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Research Article

State Intervention, Liberalisation and Economic Diversification in Resource-Rich Developing Countries

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Abstract: *This paper empirically examines the impact of state intervention and liberalisation on economic diversification in resource-rich developing countries. It investigates further whether improved government regulatory institutions could really matter in strengthening the impact of fiscal and liberalisation tools on economic diversification. Using the data from the World Bank from 1995 to 2019 for 58 resource-rich developing countries robust panel data fixed effects estimator is used to solve for unobserved heterogeneity and heteroscedasticity. The results from various panel regressions show that state intervention in terms of fiscal and regulation tools indeed matters in diversifying the economies in resource-rich developing countries. While, taxes and government expenditure on education and regulation report a negative significant impact on the index of economic diversification, implying a decrease in value added from services relative to manufacturing, government health expenditure indicates a positive significant impact. Liberalisation in terms of interest rate, trade openness and tariff also indicates a negative significant impact on the index of economic diversification. Resource rents further show a negative significant impact on economic diversification, among other controls. The cross-effects results show that the interactions of regulation and fiscal tools, as well as the interest rate and tariff, matter for economic diversification.*

Keywords: *Developing Countries, Economic Diversification, Liberalisation, Natural Resources and State Intervention.*

I. INTRODUCTION

The topic of industrial policy has been controversial within academic and policy circles and mostly relates to which the state or the market should take the lead in diversification (Mazzucato, 2018) . The debates have evolved around the dichotomy between the state and market forces, with special attention to whether industrial policy should be limited to correcting market failures or should govern the market by shaping the accumulation of productive capabilities (Lebdioui, 2019; Wade, 2012). Moreover, the growing divergence in competitive performance in the developing world has ignited increasing debates on the role of industrial policy. Lall (2013) contrasts the neoliberal with the structuralists' approach to industrial policy by making a case for selective interventions in tackling market and institutional failures and in building the required capabilities for industrial development, as well as describing how the Asian Tigers managed to build industrial competitiveness in their economies. The neoliberal approach canvasses that the best strategy for countries in all situations is to liberalise – and not do much else. The proponents of this approach believe that integration into the international economy with resource allocation driven by free markets will let countries realise their natural comparative advantage.

Consequently, the dynamic advantage will, in turn, be optimised, and the highest rate of growth attained. The approach further provides that the only legitimate role for the state is to provide a stable macro-economy with clear rules of the game, open the economy fully to international trade, give a lead role to private enterprise and furnish essential public goods like basic human capital and infrastructure. This approach has the backing of the industrialised countries and the Bretton Wood institutions – which has become enshrined in the new rules of the game being formulated and implemented by the World Trade Organisation (WTO).

Lall (2013) further argues that the neoliberal approach has some strong theoretical premises that markets are efficient, the institutions needed to make markets work exist and are effective, and if there are deviations from optimal, governments cannot remedy them. These premises are based on theoretical, empirical, and political assumptions that tend to rely heavily on the restrictive view of technological competitiveness, the experience of most successful industrialising economies, and the view that governments are necessarily and universally less efficient than markets, respectively.

On the other hand, the structuralists' view puts less faith in free markets as the driver of dynamic competitiveness and more in the ability of government to mount interventions effectively. The theoretical and empirical bases for the argument that untrammelled market forces account for the industrial success of the East Asian Tigers or the earlier industrialisation of the rich countries have been heavily criticised by this approach. While accepting the mistakes of the past industrialisation strategies

and the need for greater openness, it argues that greater reliance on markets does not pre-empt a proactive role for government. This underscores the fact that markets are powerful forces, but they are not perfect; the institutions needed to make them work efficiently are often weak or absent. Government interventions are therefore needed to improve market outcomes. This means that as developing economies change and pass-through distinct stages of industrialisation, the kinds of industrial policy needed along the continuum differ. However, such changes do not eliminate the need for intervention but aggravate it. Industrial policy, in this sense, is constrained and thus requires utmost reconsideration and redesigning of the appropriate strategies for achieving growth convergence.

The structuralists also accept the fact that some industrialisation policies have not worked well in the past. To the neoliberals, this could account for the denial of any role for proactive policy both in the past success and in future strategy, citing that the costs associated with market failures are lesser than those linked to government failures. On the other hand, the structuralists see a vital role for policy in industrial success. They argue that past policy failure is not a reason for passive reliance on deficient markets but for improving government capabilities. In addition, they noted that poor countries who have implemented neoliberal policies recently have not experienced the industrial growth or export success that characterised more interventionist economies. To them, continuing with passive liberalisation in the present-day world will worsen rather than reverse divergence.

Both neoliberals and structuralists underscore the need for industrial policy not only in developing countries but also in developed countries (Rodrik, 2004 and Wade, 2012). Rodrik (2004), for instance, links such need to two key market failures that weaken the entrepreneurial drive to restructure and diversify, especially in developing countries. One has to do with information spill overs that are involved in discovering the cost structure of an economy. The other has to do with the coordination of investment activities with scale economies. Rodrik (2004) also emphasises that the public sector is not omniscient, and industrial policy is open to corruption and rent-seeking. Thus, policy setting that seeks to promote convergence must be embedded within the network of linkages between the private and public sectors with an equally reasonable amount of autonomy for private and public sector interests. However, there is a critical challenge in finding the intermediate position between full autonomy and full embeddedness. Where there is too much autonomy for bureaucrats, it generates a system that minimises corruption but fails to provide the incentives that the private sector really needs. Similarly, too much embeddedness for the bureaucrats makes them end up in bed with business interests. Hence getting this balance right is important in reducing the need to worry about the appropriate policy choice.

On the other hand, Chang and Andreoni (2016) expand the theory of industrial policy by underscoring the relevance of recent changes in economic reality, such as the rise of the global value chain, financialisation and the new imperialism. First, while they recognise the fact that for most countries, the globalisation of production has not resulted in greater capital accumulation, domestic value creation and international value capture, among neoliberal scholars, under such a mantra, 'you need to import if you want to export', Global Value Chains (GVCs) have been used to re-emphasise the benefits of international trade and, thus, the need for more trade liberalisation. Surprisingly, the majority of the Developmentalist scholars have also highlighted the opportunity offered to developing countries by the GVC-based industrialisation model to overcome the highly uncertain and capital-demanding task of developing entirely new sectors. GVCs open opportunities for accessing regional and global markets while diversifying and upgrading specific tasks and new products. Notably, Chang and Andreoni maintain that countries can benefit from the GVCs-industrialisation model where they meet certain capabilities such as the institutional monopoly requirements (creation of entry barriers, squeezing supply chains) and reliable backwards and forward linkages in the industrial systems as well as the creation or deployment of underlying technologies. To Chang and Andreoni, meeting all the mentioned conditions or capabilities requires some sort of intervention, just as increasing financialisation and imperialist tendencies had necessitated interventionist policies in developing countries and even in developed countries where or when they themselves are faced with similar problems or challenges to those of developing countries.

While mainstream economists, structuralists and policy makers tend to agree on the increasing relevance of industrial policy, what constitutes an appropriate state's role and even that of the market in industrial diversification and upgrading is not clear, and this could mean there still exist opportunities for mischief on the policy front regarding whether to maximise or minimise government interventions in the economy. (Stiglitz et al., 2013) argue that industrial policy has raised so much controversy and confusion and is now the compelling new rationale that seems to have brought mainstream economists to acknowledge the crucial importance of industrial policy and revisited some of the fundamental assumptions of economic theory and development.

More precisely, the capacity of governments to accelerate development by raising investment and promoting some economic activities ahead of others becomes a variable and not a constant. Reinhart and Rogoff (2010) study economic growth and inflation at distinct levels of government and external debt. They thus used government debt as a variable to capture government capacity to accelerate growth. Then they claimed that when the size of government debt (as a proportion of GDP)

is over 90% (much higher than the 60% of the European integration's Maasticht Treaty and still lower than that of many countries), economic growth falls. The results showed that rich countries whose public debt exceeded that percentage experienced a sharp decline in growth rate for the period 1946-2009. Though the findings added some strength to the advocates of the smaller state, the authors were quick to point out that their work was based purely on empirical data and had no underlying theory of government ((Herndon et al., 2010) . The (World Bank, 2013) report emphasises that the state has a crucial role in the financial sector in terms of providing strong prudential supervision, ensuring healthy competition and enhancing financial infrastructure. In terms of direct state intervention via ownership of banks, the World Bank presents new evidence that state involvement can help mitigate the adverse effects of crises. However, it cautioned that over longer periods, direct state intervention can have important negative effects on the financial sector and the economy. Mazzucato (2018) further clarifies how government spending could also be used as a variable and explains how the IMF and EU magic number or cap have been used to urge member countries to downsize the state by cutting government spending. In the EU, if government spending goes above three percent, then bailouts are jeopardised. Evidence, however, has shown that austerity did not work as expected. For instance, though Greece received huge sums in bailout aid in exchange for cutting state expenditures, its economic problems worsened as growth went into a deep depression. Germany and Italy both have maintained lower budget deficits, but the debt-to-GDP ratios in these countries have been far above the 60% ceiling. Hence, it can be deduced here that inadequate investments in areas to raise GDP and prolonged squeeze on government spending could be responsible for the weakened demand in the Italian economy as well as the reduced incentive to invest (Mazzucato, 2018).

It further implies that the consensus amongst mainstream economists, which has become the standard recipe of the multilateral lending agencies, notably the International Monetary Fund (IMF) and the World Bank, would need rethinking, particularly in the context of resource-dependent economies. Thus, this study generally seeks to try to minimise the debate by attempting to provide empirical evidence on the role of state and liberal interventions in economic diversification.

A) Particularly, the Chapter Sets Out to Achieve these Specific Objectives:

(i) To ascertain the impact of state and liberal interventions in resource-rich developing economies on economic diversification.
(ii) To estimate the interaction effects between regulation and other interventionist tools on economic diversification in resource-rich developing countries.
(iii) To draw some lessons from the findings in (i) and (ii) above.

B) It Thus Suffices to Ask These Specific Questions in the Context of Resource-Rich Developing Countries:

(i) How does state intervention and liberalisation affect economic diversification in resource-rich developing countries (RRDCs)?
(ii) Does government regulation improve the impact of fiscal and liberal tools on economic diversification in resource-rich developing countries (RRDCs)?
(iii) What lesson (s) can we infer from the findings above?

We would seek to provide answers by using a sample of resource-rich developing countries. Emphasis would be on these economies to aid the analysis of state intervention and liberalisation in the context of resource-abundance of countries and the strategies being used to achieve economic diversification (in terms of increased value-added in the non-resource sector). Hence, focusing on them would help draw useful policy implications for the convergence of resource-rich developing countries with their developed counterparts. Moreover, it has also been argued that the most successfully industrialised countries at one time or the other adopted significant state interventions in driving diversification in their initial stages of development. Some still do in a variety of ways that some today's developing economies do (Reinert, 2005).

Section two undertakes a careful review of the literature by giving the theoretical and empirical perspectives, followed by the empirical strategy in section three. Section four presents and discusses the results, while section five concludes by highlighting the salient takeaways and implications of the findings.

II. LITERATURE REVIEW

A) Concepts of State intervention, Liberalisation and Economic Diversification

The concept of state intervention is broad, and thus, there is no specific theory that explains it and its effects on the economy, but there exist various propositions and evidence. Carlos Bresser-Pereira (1993) hypothesise that state intervention expands and contracts cyclically, and that, in each new cycle, the mode of state intervention changes. For a while, state intervention increases, the state assumes an increasing role in the coordination of the economic system, in the micro-allocation of resources, in the macro- definition of the level of savings and investments (or of the equilibrium between aggregate demand and supply), and in the micro-macro determination of income distribution among social classes and among sectors of the economy. It increases because it is being successful. After all, the state is performing a role that the market is unable or

inefficient in performing. It is increasing because it responds in an effective way to the demands of society. Carlos Bresser-Pereira further argues that as state intervention increases, however, be it in terms of its share in GDP or terms of the degree of regulation the economy is subjected to, intervention starts to become dysfunctional. The two basic symptoms indicating that the expansion of the state went too far are excess regulation, which hinders rather than stimulates economic activity, huge public deficits that crowd out private investments, and negative public savings that reduce total savings. This is the moment when the cycle reverts or is supposed to revert when state control contracts and market control expands. It is the time for some de-regulation and denationalisation.

The hypothesis of the cyclical nature of state intervention conflicts both with the static theories, which assume a given level of state intervention as ideal, and with the historical theories that claim a long-term tendency toward the state-oriented economy. For the neoliberals, the ideal level of state intervention is exceptionally low; for the statists, extremely high; and for the pragmatists, intermediary. However, Carlos Bresser-Pereira maintains that all these three positions are unacceptable if they assume a given relation between market and state control as ideal or optimum. Instead, the hypothesis is that this ideal relation will necessarily vary historically and according to a cyclical pattern of state intervention. Thus, rather than falling into an endless discussion about a doubtful optimum, we can propose that there is a cyclical and ever-changing pattern of state intervention. This assumption reduces the ideological content of the debate on the economic intervention of the state and thereby emphasises the resultant impact of such changes on the economy.

State intervention assumes many forms. It is possible to distinguish four of them: (1) macroeconomic regulation, (2) normative microeconomic regulation, (3) administrative or case-by-case microeconomic intervention, and (4) nationalisations or direct investment in state-owned enterprises. The intensity of these interventions will vary according to the moment and the situation. It is possible to define the theoretical limit for each type of intervention. The limit of macro regulation is centralised planning; normative micro regulation may limit itself to some health and safety regulations for the production and distribution or to extend itself to all types of economic activities. Administrative microregulation - specific, case-by-case state intervention, whose application depends on the decision of a given public official or a government committee - may also be very extensive or extremely limited. In the first case, it will happen at the expense of normative microregulation that is based on stable rules or regulations instead of being achieved on a case-by-case basis. Finally, the limit of nationalisations and direct investment by the state is the abolition of the private ownership of the means of production (Carlos Bresser-Pereira, 1993).

State intervention will also vary according to the type of relation that the state establishes with business and the economy. This can be restraining, supportive, or neutral. Taxation and the regulation of health, safety and the environment are typically restraining. Subsidies and tax exemptions are the classical examples of supportive state intervention. Macroeconomic policy can eventually be neutral, although we know very well that distributive neutrality in state intervention is almost impossible. The intensity of state intervention is thus exceedingly difficult to measure. The simplest way is to measure the share of state expenditures in the GDP, but this does not take the state-owned enterprises into account. An entirely different and relevant form of measuring state intervention is by the degree of regulation, but there is no established quantitative technique for measuring the intensity of state regulation. This paper uses a loose combination of both criteria based on the empirical literature.

Farooki and Kaplinsky (2014) examine the scope of economic diversification available to resource-rich developing countries using Hirschman's theory on linkages (Hirschman, 1958) . In this sense, the state could intervene using policies to promote fiscal, consumption and production linkages between the commodities and industrial sectors. Hirschman was sceptical of the capacity of governments to generate industrial development using fiscal linkages. He argued that the problem with fiscal linkages is that they did not provide any guidance on which sectors the commodity rents should be used to develop the "ability to tax the enclave, which is hardly a sufficient condition for vigorous economic growth." On the other hand, Hirschman was a little less sceptical of the impact of consumption linkages in promoting industrial development. He recognised that the demand generated by employees in the commodities sector had the potential to provide a major spur to industrial production as workers and capitalists spent their incomes earned in the resource sector. But since most resource-rich developing economies had poorly developed manufacturing sectors, he recognised that consumption linkages would occur abroad as the needs of domestic consumers would be met through imports especially where average tariff levels continue to decline. In addition, Hirschman believed that the most viable link between the commodities and industrial sectors would be via production linkages, particularly backward linkages. He argued that unlike fiscal linkages, where no guidance was provided for sectoral development, production linkages laid out a path for industrial diversification. Hirschman saw production linkages as providing exciting potential for industrial development in previously enclave commodity-dependent economies and believed that the degree of these linkages would be affected by two factors. The first was scale, reflecting the size of demand from the commodities sector in relation to the minimum effective scale of production in backward linkages supplier firms and of output for forward linkage user firms. The second was "technological strangeness," that is, how similar the technology and processes

were between the core resource sector and those in supplier and user firms. Here, he argued that production linkages were generally "less strange" to the commodity sector than the transfer of resources via fiscal linkages to unrelated sectors. Thus, through its policies on tariffs and technology, the state could promote linkages and industrialisation in the domestic economy.

As noted earlier, the state's direct intervention in the form of government investment is key. The state could appropriate resource revenues to stimulate capital accumulation and, consequently, economic diversification. This is sometimes referred to as public investment. (Toigo & Woods, 2006) argue that though public investment is not the only form of government intervention it is important in determining growth, clear and tractable. State intervention through this means often shapes decisions about the right infrastructure, where people live and work, and the location and nature of private investments, thereby affecting the growth of different economic sectors. In general, the state could intervene in an economy as a promoter, regulator, owner, or overseer (World Bank, 2013). Hence, the purpose of this study is to test the proposition that state interventionist policies (through investment and regulation) could induce economic diversification in RRDCs.

Liberalisation, on the other hand, explains how the government can choose to temper minimally with the economy by allowing market forces to direct investment and, consequently, output expansion. The Bretton Wood institutions have been the champions of liberal policies for decades whereby economies are encouraged to open their economies by liberalising their financial systems and trade. The literature recognises a few indicators of liberal policies, such as trade openness and financial development, amongst others (Giri et al., 2019; Greenaway et al., 2002; Singh, 1997; Winters, 2004).

With respect to economic diversification to Lashitew et al. (2020) there are three approaches to define economic diversification: variety-based, quality based and output-based. The variety-based approach measures the diversity of economic activities regardless of their quality, which is closer to the literal meaning of diversification (Bahar and Santos, 2018). Quality-based measures of diversification are related to the concept of structural transformation and consider the shift of production toward economic activities that offer greater value addition and or competitive advantage (McMillan et al., 2014). Output-based measures consider the changes in non-resource economic production regardless of its composition. Variety-based and quality-based measures of diversification have some theoretical appeal but require large and disaggregated datasets that are often not available or of inadequate quality (Ahmadov, 2014). In addition, variety-based measures have the additional limitation of being influenced by exogenous changes. For example, export concentration could appear to improve when resource exports decline either due to resource depletion or price fall.

Lashitew, Ross and Werker (2020) further argued that despite its simplicity, output-based measure of non-resource economic activity has not been utilised to measure economic diversification in resource-rich countries. This is an important omission given the measurement challenge and data quality limitations of the other diversification measures, as well as some further advantages of output-based measures. This study attempts to fill in this gap by using the growth of manufacturing and services sectors, measured according to their domestic performance. This is in line with a large body of research that expounds on the importance of these sectors for employment creation, structural change, and technological convergence (Rodrik, 2013; Eichengreen and Gupta, 2011). Notably, measurement problems are not absent with output-based measures of diversification either. These sectors include highly resource-intensive activities. For example, manufacturing includes ISIC division 23, which includes the manufacture of coke and refined petroleum products, and division 24, which consists of the manufacture of chemicals and chemical products. Services include the public sector, which may be financed with resource revenues. Our reliance on these sectors is due to the need to assess diversification performance across countries. Cross-country data on domestic value added in the non-resource sector is not available at a finer level of detail. Nonetheless, the use of value-added rather than gross output provides a measure of diversification that is consistent with its theoretical meaning since it only captures the economic value added through refining and other processing activities (Lashitew, Ross and Werker, 2020).

B) Related Empirical Evidence on the Role of the State in Economic Diversification

Several empirical studies have attempted to quantify the effect of government intervention on economic growth, with most of these studies using government spending as a proxy for intervention. Some of these studies focus only on government consumption. Most of the studies use either cross-country or panel data, although a small number do use time-series data (Knowles and Garces, 2000).

Studies relying solely on government consumption as a proxy for the size of government include Ram (1986) and Alexander (1994) (which find a positive correlation between government consumption and growth), Alexander (1990) (which finds a negative correlation) and Kormendi and Meguire (1985) and Evans (1997) (which find no significant correlation). The two papers by Alexander use panel data for a sample of OECD countries, Evans uses time-series data for 92 countries, whereas the other studies use cross-country data.

There are other studies that go beyond the use of the traditional measure of government consumption. Some disaggregate government spending into different components, the others include taxation in the analysis. As argued by Kneller

et al. (1999), to exclude taxation means ignoring the potential distortions caused by financing government spending. Easterly and Rebelo (1993) include a variety of different measures of government spending and taxation in Barro-style regressions, using cross-country data, and find that only government investment in transport and communications is (positively) correlated with growth.

Kneller, Bleaney and Gemmell (1999) examine the effect of both government expenditure and taxation on economic growth using panel data for 22 OECD countries. They disaggregate expenditure into 'productive' expenditure (expenditure with a substantial physical or human capital component) and 'unproductive' expenditure (the main item of which is social security spending). Productive expenditure is significant and positively correlated with growth (although it is insignificant when estimated using instrumental variables), whereas non-productive expenditures are insignificant. Distortionary taxation, defined as taxation which affects investment decisions, is significant and negatively correlated with growth. Fölster and Henrekson (2001) examine the effect of government expenditure and taxation (but do not include both in the same estimating equation) on economic growth using panel data for a group of high-income countries and find both variables to be significantly negatively correlated with growth. Their measure of government expenditure includes government consumption, government investment and transfer payments.

Barro (1991) argues that expenditures on education and defence are more like public investment than public consumption; in particular, these expenditures are likely to affect private sector productivity or property rights, which matter for private investment. It is a common finding in Barro's work that there is a negative partial correlation between government consumption and economic growth across countries. Barro (1991) also includes public investment as a proportion of GDP as an explanatory variable but finds it to be insignificant. However, studies such as Aschauer (1994), Toigo and Woods (2006) and Bivens (2012) found that state intervention via public investment could serve as a vehicle for economic growth.

The existing literature relies heavily on various measures of government spending and taxation as proxies for intervention. However, there is little work focusing on the effect of other types of intervention on especially economic diversification. Moreso, Knowles and Garces further show that government spending is a poor proxy for government intervention more generally, as in many economies around the world, government intervention is high (as found in the East Asian economies), even though government spending is low. Given the difficulty of quantifying other aspects of government intervention, they used data from Economic Freedom of the World, which attempts to capture the degree of government ownership of industry (GOE) and the extent of price controls (PRICE) to provide evidence on the role of state intervention on output per worker. Their result on government consumption confirms the earlier findings by Barro that there is a negative correlation between government consumption and economic performance. However, it further shows that such a finding does not apply to the East Asian economies, implying that other aspects of government intervention need to be captured. Though GOE and PRICE in their study correlated with lower levels of output, they maintained that such findings should not be used to infer anything about the effect of other forms of government intervention – such as regulation.

There is a variety of evidence on the impact of regulation on the economy, as there are different regulatory policies and contents (Parker and Kirkpatrick, 2012). The focus here is on regulatory policy and governance in general and the effects on the economy. Summarily, several studies of regulatory policy and governance have been published (OECD, 2011). The studies use various proxies for regulatory governance and cover a range of regulatory policies and economic effects. In general, the studies suggest that there is evidence of a statistically significant and positive relationship between regulatory policy and governance and economic growth. In contrast, regulatory governance and the institutional framework in a country can mitigate the damaging impacts of regulatory policies (for example, product and labour market regulation) on economic growth.

In the context of Natural Resources (NR), the literature's focus has been on the relationship between NR and economic development which dates to at least the 14th century. Indeed, long before the 'modern' resource curse thesis ((Ross, 1999; Sachs & Warner, 1995, 1997, 2001), cognitive explanations for the resource curse, based on the idea that resource booms or 'easy wealth' produce a type of short-sighted euphoria among policy makers were well known. Particularly, theoretical debates on the role of natural resource abundance and development have been marked by both resource optimism and pessimism, with one or the other being in the ascendant at any time but neither being dominant across time (Lahn and Stevens, 2018). Moreso in the past decades, a plethora of econometric and statistical studies aimed to contribute to this debate by attempting to find a correlation between natural resource abundance and economic development. Some have found a positive correlation, some have found a negative one, while others did not find any clear-cut statistical correlation ((James, 2015).

Considering the mixed evidence and the inability of econometric studies to determine a clear correlation between resource abundance and growth, there has been a growing awareness that natural resources are neither a curse nor a blessing but that their contribution to development depends on what states make of them. Suppose there is nothing inherently inevitable that predetermine natural resources as a curse for development. In that case, we must move beyond resource determinism and

instead attempt to understand the ways in which natural resources can be harnessed for development by the state. While the recent literature has moved towards a recognition of state policy action in making the most of commodities and other endowments – refer to (Addison & Roe, 2018); (Chang, 2007); (Collier et al., 2004); (Humphreys et al., 2007) and (Lederman et al., 2010). There are still important disagreements regarding the scope of state interventions via its ownership of natural resources and the resulting impact on the economy. This research contributes to this debate by also analysing the mechanisms of state policies in natural-resources-dependent countries and how they could facilitate diversification towards the non-resource sector to achieve structural transformation.

Focusing on diversification is justified for some reasons. Diversification enables a resource-dependent country to reduce its exposure to commodity price volatility and other economic shocks, such as the recent global coronavirus pandemic. Beyond such concern, diversification may have an even more significant role to play as a part of economic development. Diversification can be understood not as a goal but as a means to leap into the frontline of the development race (Benavente, 2016). Some scholars have indeed argued that countries get richer not by producing more of the same goods but by learning how to produce a more diverse range of technologically dynamic and sophisticated goods and services (Chang, 2007).

However, the empirical evidence on isolating the effects of state intervention and liberal policies on economic diversification is missing in the literature. This study seeks to fill this gap and consequently contribute to the debate on whether the government as a major agent in an economy is unproductive or is otherwise – especially in the context of liberalised resource-rich developing countries.

C) Empirical Strategy

a. Variables, Data and Sample

The definitions of the variables in our models and their sources of data are highlighted here. Economic diversification in the context of RRDCs is defined by the set of measures of non-resource sector performance – the ratio of services value added to manufacturing value added as defined by Amiri et al. (2019) and Lashitew et al. (2020). This is in line with the literature that highlights the relevance of manufacturing and services as highlighted in the literature (Eichengreen & Gupta, 2011; Dani Rodrik, 2013). The data for these measures of diversification are sourced from the World Bank's World Development Indicator (WDI) database. The value added in the non-resource sectors is measured as a ratio of GDP, thereby yielding the index for diversification expressed as below:

$$DIV_{it} = \frac{SVA_{it}}{MVA_{it}} \quad (3),$$

Where DIV is economic diversification, SVA is services value-added, and MVA is manufacturing value-added – all in the country, i at the time, t.

Notably, an increase in SVA to MVA ratio would denote an increase in services (non-tradable goods value added) relative to manufacturing (tradable goods value added) and vice versa.

The data for the measures of state intervention are sourced from the World Bank's WDI database. Tax potential is measured by tax revenue to GDP. Government expenditures on education and health are measured as a percentage of total government expenditure. Thus, tax potential and government expenditures on health and education are considered here as important fiscal intervention tools often used by governments to stimulate the economy. Next to fiscal measures are governments' measures of regulation of the economy. The regulation measure of state intervention is a total index of selected Country Policy and Institutional Assessment (growth-enhancing) indicators also sourced from the World Bank WDI (Agosin et al., 2012; Mosley, 2018). These CPIA indicators include business regulatory environment rating, debt policy rating, efficiency of revenue mobilisation, equity of public resource use, fiscal policy rating and macroeconomic management. Other CPIA indicators used include policy and institutions for environmental sustainability, property rights and rule-based governance, public sector management, quality of budgetary and fiscal management, quality of public administration as well as transparency, accountability, and corruption in the public sector rating. This index is yet another important measure of state intervention used in the literature (Agosin et al., 2012; Mosley, 2018).

Liberalisation which could be financial (measured by private credit by deposit money banks and interest rates) or trade (measured by openness and tariff) as defined by (Hauner et al., 2008). These measures indicate the degree of liberalisation in the financial and trade systems. While the data for private credit is sourced from the World Bank's Global Financial Development database and is measured as a percentage of GDP, data on lending interest rates, openness and tariffs are from WDI. The lending interest rate (%) is the bank rate that usually meets the short-term and medium-term financing needs of the private sector. The tariff rate (%) used is the most favoured nation-weighted mean for all products as defined by the

World Bank. Trade openness, on the other hand, is measured as merchandise trade in terms of share of GDP, that is, the sum of merchandise exports and imports divided by the value of GDP (% of GDP).

Amongst the set of controls, GDP per capita (constant 2010 USD), agricultural exports, resources exports (measured as % of merchandise exports) in which resources exports constitute fuel, ore and metal exports, and net foreign investment inflow, which is the total investments inflows less dis-investments by foreign investors divided by GDP have their data sourced from WDI. While GDP per capita is used to control for level of income, agricultural and resource exports are used to account for the dependence on the traditional sector and natural resources. FDI inflows are a good way of controlling for openness of an economy and the role of international financial market development. The measure of institutional quality used is the executive constraint concept of the Polity IV latest database (measured by a seven-category scale) as used in (Can & Gozgor, 2018; Henn et al., 2015) – this indicator is used because of its relevance gauging the overall decision-making processes and the constraints on the powers of executives in making decisions. Other controls whose data are from the WDI include investment proxied by gross fixed capital formation (measured as % of GDP) and used to account for the level of economic activities, real exchange rate (with 2010 as the base year) which is used to account for changes in exchange rates that are vital determinants of manufactures, country size (measured by population, population density, aged dependency ratio and land area) and external balances on goods and services (% of GDP) as a control for trade openness.

Data on the relevant variables are for the period in which data is available for most of the RRDCs sampled (1995-2019). These are countries which derive at least 20% of exports or 20% of fiscal revenue from non-renewable natural resources. The classification of resource-rich countries is based on IMF classification ((Tiwari et al., 2012). These are as described thus:

Resource-rich developing countries (29) include Angola, Bolivia, Cameroon, Chad, Democratic Republic of Congo, Rep. of Congo, Côte d'Ivoire, Equatorial Guinea, Gabon, Guinea, Guyana, Indonesia, Iraq, Lao PDR, Liberia, Mali, Mauritania, Mongolia, Niger, Nigeria, Papua New Guinea, Sudan, Syrian Arab Republic, Timor-Leste, Turkmenistan, Uzbekistan, Vietnam, Yemen, and Zambia. Common characteristics of these countries include extreme dependence on resource wealth for fiscal revenues, export sales, or both; low saving rates; poor growth performance; and highly volatile resource revenues. Iran is excluded from the list because of the crisis that rocked the country within the period, thus its data might be spurious.

Prospective natural resource - exporting LICs/LMICs (11) in the sample are Afghanistan, Central African Republic, Ghana, Guatemala, Kyrgyz Republic, Madagascar, Mozambique, São Tomé and Príncipe, Sierra Leone, Tanzania, and Togo.

Upper-middle-income resource-rich economies (14) constitute Albania, Algeria, Azerbaijan, Botswana, Chile, Ecuador, Iran, Kazakhstan, Libya, Mexico, Peru, Russia, Suriname, and Venezuela. High-income resource-rich countries (8): Bahrain, Brunei Darusalam, Trinidad and Tobago, Saudi Arabia, Oman, United Arab Emirates, Qatar, and Norway.

(UN, 2019) gives a detailed classification of countries and treats a few upper-middle-income and high-income resource-rich countries as developing economies and economies in transition. In the classification, only Norway is treated as a developed economy; hence, we exclude it and Russia (for the industrial progress made in the country) from the sample of countries for this study and treat the rest as RRDCs. Timor Leste is also excluded from the sample due to data anomalies or inconsistencies.

b. Model and Estimation Technique

Following model estimations of Can and Gozgor (2018) and Henn et al. (2015), benchmark regressions are developed (these, however, are strikingly different from the index of diversification used as a policy target – dependent variable) that would facilitate answering the above research questions. This is in addition to using the competitive capabilities identified by Lashitew et al. (2020) as controls that are considered vital determinants of economic diversification in RRDCs. Can and Gozgor (2018) examined the effects of export product diversification on export quality for a panel of 115 countries while controlling for income, human capital and institutional quality as used by Henn, Papageorgiou and Spatafora (2015). Lashitew, Ross and Werker (2020), on the other hand, identified economic diversification as an important policy target and further highlighted several competitive capabilities as vital determinants of economic diversification. In this empirical strategy, some of the competitive capabilities are used as vital controls based on data availability in the sample of RRDCs. More so, additional controls are used for robust checks, as carried out by Can and Gozgor (2018). The empirical models are summarised thus:

$$\mathrm{DIV_{it}} = \alpha_i + \sum_{it=1}^{NT} \beta\, \mathrm{ST_{it}} + \sum_{it=1}^{NT} \gamma \mathrm{LIB_{it}} + \sum_{it=1}^{NT} \sigma \mathrm{CV_{it}} + \mathrm{C_c} + \mathrm{T_t} + \varepsilon_{it} \quad (4)$$

$$DIV_{it} = \alpha_i' + \sum_{it=1}^{NT} \beta' ST_{it} + \sum_{it=1}^{NT} \gamma' LIB_{it} + \sum_{it=1}^{NT} \gamma'' FMxREG_{it} + \sum_{it=1}^{NT} \gamma''' LIBxREG_{it} + \sum_{it=1}^{NT} \sigma' CV_{it} + C_c + T_t + \varepsilon_{it} \quad (5)$$

Where DIV_{it} is the measure of economic diversification in country i at time t, while ST_{it} represents state intervention (taxation, public investment, and regulation), LIB_{it} is liberalisation (private sector credit by banks, interest rate, openness, and tariff) and CV_{it} is the set of control variables. Cc and Tt are the country and time-fixed effects terms, and εit is the disturbance term. i denotes cross-section units with i = 1, 2, 3, …N, N is the number of countries, and t denotes the time periods, t = 1, 2, 3, …, 25. T is the total number of time periods, which is 25 years (1995-2019). $\alpha_i, \alpha_i', \beta, \beta', \gamma, \gamma', \gamma'', \gamma''', \sigma,$ and σ' are parameters to be estimated.

Notably, the models are based on the econometric assumptions of fixed effects well documented in the econometric literature (Wooldridge, 2010). Bai (2009) maintains that fixed effect estimation is the basic approach to control for unobserved heterogeneity and for all time-invariant omitted variables. This is particularly useful under the large N and large T data structure. More so, standard errors were adjusted for clustering to account for heteroskedasticity (Abadie et al., 2017), and the variance inflation factor test was carried out to check for multicollinearity.

Estimating equation (4) would yield the estimates depicting the effects of state intervention and liberalisation on economic diversification (β and γ respectively). In equation (5), we add the interaction term showing the interaction of fiscal measures, FM (tax potentials, government expenditures on health and education) with regulation, REG, and the interaction of liberalisation with regulation, thereby yielding the parameter estimates, γ'' and γ'''.

III. RESULTS AND DISCUSSION

A) Panel Fixed Effects Result

Table one depicts the panel fixed effects benchmark regression result output for equation 2 for the various forms of the model. Column 1 is the default fixed effect result. Column 2 includes the year-fixed effects, and column 3 captures the country-fixed effects. Column 4 includes both the year and country fixed effects.

It is evident from table one that columns 1 and 3 report identical coefficients, while columns 2 and 4 also have similar coefficients. They, however slightly differ in their statistical significance. Based on the descriptive statistics above and the econometric literature on panel fixed effects, the paper considers columns 2 and 4 as more robust than the other columns since the inclusion of the robust option helps control for heteroscedasticity and the tests of time and country fixed effects show that the dummies for all the years and countries matter. In addition, the standard errors of most of the estimates in columns 2 and 4 are lower, thereby making them more reliable for making predictions.

In column 1, the result shows that the SVA to MVA ratio in resource-rich developing countries is reduced as tax revenue to GDP, government expenditures on education, regulation, interest rate, openness, and tariff increase as their coefficients are negative. The negative signs of these coefficients imply that they have the tendency to shrink the non-tradable sector (services value-added) and strengthen the tradable sector (manufacturing value-added). In other words, the negative-signs coefficients could bias value addition more towards manufacturing than services. More so, tax revenue to GDP and interest rate are statistically significant at 10%, while regulation and openness are significant at 1% and 5%, respectively. The controls with a negative significant impact on the index for economic diversification are resource rent per capita and agricultural exports (at 5% and 1%, respectively), indicating that they tend to decrease services value added relative to manufacturing value added. Government expenditures on health and net foreign direct investments inflows are, however, positive and significant at a 1% level of significance, which implies that they tend to increase services value added relative to manufacturing. These positive-sign coefficients are worrisome because they imply that they have a shrinking effect on the tradable sector (manufacturing) while strengthening the non-tradable sector (services). This could mean that government expenditures on health benefit the dominant services sector while foreign direct investment inflows might be services-enhancing instead of promoting manufacturing investments or value-added.

The results in columns 2-4 show the outcomes of the variations in the model according to the time and country fixed effects. In column 2, the result indicates that when we include the time-fixed effects, the coefficients increased marginally, and tariff, government expenditure on education, and GDP per capita became significant at 5% and 1%, respectively. In column 3, where country fixed effects are included, the coefficient estimates remain the same as in column 1, but the interest rate, though negative, turns out to be statistically insignificant. In column 4, where both time and country fixed effects are included, the coefficients are the same as in column 2, but resource rent per capita and agricultural exports turn insignificant. Strikingly, the results from the various specifications seem to suggest that the level of income, agricultural exports and, more importantly, natural resources rent could be useful for strengthening development in poorer countries by promoting manufacturing, which

seems to differ from the evidence of Sachs and Warner (1999) that natural resources are sometimes associated with declining income per capita.

To check for the robustness and sensitivity of the result in table four, additional controls of country size (population, population density, land area and aged dependency ratio) and other controls such as investment, external balances on goods and services and the entry of new firms are added to the model. As mentioned earlier, Can and Gozgor (2018) and Lashitew et al. (2020) identified these variables as possible important determinants of value addition in the non-resource sector. The checks indicate that the signs of the coefficients in the benchmark regression are robust to additional controls.
Given the benchmark regression results, it might be important for policy makers to explore the relative importance of the interventionists' tools in affecting economic diversification. This important aspect is missing in the literature and the beta coefficients provide an effective way of making such comparisons (Bring, 1994). Using the coefficients in columns 2 and 4, table two provides the impact of a favourable change in each of the key variables by one standard deviation on the SVA to MVA ratio expressed as units of standard deviations.

It is evident from table two that a one standard deviation increase in tax revenue to GDP will decrease the SVA to MVA ratio by 0.428 standard deviation. As can be seen, the shrinking effect on the index of economic diversification due to increased tax revenue to GDP is more than the contribution of increases in government expenditure on education. In contrast, increases in government expenditure on health have a strengthening effect; regulation clearly has the least shrinking effect on economic diversification. On the other hand, it can also be seen that interest rate is more important than tariffs, while private credit and trade openness are insignificant. Overall, to strengthen the tradable sector, interest rate seems to be the most useful tool, followed by tax revenue to GDP, government expenditure on education, tariff, regulation, government expenditure on health, private credit, and openness in that order.

B) Interaction Effects Result

Estimating the interaction effects of government fiscal and liberal tools with regulation, as captured in Equation (5), yields the result in table three. As reported in table one, the various specifications are indicated in columns 1-4. Here, the focus is on the interaction coefficients in the first seven rows, as shown in table three.

The results from the various specifications also confirm that Columns 2 and 4 are more robust, with lower standard errors and more significant coefficient estimates. The robust standard errors are in parentheses, while the asterisks indicate the levels of significance as earlier defined. It is clear from table 28 that the interaction of tax revenue to GDP with government regulation yields a shrinking effect on our index of economic diversification, which is significant at 1%. This implies that where the tax revenue potentials in the sample are regulated, it becomes an important strategy for promoting economic diversification via the shrinking of services value-added and the strengthening of the tradable sector or manufacturing.

The interactions of the other tools (see table three) with regulation, however, yield a positive impact on the SVA to MVA ratio, implying that their increases tend to increase the economic diversification index. While the interaction of government expenditures on health and education and interest rate with regulation are significant at 1%, the interaction of tariff with regulation is significant at 5%. Again, the interactions of private credit by banks and openness with regulation yield no significant impact on the SVA to MVA ratio. The positive signs of these estimates are again worrisome as they imply that these interactions could make resource-rich countries more services-oriented than manufacturing. This means strengthening the non-tradable sector at the expense of the tradable sector, which could make the countries less competitive internationally. This is in line with the literature that excessive government intervention might not work in developing countries where regulatory institutions are weak and inefficient (Lall, 2013).

Additionally, while other key and significant variables remain negative, government expenditure on health turns negative and significant at a 5% level of significance. In comparison, openness also reports a negative and significant estimate at a 5% level. Hence, these negative signs further confirm the shrinking effect of the variables on the index of economic diversification, as reported earlier. Level of income, resource rents and agricultural exports also remain instrumental in explaining economic diversification as earlier reported.

Table four below shows the relative importance of the interaction effects in affecting economic diversification. Again, the beta coefficients are estimated using column 4 in Table 28, and the levels of significance are as stated.

It is evident from table four that a one standard deviation increase in the interaction of tax revenue to GDP with regulation yields a decrease in the SVA to MVA ratio by a 1.57 standard deviation. Thus, it follows that while the interaction of tax revenue to GDP with regulation is the most preferred strategy the interaction of government expenditure on education with regulation might be preferred to the interaction of government expenditure on health with regulation. Similarly, regulating

tariffs might be preferred to regulating interest rates, while regulating private credit and trade seem not to matter in the economic diversification of resource-rich developing countries.

Overall, the econometric panel results above are robust with robust and clustered standard errors. More so, the VIFs confirm that there is no evidence of multicollinearity or severe correlation between the variables, given that the VIFs between 0 and 5 indicate that there is no high correlation between the variables in the model (Grewal et al., 2004; Senthilnathan, 2019).

IV. CONCLUSION

The results from the various panel regressions show that state intervention in terms of fiscal and regulation tools indeed matters in diversifying the economies in resource-rich developing countries. While taxes and government expenditure on education and regulation report a negative significant impact on the index of economic diversification, implying a decrease in value added from services relative to manufacturing, government health expenditure indicates a positive significant impact. Liberalisation in terms of interest rate, trade openness and tariff also indicates a negative significant impact on the index of economic diversification. Level of income, resource rents, and agricultural exports further show a negative significant impact on economic diversification among the controls. Net foreign direct investment inflows report a positive significant impact on the index of economic diversification, while institutional quality and resource exports (a measure of dependence on resources), though negative, but they reported to be insignificant. Thus, while negative coefficients or estimates imply that the increase in the variables in context decreases the economic diversification index (which means reducing services sector value added at the expense of manufacturing), the positive estimates mean encouraging services sector more than manufacturing.

The cross-effects results show that the interactions of regulation and fiscal tools, as well as the interest rate and tariff, matter for economic diversification. Overall, it implies that resource-rich developing countries could use their natural resource endowments to develop the non-resource sector - especially manufacturing by using the appropriate mix of government and liberalisation policies. Notably, to improve confidence in our findings, further evidence on a more disaggregated level (by-products) and a deeper look at the place of the services sector could be helpful.

Table 1: Panel fixed effects result

	(1)	(2)	(3)	(4)
Variables	**I**	**II**	**III**	**IV**
Tax revenue to GDP	-0.222*	-0.526***	-0.222*	-0.526**
	(0.0988)	(0.160)	(0.117)	(0.216)
Govt health expend	0.766***	0.844***	0.766**	0.844***
	(0.206)	(0.176)	(0.245)	(0.238)
Govt edu expenditure	-0.111	-0.214***	-0.111	-0.214**
	(0.100)	(0.0622)	(0.119)	(0.0838)
Regulation	-0.0280***	-0.0194**	-0.0280***	-0.0194*
	(0.00679)	(0.00709)	(0.00805)	(0.00956)
Private credit by banks	0.0139	-0.0464	0.0139	-0.0464
	(0.0422)	(0.0921)	(0.0500)	(0.124)
Interest rate	-0.239*	-0.313**	-0.239	-0.313*
	(0.110)	(0.105)	(0.131)	(0.141)
Openness	-0.0347**	-0.0326	-0.0347*	-0.0326
	(0.0146)	(0.0191)	(0.0173)	(0.0257)
Tariff	-0.0679	-0.172**	-0.0679	-0.172*
	(0.0476)	(0.0659)	(0.0565)	(0.0889)
GDP per capita	-0.00202	-0.00414***	-0.00202	-0.00414***
	(0.00111)	(0.000926)	(0.00132)	(0.00125)
Executive constraints	-0.727	0.387	-0.727	0.387
	(0.573)	(0.799)	(0.681)	(1.077)
Resource exports	-0.0155	-0.00330	-0.0155	-0.00330
	(0.0160)	(0.0187)	(0.0190)	(0.0252)
Resource rent pc	-0.534**	-0.637*	-0.534*	-0.637
	(0.222)	(0.331)	(0.263)	(0.446)
Agricultural exports	-0.148***	-0.145*	-0.148**	-0.145
	(0.0385)	(0.0714)	(0.0457)	(0.0963)
Net FDI inflows	0.0868***	0.115***	0.0868**	0.115***
	(0.0233)	(0.0231)	(0.0276)	(0.0312)
Observations	46	46	46	46
R-squared	0.756	0.920	0.971	0.990

Number of countries	10	10		
Country FE	No	No	Yes	Yes
Year FE	No	Yes	No	Yes

Source: *Author, 2021. Robust standard errors in parentheses*
****, **, and * indicate the statistical significance at 1%, 5% and 10% respectively.*
Dependent variable: SVA to MVA ratio

Table 2: Relative Contribution of the Key Variables in Affecting SVA to MVA Ratio

Var	Tax rev.	Health exp	Educ. exp	Reg.	PSC	r	Openn.	Tariff
β	-0.428	0.371	-0.271	-0.081	-0.144	-0.689	-0.176	-0.19
α	5%	1%	5%	10%	Not sig	10%	Not sig	10%

Source: *Author, 2021. B is the standardised coefficient; α is the level of statistical significance.*

Table 3: Interaction Effects of Interventionist Tools With Regulation

	(1)	(2)	(3)	(4)
Variables	**I**	**II**	**III**	**IV**
Tax revenue x Regulation	-0.0167	-0.0234***	-0.0167	-0.0234***
	(0.0126)	(0.00391)	(0.0160)	(0.00705)
Govt health exp x Regulation	0.00942	0.0299***	0.00942	0.0299*
	(0.0189)	(0.00744)	(0.0240)	(0.0134)
Govt edu exp x Regulation	0.00785	0.00735***	0.00785	0.00735***
	(0.00506)	(0.00114)	(0.00640)	(0.00205)
Private credit by banks x Regulation	0.00203	0.00338	0.00203	0.00338
	(0.00673)	(0.00326)	(0.00851)	(0.00588)
Interest rate x Regulation	0.0124***	0.0161***	0.0124***	0.0161*
	(0.00281)	(0.00486)	(0.00356)	(0.00875)
Openness x Regulation	0.00106	6.23e-05	0.00106	6.23e-05
	(0.00226)	(0.000523)	(0.00286)	(0.000943)
Tariff x Regulation	0.00924	0.00760**	0.00924	0.00760
	(0.00625)	(0.00303)	(0.00791)	(0.00546)
Tax revenue to GDP	0.205	0.240*	0.205	0.240
	(0.304)	(0.128)	(0.385)	(0.232)
Govt health expend	0.0496	-0.517**	0.0496	-0.517
	(0.409)	(0.169)	(0.518)	(0.305)
Govt edu expend	-0.367**	-0.497***	-0.367**	-0.497***
	(0.120)	(0.0822)	(0.152)	(0.148)
Regulation	-0.301	-0.258*	-0.301	-0.258
	(0.235)	(0.120)	(0.297)	(0.216)
Private credit by banks	-0.125	-0.121	-0.125	-0.121
	(0.215)	(0.136)	(0.272)	(0.246)
Interest rate	-0.798***	-1.327***	-0.798**	-1.327**
	(0.201)	(0.290)	(0.254)	(0.524)
Openness	-0.0674	-0.0489**	-0.0674	-0.0489
	(0.0720)	(0.0216)	(0.0910)	(0.0389)
Tariff	-0.368	-0.359***	-0.368	-0.359*
	(0.241)	(0.107)	(0.305)	(0.193)
GDP per capita	-0.00297	-0.00457***	-0.00297	-0.00457***
	(0.00241)	(0.000307)	(0.00305)	(0.000554)
Executive constraints	1.070	2.174**	1.070	2.174
	(1.016)	(0.943)	(1.285)	(1.700)
Resource exports	-0.0223	-0.00496	-0.0223	-0.00496
	(0.0219)	(0.00334)	(0.0277)	(0.00602)
Resource rent per capita	-0.511*	-0.294***	-0.511	-0.294***
	(0.245)	(0.0347)	(0.311)	(0.0625)
Agricultural exports	-0.0556	-0.207***	-0.0556	-0.207***
	(0.0901)	(0.0199)	(0.114)	(0.0359)
Net FDI inflows	0.0570	0.0329*	0.0570	0.0329
	(0.0408)	(0.0164)	(0.0516)	(0.0295)

Observations	46	46	46	46
R-squared	0.862	0.997	0.984	1.000
Country FE	No	No	Yes	Yes
Year FE	No	Yes	No	Yes

Source: *Author, 2021. Robust standard errors in parentheses*
****, **, and * indicate the statistical significance at 1%, 5% and 10% respectively.*
Dependent variable: SVA to MVA ratio

Table 4: Relative Contribution of the Interactions in Affecting SVA to MVA Ratio

Var	Tax x Reg	Health exp x Reg	Education exp x Reg	Private credit x Reg	Interest rate x Reg	Openness x Reg	Tariff x Reg
β	-1.57	0.86	0.58	0.49	1.54	0.019	0.43
α	1%	10%	1%	Not sig	10%	Not sig	5%

Source: *Author, 2021. B is the standardised coefficient; α is the level of statistical significance.*

Interest Conflicts

I hereby certify that I am the sole author and this research article is a product of my scholarship. It has not been submitted elsewhere for publication. Hence, there is no conflict of interest.

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