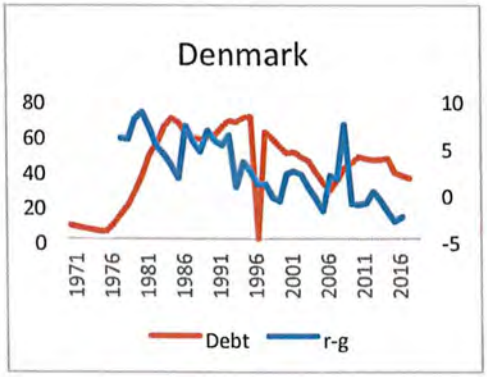
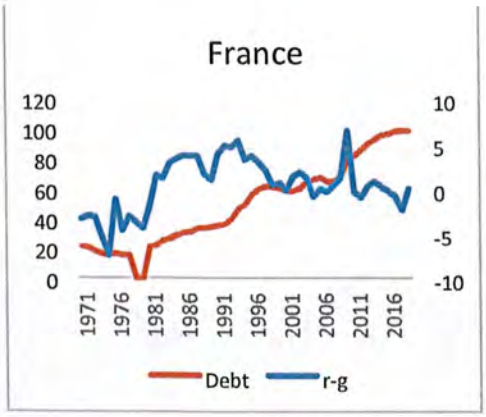
Appendix

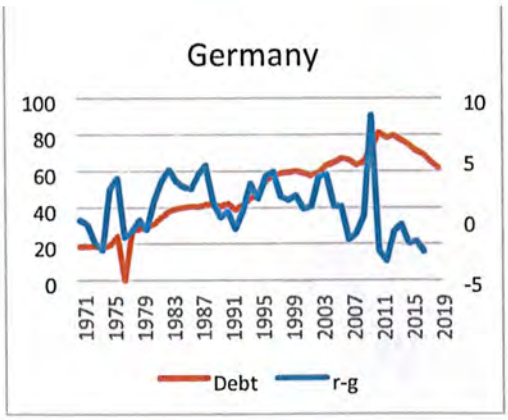
Liberal Democracies









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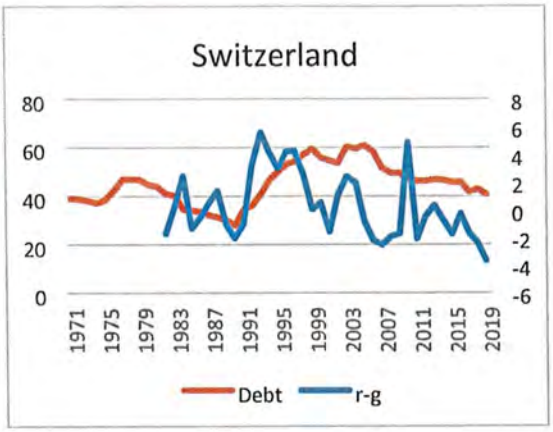
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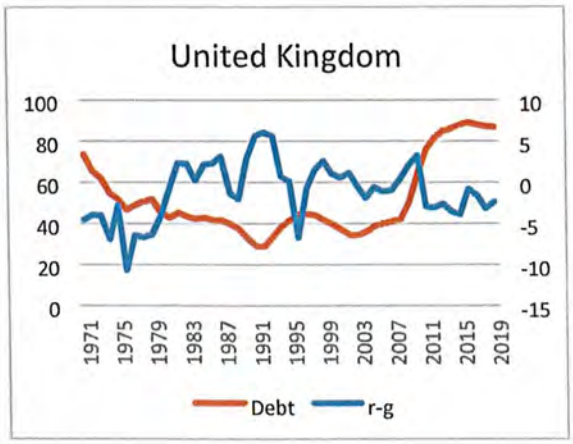
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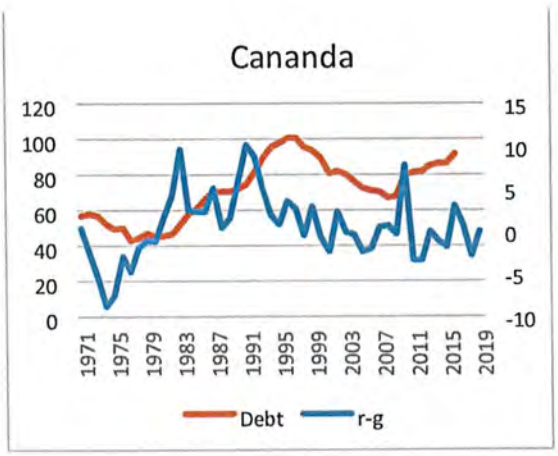
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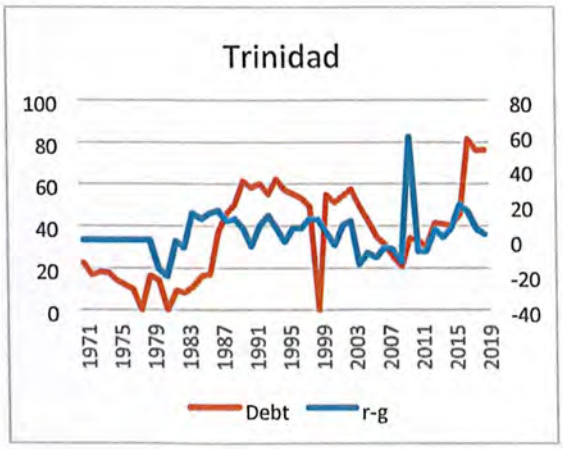
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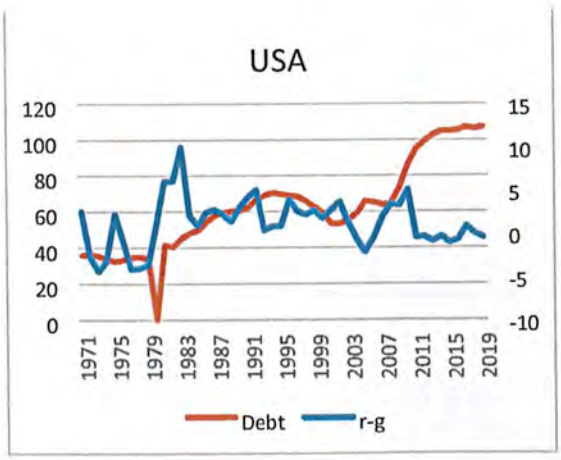
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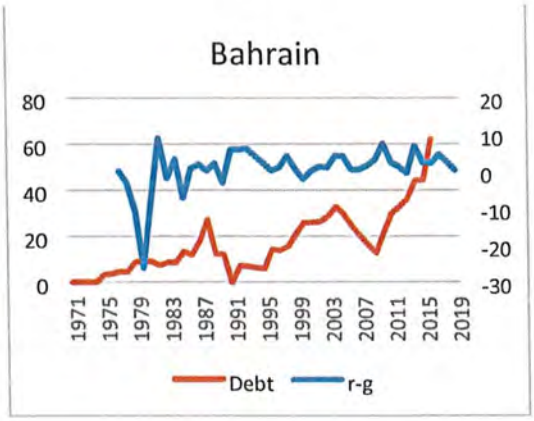
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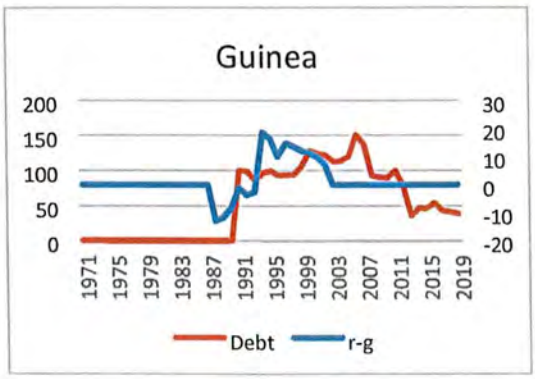
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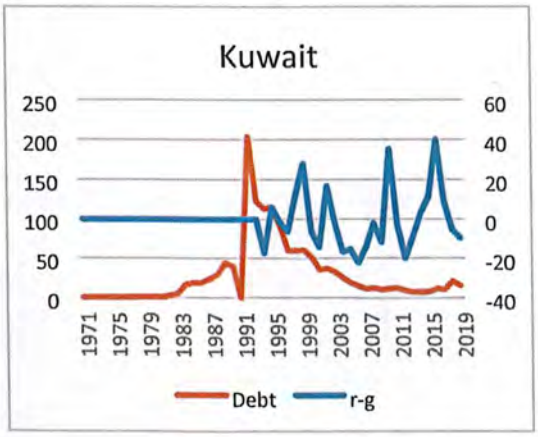
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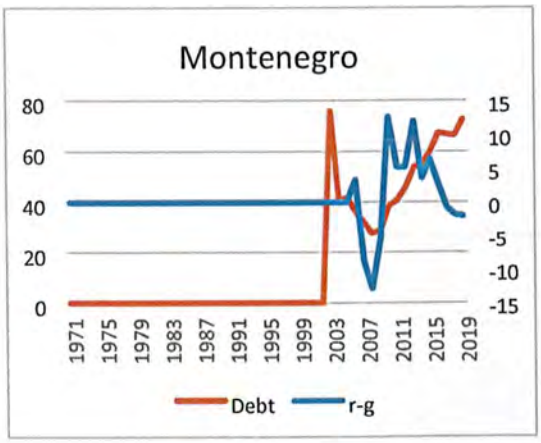
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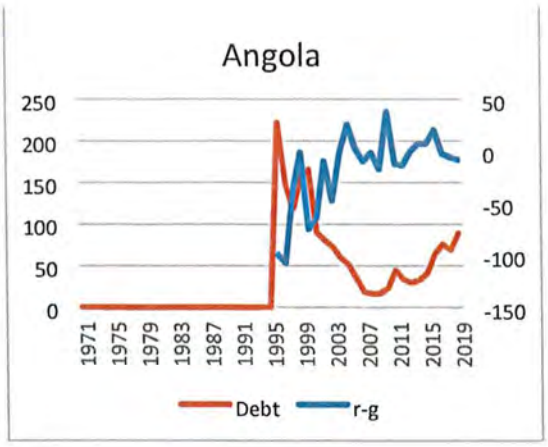
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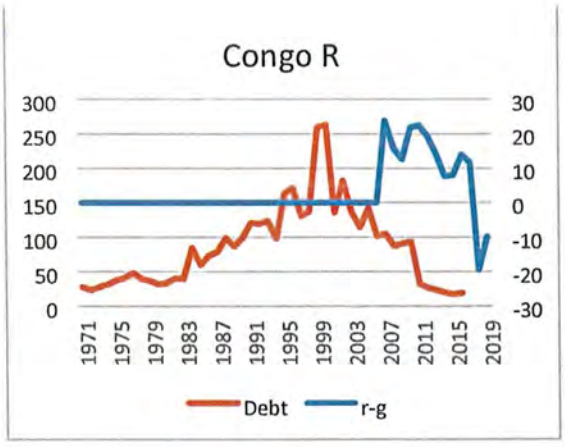
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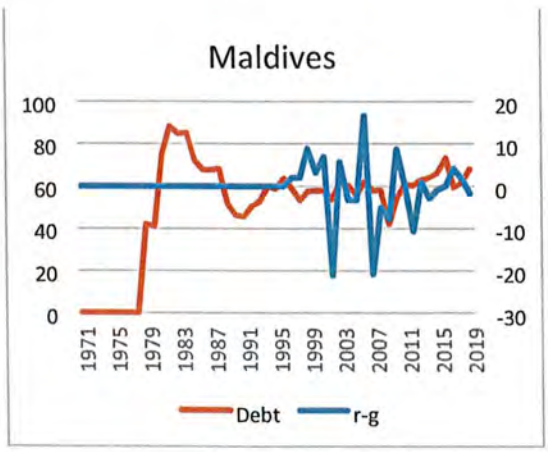
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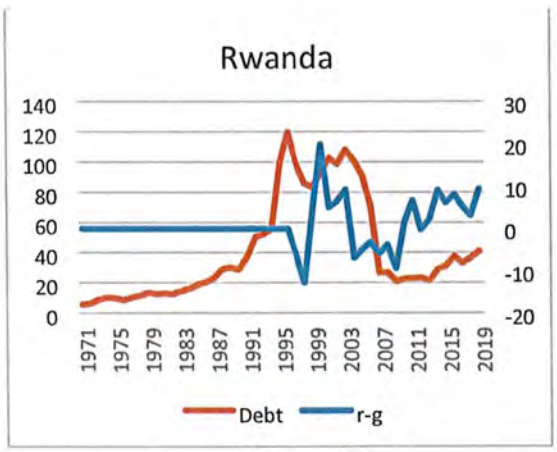
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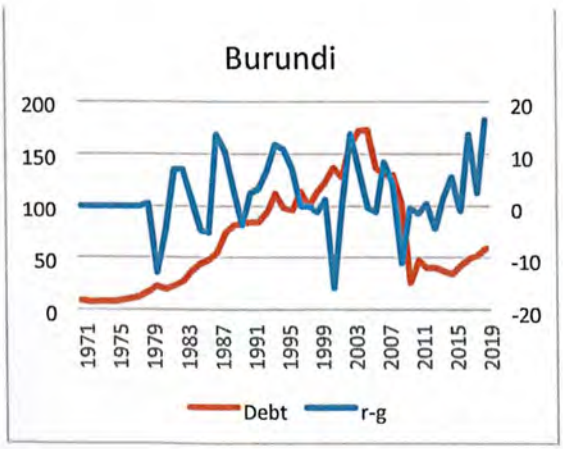
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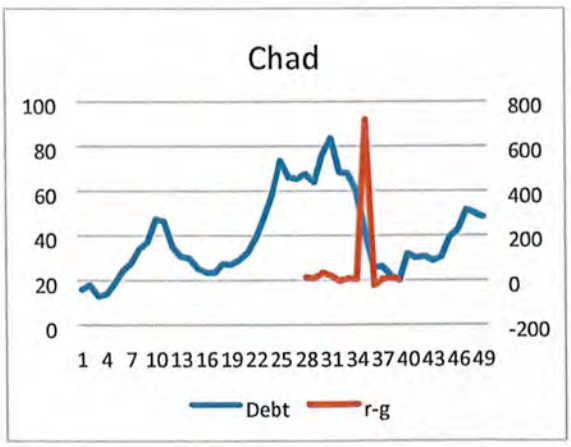
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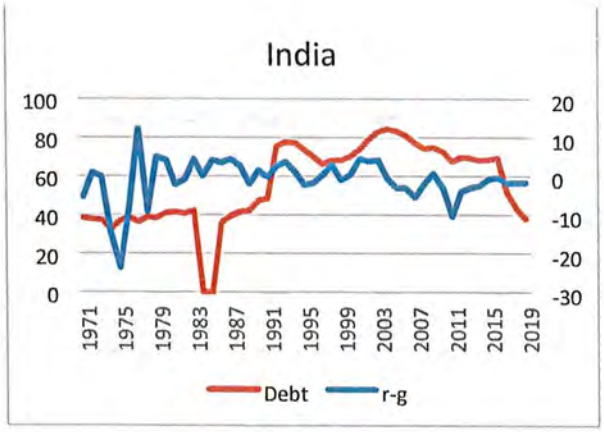
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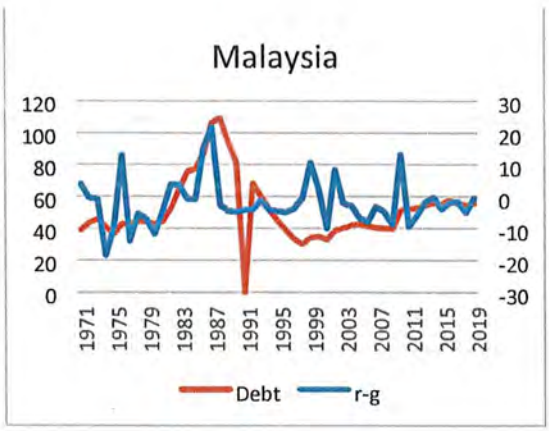
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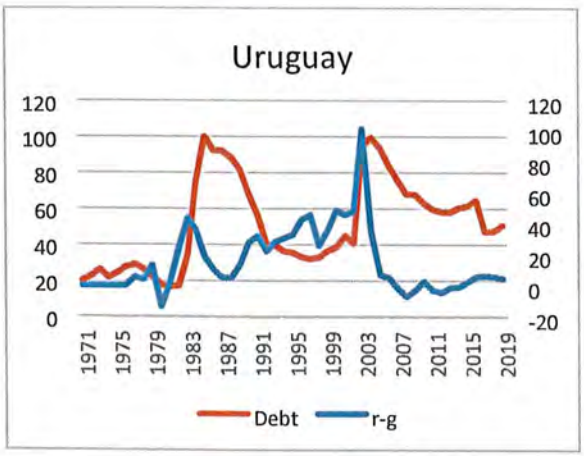
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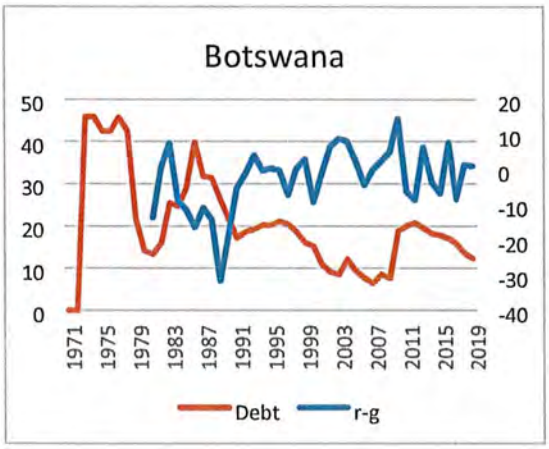
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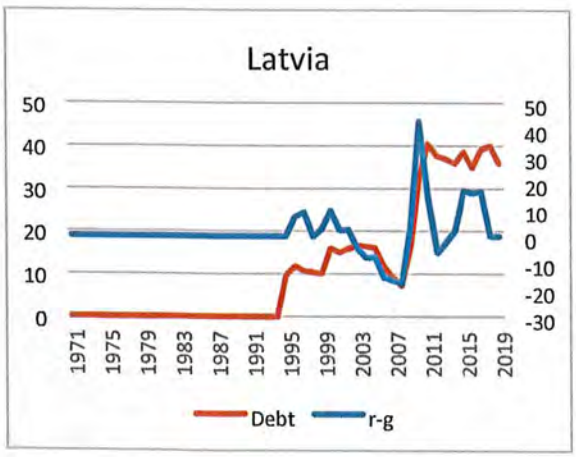
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Debt
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Spain
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Debt
r-g


Ukraine
140
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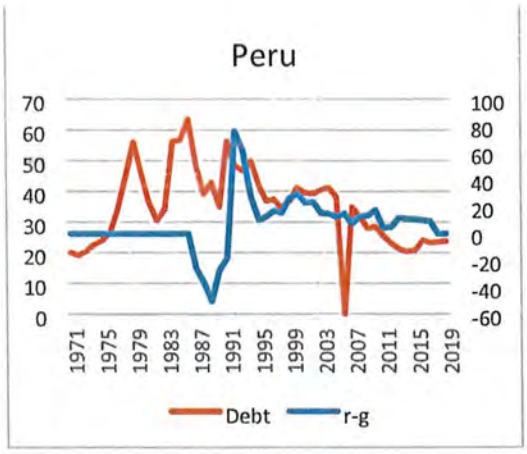
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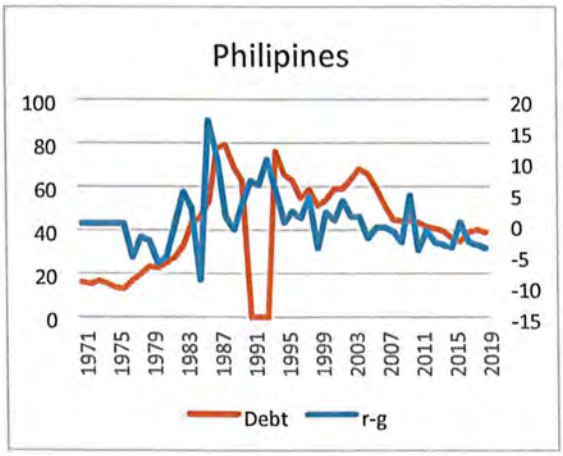
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1971 1975 1979 1983 1987 1991 1995 1999 2003 2007 2011 2015 2019
Debt
r-g


Brazil
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1971 1975 1979 1983 1987 1991 1995 1999 2003 2007 2011 2015 2019
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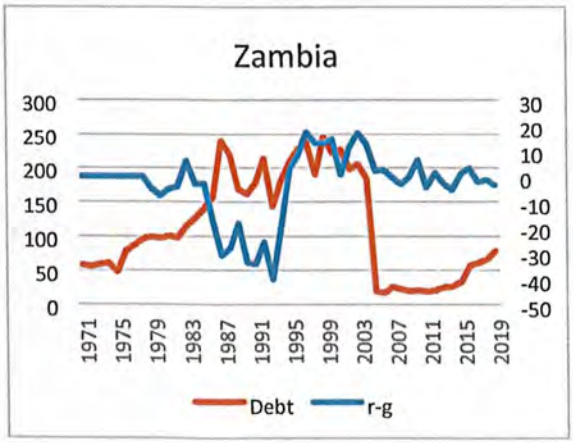
r-g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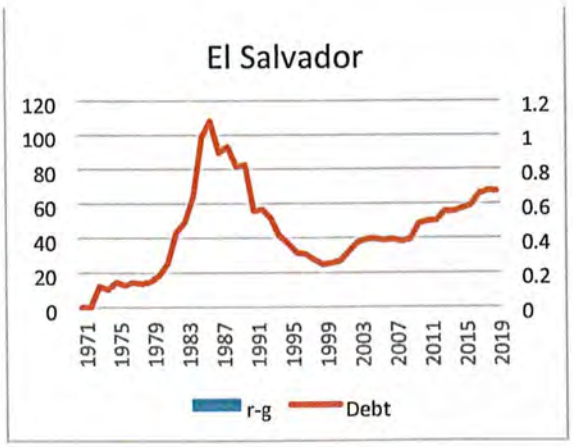
r-g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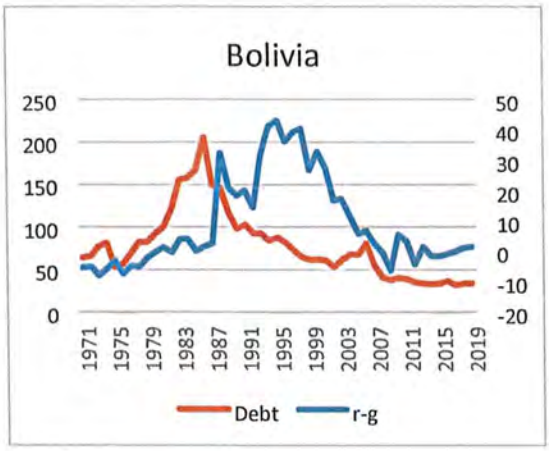
Debt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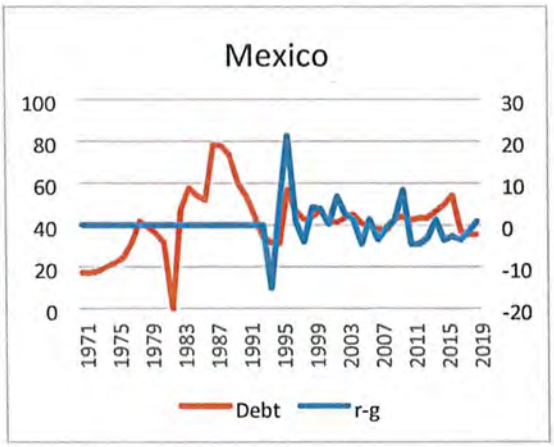
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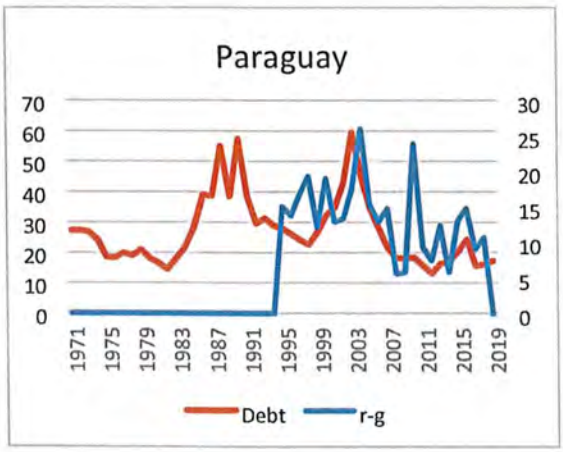
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2019
Debt
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Hungary
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Solvakia
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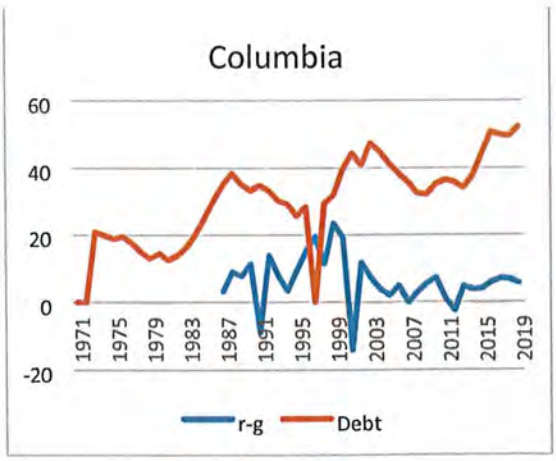
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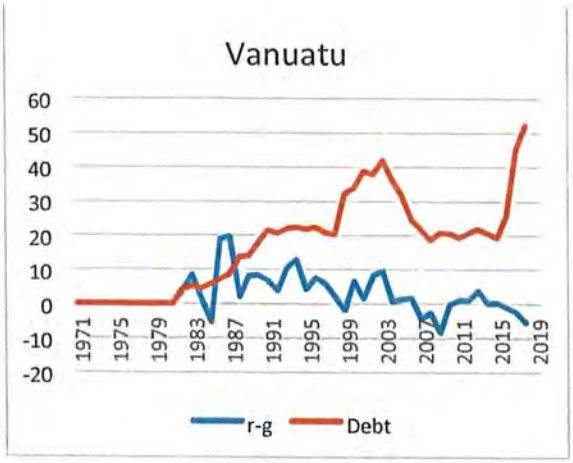
Debt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Czech Republic
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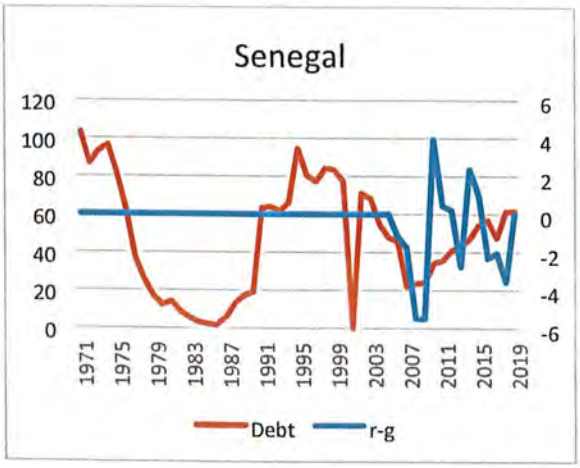
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Debt
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Venezuela
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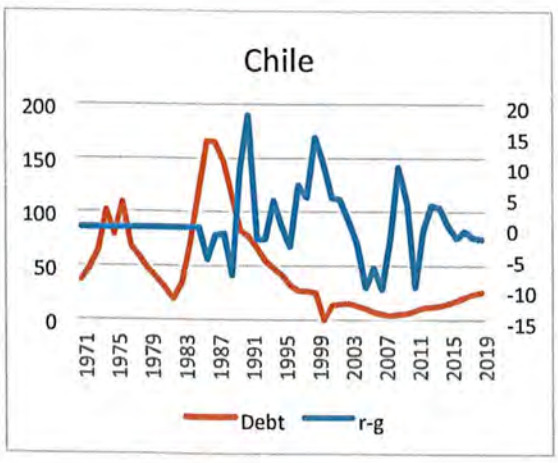
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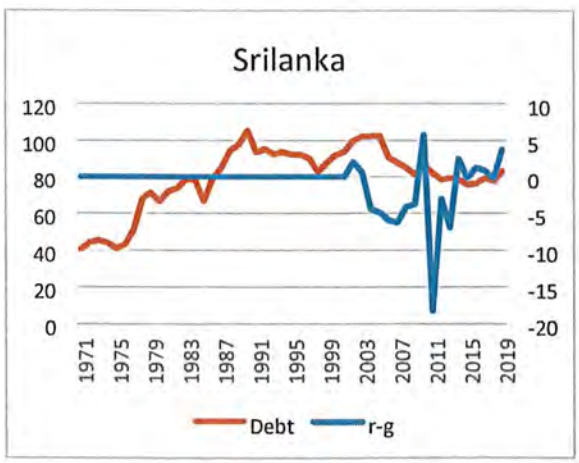
Srilanka
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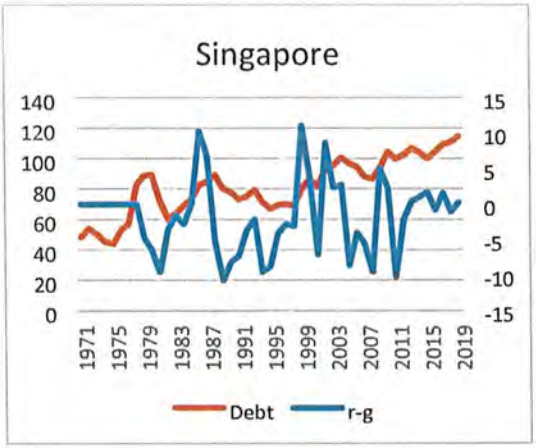
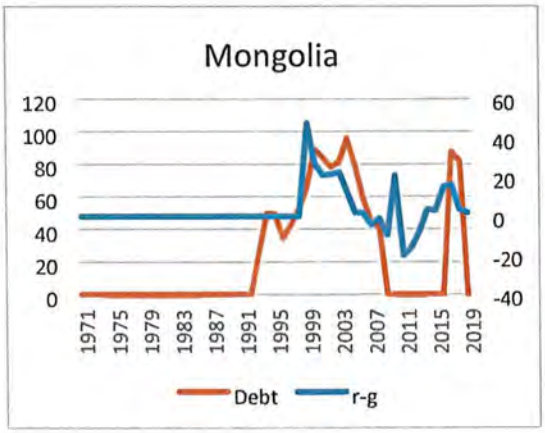
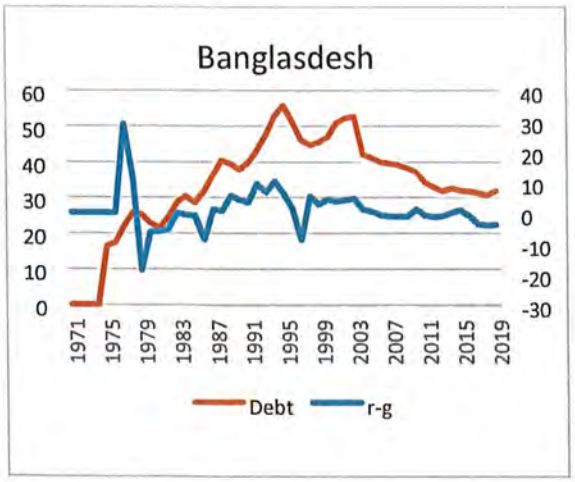
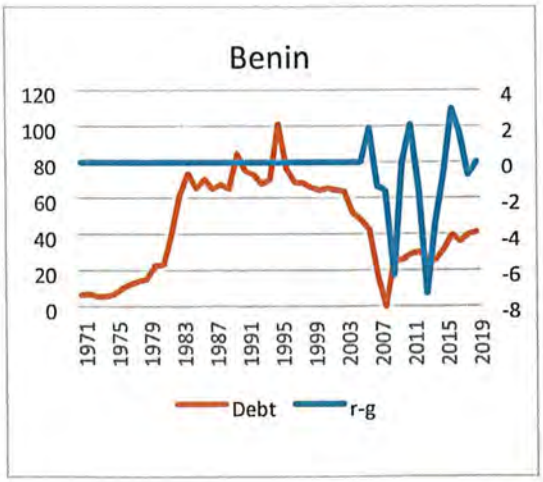
2019
Debt
r-g

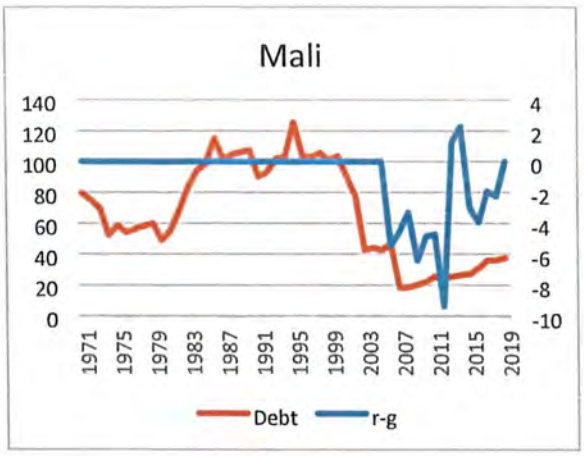
Hybrid Regimes







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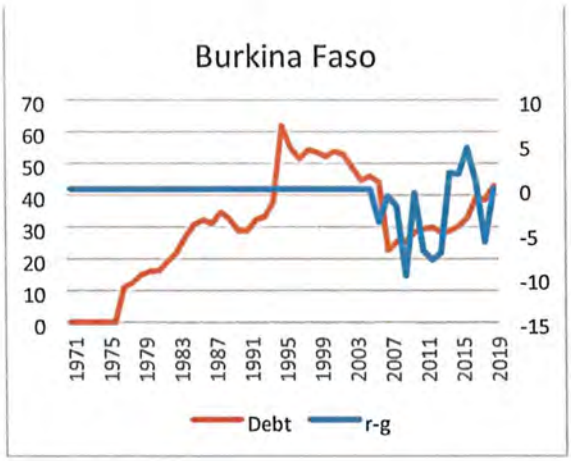
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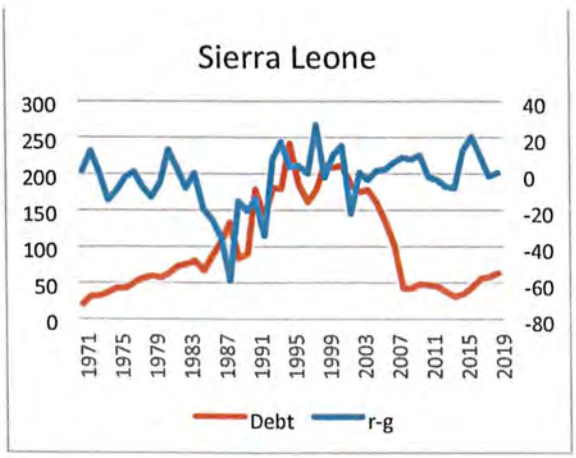
Sierra Leone
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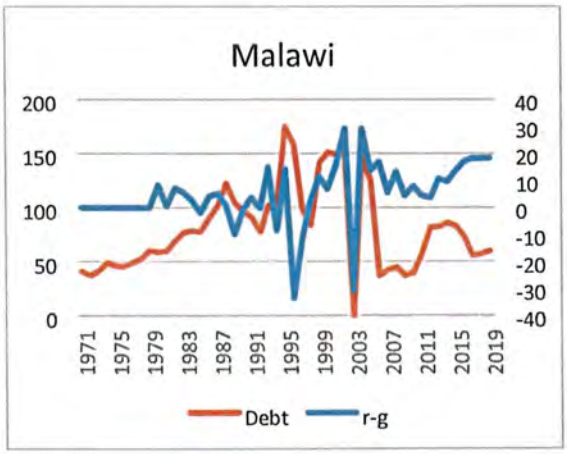
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Albania
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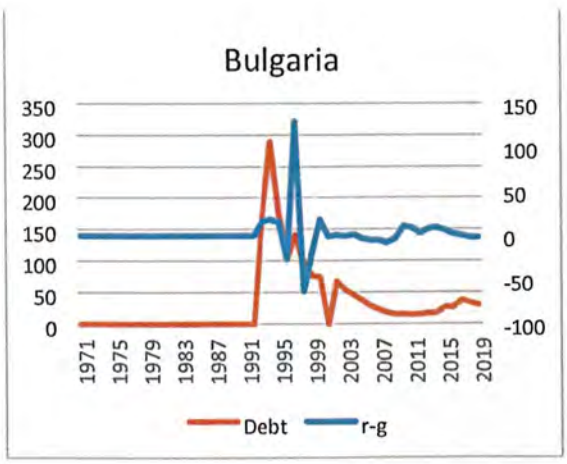
Bulgaria
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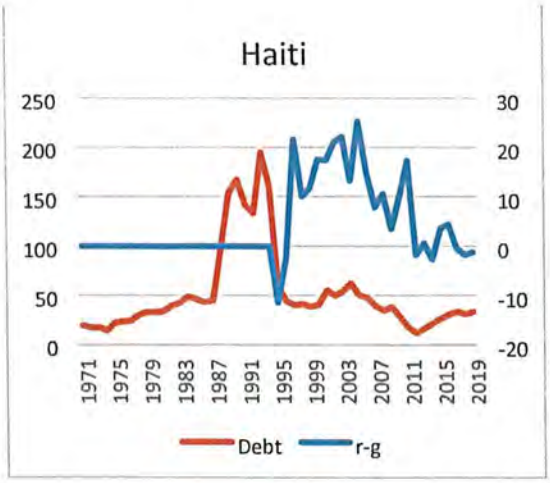
Haiti
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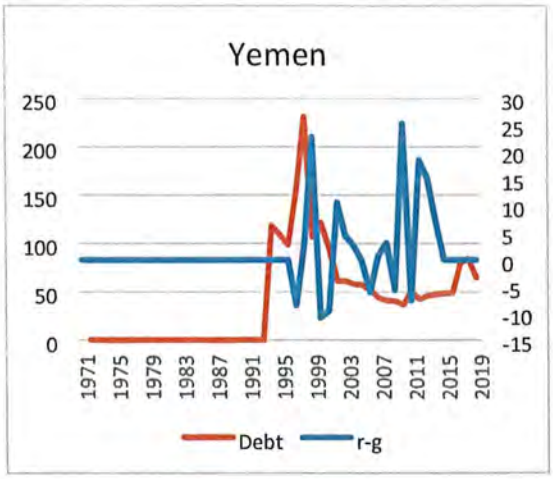
1971 1975 1979 1983 1987 1991 1995 1999 2003 2007 2011 2015 2019
Debt
r-g


Yemen
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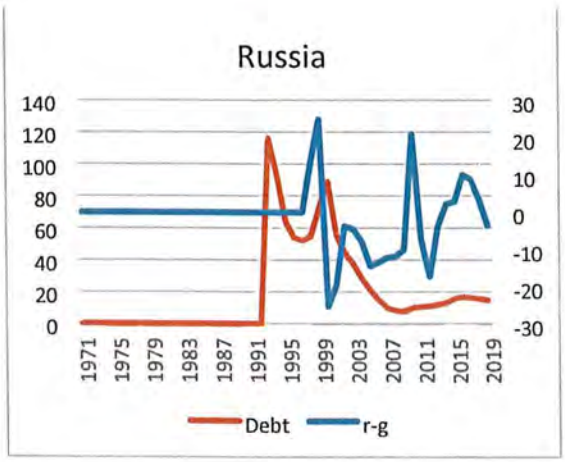
1971 1975 1979 1983 1987 1991 1995 1999 2003 2007 2011 2015 2019
Debt
r-g


Russia
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1971 1975 1979 1983 1987 1991 1995 1999 2003 2007 2011 2015 2019
Debt
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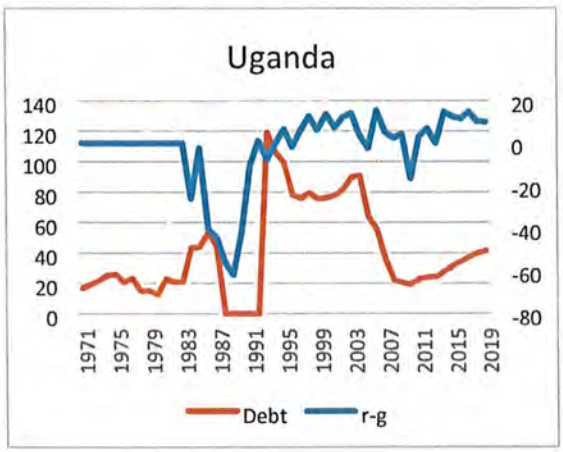
Uganda
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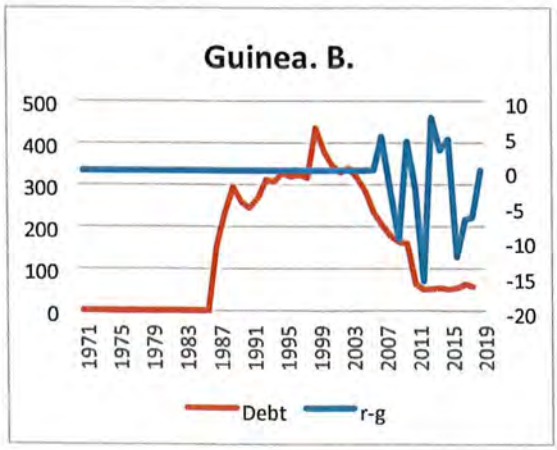
1971 1975 1979 1983 1987 1991 1995 1999 2003 2007 2011 2015 2019
Debt
r-g


Guinea. B.
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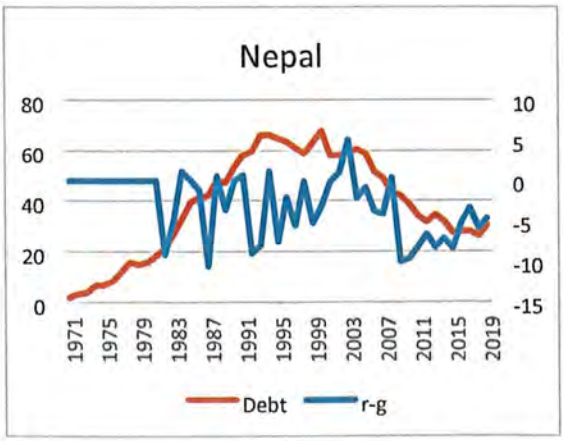
1971 1975 1979 1983 1987 1991 1995 1999 2003 2007 2011 2015 2019
Debt
r-g


Nepal
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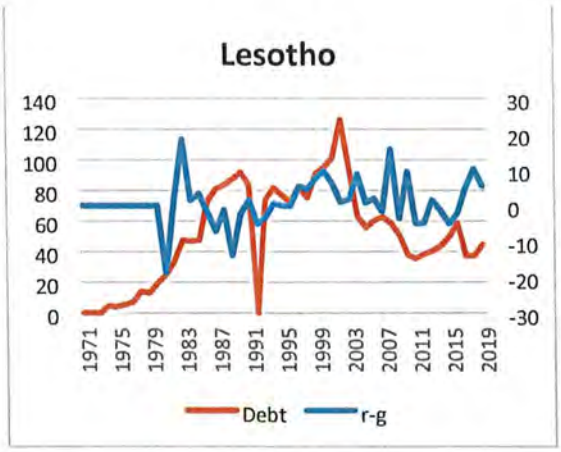
1971 1975 1979 1983 1987 1991 1995 1999 2003 2007 2011 2015 2019
Debt
r-g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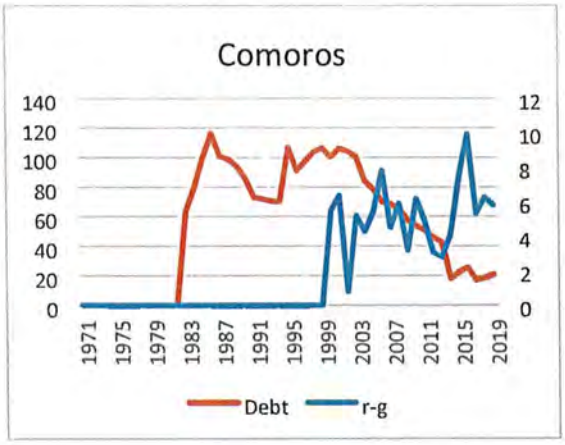
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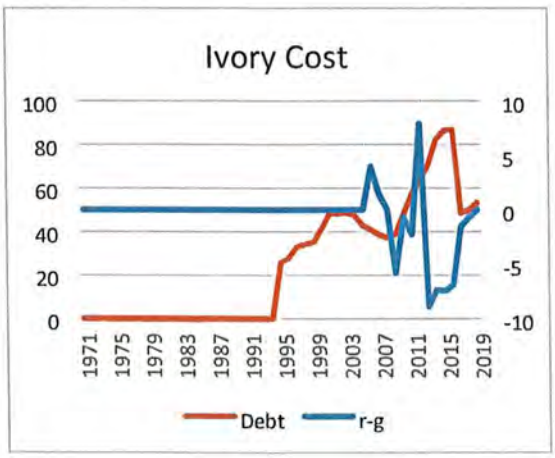
r-g


Ivory Cost
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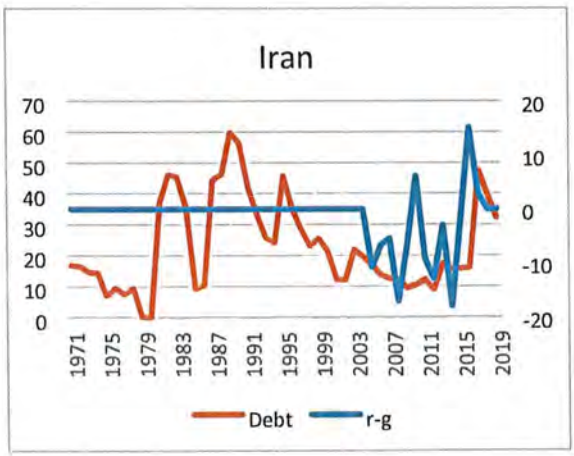
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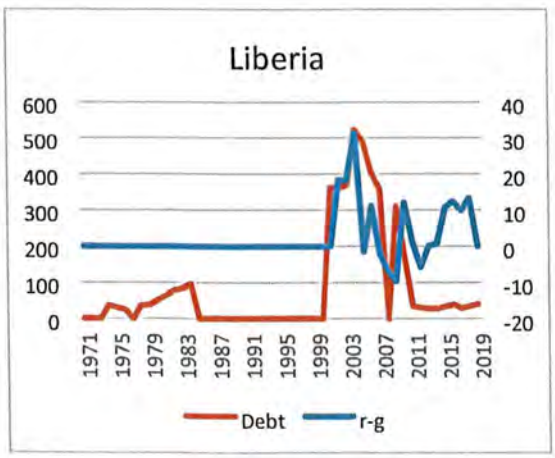
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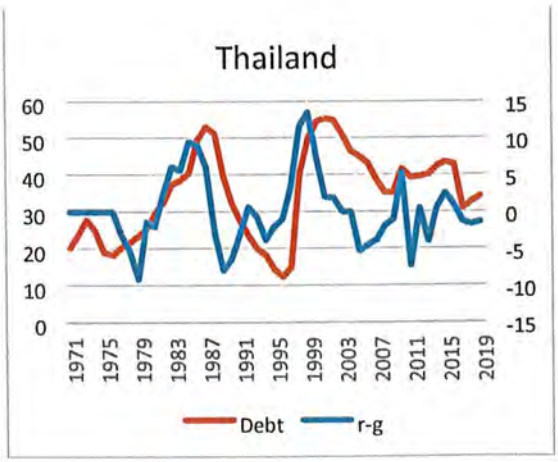
Debt
r-g


Thailand
60
50
40
30
20
10
0
15
10
5
0
-5
-10
-15
1971
1975
1979
1983
1987
1991
1995
1999
2003
2007
2011
2015
2019
Debt
r-g

	r-g<0	r-g>0	Total	% of r<g<0
Austria	16	30	46	34.78%
Belgium	20	27	47	42.55%
Denmark	12	29	41	29.27%
Finland	16	18	34	47.06%
France	21	26	47	44.68%
Germany	16	30	46	34.78%
Iceland	8	31	39	20.51%
Ireland	18	21	39	46.15%
Italy	1	38	39	2.56%
Luxembourg	32	9	41	78.05%
Netherlands	20	25	45	44.44%
Norway	26	23	49	53.06%
Sweden	20	28	48	41.67%
Switzerland	28	10	38	73.68%
United Kingdom	31	18	49	63.27%
Canada	22	26	48	45.83%
Trinidad	14	30	44	31.82%
USA	20	29	49	40.82%
USA (bonds)	31	18	49	63.27%
Australia	23	26	49	46.94%
Japan	18	30	48	37.50%
NZL	16	16	32	50.00%
Estonia	7	5	12	58.33%
Slovenia	9	7	16	56.25%

Philippines	21	21	42	50.00%
Botswana	20	19	39	51.28%
Malta	12	11	23	52.17%
Poland	12	11	23	52.17%
Chile	18	16	34	52.94%
India	27	22	49	55.10%
Portugal	28	21	49	57.14%
Zambia	24	17	41	58.54%
Suriname	17	12	29	58.62%
Ukrain	16	11	27	59.26%
Sri Lanka (sp)	11	7	18	61.11%
Senegal	9	5	14	64.29%
Venezuela	24	10	34	70.59%
Turkey	23	9	32	71.88%
Lithuania	17	6	23	73.91%
Belarus	23	4	27	85.19%

Hybrid Regimes—Proportion of years when r – g < 0

	r-g<0	r-g>0	Total	% of r<g<0
Azerbaijan	8	12	20	40.00%
Singapore	27	14	41	65.85%
Tajikistan	10	12	22	45.45%
Mongolia	4	17	21	19.05%
Bangladesh	22	21	43	51.16%
Benin	8	5	13	61.54%
Honduras	2	35	37	5.41%
Seychelles	4	26	30	13.33%
Zimbabwe	5	31	36	13.89%
Cameroon	16	22	38	42.11%
Niger	2	18	20	10.00%

Serbia	13	6	19	68.42%
Thailand	21	20	41	51.22%
Egypt	29	14	43	67.44%
Tunisia	11	0	11	100.00%
Mozambique	1	21	22	4.55%
Malaysia	34	15	49	69.39%
Kyrgyz Rep.	2	21	23	8.70%
Argentina	15	10	25	60.00%

Autocratic Regimes—Proportion of years when r – g < 0

	r-g<0	r-g>0	Total	% of r<g<0
Afghanistan	6	6	12	50.00%
Bahrain	9	34	43	20.93%
China	39	1	40	97.50%
Guinea	6	9	15	40.00%
Hong Kong	12	17	29	41.38%
Kuwait	16	10	26	61.54%
Montenegro	6	8	14	42.86%
Morocco	24	13	37	64.86%
Oman	13	21	34	38.24%
Qatar	11	4	15	73.33%
Libya	4	11	15	26.67%
Lao PDR	2	17	19	10.53%
Myanmar	30	14	44	68.18%
Angola	17	7	24	70.83%
Vietnam	1	17	18	5.56%
DR Congo	2	11	13	15.38%
Maldives	5	18	23	21.74%
Rwanda	9	12	21	42.86%
Burundi	24	15	39	61.54%
Chad	2	10	12	16.67%

Switzerland	0.23
UK	-0.28
Canada	-0.21
Trin	0.07
USA	0.37
Australia	-0.23
Japan	-0.32
NZL	0.28

Electoral Democracy: Correlation coefficients r – g and output gap

Ghana	0.25
Guyana	0.60
Bolivia	0.01
Mexico	0.38
Paraguay	-0.02
Hungary	0.36
Solomon Islands	0.37
Colombia	0.56
Dominican Republic	-0.18
South Africa	0.30
Poland	0.06
Turkey	-0.07
Bosnia and Herzegovina	0.46
Suriname	0.14
Vanuatu	0.20

Tajikistan	0.61
Mongolia	0.21
Bangladesh	-0.42
Benin	0.59
Honduras	-0.20
Seychelles	0.12
Zimbabwe	-0.36
Cameroon	0.18
Niger	0.71
Kenya	-0.04
Mali	-0.43
Burkina Faso	0.26
Sierra Leone	0.04
Albania	0.72
Bulgaria	-0.02
Romania	0.24
Armenia	0.09
Lebanon	0.41

Autocratic Regimes: Correlation coefficients r – g and output gap

Hong Kong	-0.67
Lao PDR	-0.49
Myanmar	-0.49
Libya	-0.45
China	-0.39
Afghanistan	-0.29
Chad	-0.21
Kuwait	-0.16
Algeria	-0.09

Ireland	22	26	48	6	6	0	6	0	6
Italy	17	25	42	6	6	0	6	0	6
Luxembourg	41	5	46	6	5	1	6	3	3
Netherlands	35	12	47	6	6	0	6	6	0
Norway	48	0	48	6	6	0	6	6	0
Sweden	33	14	47	6	6	0	6	3	3
Switzerland	41	8	49	6	4	2	6	6	0
United Kingdom	12	35	47	6	0	6	6	0	6
Canada	42	6	48	6	6	0	6	2	4
Trinidad	10	26	36	6	6	0	6	1	5
USA	13	36	49	6	2	4	6	0	6
USA (bonds)	13	36	49	6	2	4	6	0	6
Australia	21	27	48	6	6	0	6	0	6
Japan	16	26	42	6	1	5	6	0	6
NZL	34	14	48	6	6	0	6	1	5
Estonia	17	9	26	6	6	0	6	3	3
Slovenia	13	10	23	6	6	0	6	1	5
Total	597	478	1075	144	109	35	144	40	104
Percentage	55.53%	44.47%			75.69%	24.31%		27.78%	72.22%

Electoral Democracy: Proportion of deficit changes depending on the sign of $r - g$

	Pb>0	PB<0	Total	2002-2007	Pb>0	PB<0	2008-2012	Pb>0	PB<0
Paraguay	30	17	47	6	6	0	6	4	2
Brazil	10	39	49	6	6	0	6	4	2
Columbia	17	30	47	6	6	0	6	2	4
Guatemala	2	25	27	6	0	6	6	0	6

Chile	17	30	47	6	0	6	6	0	6
India	0	47	47	6	0	6	6	0	6
Portugal	15	32	47	6	0	6	6	0	6
Zambia	5	12	17	6	3	3	6	1	5
Suriname	10	12	22	6	5	1	4	1	3
Ukrain	2	20	22	6	1	5	6	0	6
Sri Lanka (sp)	0	30	30	6	0	6	6	0	6
Senegal	2	17	19	6	1	5	6	0	6
Venezuela	26	16	42	6	1	5	4	0	4
Turkey	21	27	48	6	0	6	6	1	5
Lithuania	2	21	23	6	1	5	6	0	6
Belarus	13	13	26	6	3	3	6	3	3
Total	537	960	1497	246	121	125	236	52	184
Percentage	35.87%	64.13%			49.49%	50.81%		22.03%	77.97%

Hybrid Regimes: Proportion of deficit changes depending on the sign of $r - g$

	Pb>0	PB<0	Total	2002-2007	Pb>0	PB<0	2008-2012	Pb>0	PB<0
Azerbaijan	15	9	24	6	4	2	6	6	0
Singapore	46	2	48	6	6	0	6	5	1
Tajikistan	1	13	14	6	1	5	4	0	4
Mongolia	4	23	27	6	3	3	6	1	5
Bangladesh	7	20	27	6	0	6	6	0	6
Benin	6	16	22	6	2	4	4	2	2
Honduras	14	31	45	6	0	6	6	0	6
Seychelles	20	13	33	6	3	3	6	6	0
Zimbabwe	4	6	10	3	1	2	4	3	1

Liberia	7	6	13	6	5	1	5	0	5
Serbia	5	8	13	6	3	3	5	0	5
Thailand	19	29	48	6	5	1	6	2	4
Egypt	4	36	40	6	0	6	6	0	6
Tunisia	20	21	41	6	4	2	4	3	1
Mozambique	1	35	36	6	0	6	6	0	6
Malaysia	9	19	28	6	0	6	6	0	6
Kyrgyz Rep.	2	15	17	6	1	5	6	0	6
Argentina	34	8	42	6	6	0	4	3	1
Total	461	747	1208	273	150	124	252	77	177
% share	38.16%	61.84%			54.95%	45.42%		30.56%	70.24%

Autocratic Regimes: Proportion of deficit changes depending on the sign of $r-g$

	Pb>0	PB<0	Total	2002-2007	Pb>0	PB<0	2008-2012	Pb>0	PB<0
Afghanistan	1	4	5	2	1	1			
China	0	23	23	6	0	6	6	0	6
Guinea	4	18	22	6	3	3	4	3	1
Hong Kong	7	0	7	3	3	0	4	4	0
Kuwait	20	6	26	6	6	0	6	6	0
Montenegro	2	8	10	6	2	4	4	4	0
Morocco	0	30	30	6	0	6	6	0	6
Oman	16	2	18	6	6	0	4	3	1
Qatar	17	5	22	6	6	0	4	4	0
Libya	13	9	22	6	6	0	4	2	2