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DYNAMICS OF FISCAL RESILIENCE: A COMPARATIVE ANALYSIS OF TAX BUOYANCY IN SOUTH AND SOUTHEAST ASIA

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Abstract
This research aims to explore, analyze, and compare tax buoyancy in South Asian and Southeast Asian countries through a comprehensive literature study approach. The secondary data used in this study were obtained from various reliable sources such as indexed academic journals, reports from international organizations (IMF, World Bank, ADB), and government policy documents. The analysis shows significant variations in tax buoyancy across countries, influenced by the complexity of tax systems, effectiveness of fiscal policies, levels of tax compliance, and macroeconomic conditions. Countries with more efficient tax administration systems, broad tax bases, and higher compliance levels exhibit greater tax buoyancy (>1), reflecting tax revenue capacity that is responsive to economic growth. Conversely, countries with less effective tax systems, narrow tax bases, and low compliance experience lower tax buoyancy (<1). This research reveals that income taxes and value-added taxes consistently show higher buoyancy compared to customs duties and excise taxes in both regions. These findings provide important policy implications for the development of more adaptive and effective fiscal policies in the region, particularly through comprehensive tax reforms, strengthening tax administration, broadening the tax base, and improving taxpayer compliance to support sustainable economic development.
Keywords: ASEAN, Fiscal Policy, SAARC, Tax Buoyancy, Tax Reform

INTRODUCTION

Global digital transformation has catalyzed significant changes in economic structures and tax systems across various countries (Gupta et al., 2017). Ease of transactions in trade, finance, services, access to education, and healthcare are factors contributing to increased economic growth and broadening of the tax base (Gaspar et al., 2019). Asia, as the world's largest and most populous continent, has become a global economic center in recent decades, with economic growth predicted to reach 5.1% in 2024, exceeding the global average of 3.2% (ADB, 2023). This sustainable economic growth requires efficient and responsive national revenue systems, where taxation plays a fundamental role (Myoda et al., 2024).

For most governments, taxation not only serves as the main source of state revenue but also as a fiscal policy instrument for macroeconomic stabilization and income redistribution (Cevik et al., 2019). Although the implementation of tax policies varies across Asian countries, the taxable objects generally include individual income, corporate profits, and consumption of goods or services. Empirical data from 2015-2019 shows that in developing Asian countries, the largest tax revenue comes from value-added tax and taxes on goods and services, contributing around 45% of total tax revenue (Go et al., 2024). However, analysis by the Asian Development Bank (ADB, 2022) indicates that there is still significant room to increase tax revenue in South and Southeast Asia through optimization of fiscal policies and reforms in tax administration.

In this context, tax buoyancy becomes a crucial indicator for evaluating the effectiveness of fiscal policy and the capacity of the tax system to respond to economic changes (Dudine & Jalles, 2018). Tax buoyancy describes how much tax revenue changes for each one percent growth in Gross Domestic Product (GDP), measuring the responsiveness of the tax

system to economic dynamics comprehensively, including the impact of changes in tax policy (Belinga et al., 2014). A tax system with buoyancy greater than one indicates that tax revenue increases faster than economic growth, reflecting an efficient and fiscally sustainable system (Lagravinese et al., 2020).

Empirical data shows that tax buoyancy development in Asian countries tends to fluctuate. Studies on ASEAN-5 countries during the 2012-2016 period revealed varying tax buoyancy between values below and above 1 (Setyoningrum & Purwanti, 2020). Meanwhile, analysis of Asia-Pacific countries for the 2016-2020 period showed that the majority had achieved tax buoyancy values exceeding 1, despite significant annual fluctuations (Wijaya & Anwar, 2024). This variation indicates fundamental differences in economic structures, fiscal policy design, and effectiveness of tax administration in the region.

This research aims to present a comprehensive comparative analysis of tax buoyancy in South Asian and Southeast Asian countries, focusing on identifying determinants that influence variations in tax buoyancy across countries and their implications for fiscal sustainability. Specifically, this research aims to: (1) Explore differences in tax structures and policies in SAARC and ASEAN-5 countries and their impact on tax buoyancy; (2) Analyze the determinants of tax buoyancy across various types of taxes (income tax, value-added tax, customs and excise) in both regions; (3) Identify best practices in tax reform that contribute to improving tax buoyancy; (4) Formulate policy recommendations to optimize tax systems in South and Southeast Asian countries.

The significance of this research lies in its contribution to public economics literature, particularly in the context of developing countries in Asia. First, this research presents a comprehensive comparative analysis of tax buoyancy covering two important economic regions that are rarely compared simultaneously in previous studies. Second, the methodological approach integrates various dimensions of fiscal policy, providing a holistic perspective on the determinants of tax buoyancy. Third, the research findings provide an empirical foundation for the formulation of more adaptive and effective fiscal policies in the studied regions.

In the post-pandemic era and global economic uncertainty, a deep understanding of tax buoyancy determinants becomes increasingly relevant for policymakers to optimize domestic revenue mobilization and strengthen fiscal resilience. This research is expected to make a significant contribution to academic discourse and policy-making processes related to tax reform in developing Asian countries.

LITERATURE REVIEW

Concept and Measurement of Tax Buoyancy

Tax buoyancy is a fundamental concept in public economics that measures the responsiveness of tax revenue to changes in aggregate economic activity, generally represented by Gross Domestic Product (GDP) (Dudine & Jalles, 2018; Lagravinese et al., 2020). Unlike tax elasticity, which only measures the automatic response of the tax system assuming constant policies, tax buoyancy measures the total response that includes both automatic changes and discretionary tax policy changes (Belinga et al., 2014; Jenkins et al., 2000).

Mathematically, tax buoyancy is defined as the percentage change in tax revenue divided by the percentage change in GDP, which can be formulated as follows (Wijaya & Anwar, 2024):

$$\textit{Tax Buoyancy} = [\%\ \textit{Change in Tax Revenue}] / [\%\ \textit{Change in GDP}] \times 100$$

Alternatively, tax buoyancy can be estimated through a logarithmic econometric model (Dudine & Jalles, 2018):

$$\ln(TR)t = \alpha + \beta \ln(GDP)t + \varepsilon t$$

Where ln(TR)t is the natural logarithm of tax revenue at time t, ln(GDP)t is the natural logarithm of GDP at time t, coefficient β represents tax buoyancy, and εt is the error term.

The interpretation of tax buoyancy values follows these principles:

- Tax buoyancy > 1: Indicates a responsive tax system, where tax revenue increases faster than economic growth. This reflects a progressive and efficient tax system as an automatic stabilizer (Audi et al., 2021).
- Tax buoyancy = 1: A proportional tax system, where tax revenue grows at the same rate as GDP.
- Tax buoyancy < 1: Shows a less responsive tax system, where tax revenue grows more slowly than GDP. This may indicate a regressive tax structure, compliance issues, or a narrow tax base (Wijayanti & Budi, 2010).

Tax buoyancy can be analyzed from both short-term and long-term perspectives. Short-term tax buoyancy measures the response of tax revenue to cyclical economic fluctuations, important for evaluating the automatic stabilization function of the tax system (Chakraborty & Thomas, 2024). Meanwhile, long-term tax buoyancy measures the response of tax revenue to structural economic growth, crucial for assessing fiscal sustainability and the capacity of the tax system to finance long-term public expenditure (Hill et al., 2022).

Determinants of Tax Buoyancy

Empirical literature identifies various determinants that influence tax buoyancy in developing countries. Ahmed and Suleiman (2010) group these determinants into economic structural factors (imports, manufacturing, agriculture, services), fiscal policy factors (budget deficit, grants), and monetary factors. Their research found a positive and significant relationship between tax buoyancy and imports, manufacturing, services, monetary factors, and budget deficit. Conversely, growth in grants negatively affects tax buoyancy, while the agricultural sector shows no significant contribution in developing countries.

Gupta (2007) expands the analysis by including institutional factors, finding that corruption has a significant negative impact on tax revenue performance. This finding is confirmed by Shahzada et al. (2024) who identify that in addition to corruption, institutional variables such as government effectiveness, rule of law, and political stability are crucial determinants of tax buoyancy in Pakistan.

In the context of economic structure, Setyoningrum and Purwanti (2020) found that the import, manufacturing, and service sectors positively influence tax buoyancy in ASEAN-5 countries, while the agricultural sector shows no significant effect, consistent with Ahmed and Suleiman's (2010) findings. This phenomenon reflects the challenges in taxing the agricultural sector in developing countries, which is often dominated by subsistence and informal activities (Chakraborty & Thomas, 2024).

Tax system characteristics also significantly influence tax buoyancy. Audi et al. (2021) found that income tax and sales tax show higher buoyancy compared to import duties and excise in SAARC countries. Similar findings were identified by Pupongsak (2009) in ASEAN countries, indicating a common pattern where direct taxes and domestic consumption taxes are more responsive to economic growth compared to international trade taxes.

The temporal dimension is also important in tax buoyancy analysis. Hill et al. (2022) observed that tax buoyancy tends to increase during economic expansion phases and decrease during contractions, reflecting the cyclical nature of tax responsiveness. However, the magnitude and direction of this cyclicality vary across countries and types of taxes, depending on economic structure and tax system design.

Tax Buoyancy and Tax Reform

Tax reform plays a crucial role in increasing tax buoyancy through simplification of tax structures, broadening the tax base, and strengthening tax administration (Bird & Zolt, 2008).

Empirical literature identifies several reform practices that contribute positively to increasing tax buoyancy.

First, the transition from international trade taxes toward domestic taxes (income taxes and consumption taxes) has been proven to increase tax buoyancy. Pupongsak (2009) found that trade liberalization followed by strengthening of domestic taxes correlates with increased tax buoyancy in several ASEAN countries. Similar findings were reported by Audi et al. (2021) in SAARC countries.

Second, tax administration reform through the application of information technology, simplification of procedures, and strengthening institutional capacity contributes significantly to increasing tax buoyancy. Fah (2019) shows how modernization of tax administration in Malaysia has increased tax collection efficiency, even though overall tax buoyancy is still below one. Chakraborty and Thomas (2024) identify that increased efficiency in tax administration in India correlates with increased tax buoyancy, especially for income tax.

Third, broadening the tax base through economic formalization and reduction of tax exemptions is an effective strategy for increasing tax buoyancy. Kadel (2020) shows that a narrow tax base is the main constraint for low tax buoyancy in Nepal, while Sinaga et al. (2023) identify that broadening the personal income tax base contributes to increasing tax buoyancy in Indonesia.

Fourth, transitioning to a more progressive tax system, especially for income tax, correlates with increased tax buoyancy. Sinaga et al. (2023) found that the progressive rate structure for personal income tax in Indonesia results in higher tax buoyancy (1.348) compared to corporate income tax which applies a fixed rate (0.937).

Conceptual Framework

Based on a comprehensive literature review, this research develops a conceptual framework that integrates various dimensions of tax buoyancy determinants (Figure 1). This framework illustrates the relationship between economic structural factors, tax system characteristics, institutional factors, and tax reform on tax buoyancy, with the ultimate impact on fiscal sustainability.

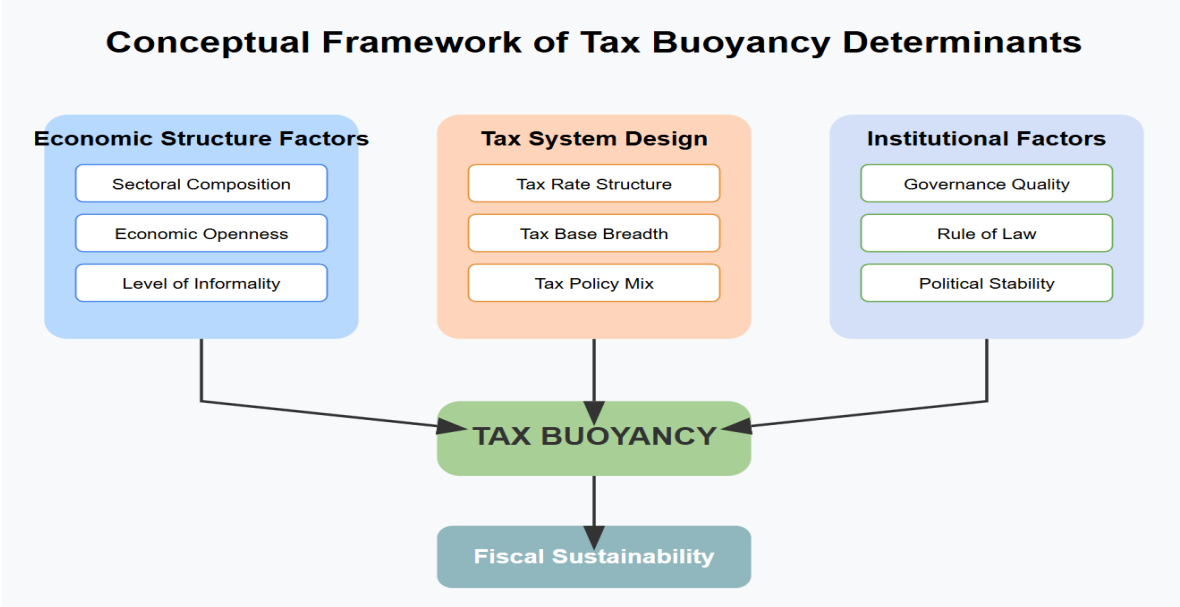

Figure 1 Conceptual Framework of Tax Buoyancy Determinants

This conceptual framework becomes the foundation for comparative analysis of tax buoyancy in South and Southeast Asian countries, enabling identification of factors that contribute to tax buoyancy variations and their implications for fiscal policy.

METHODS

Research Design

This research adopts a qualitative approach with a comprehensive literature study design that integrates and synthesizes findings from various sources of scientific literature and policy documents related to tax buoyancy in South and Southeast Asian countries. Comprehensive literature study was chosen as the main methodology because of its ability to integrate various perspectives and empirical findings from different contexts, allowing for deeper and more holistic comparative analysis (Snyder, 2019).

Data Collection Process

The data used in this research are secondary data obtained through a systematic search process from various sources of scientific literature and policy documents, including:

1. Indexed academic journal articles from leading scientific databases such as Scopus, Web of Science, JSTOR, and ScienceDirect. Searches use key terms such as "tax buoyancy," "tax elasticity," "fiscal policy," combined with the names of relevant countries or regions.
2. Technical reports and policy analyses from international institutions such as the World Bank, International Monetary Fund (IMF), Organization for Economic Cooperation and Development (OECD), and Asian Development Bank (ADB).
3. Policy documents and fiscal statistics from government institutions of the studied countries, including ministries of finance and tax authorities.
4. Other academic literature such as textbooks, monographs, and conference proceedings relevant to the research topic.

The data collection process covers the publication period 2000-2024 to ensure the novelty and relevance of information, with emphasis on recent publications (last 10 years) to examine the latest developments. Inclusion criteria include relevance to the research topic, source credibility, and appropriate geographical coverage. Documents in English and national languages of the studied countries (with translation) are considered to ensure data comprehensiveness.

Data Analysis

Data analysis in this research adopts an integrative approach that combines:

1. **Descriptive-Comparative Analysis**: Identifying, describing, and comparing the characteristics of tax systems, fiscal policies, and tax buoyancy in the studied countries.
2. **Thematic Analysis**: Identifying patterns and main themes in tax buoyancy determinants based on the reviewed literature.
3. **Narrative Synthesis**: Integrating findings from various sources to form a comprehensive picture of tax buoyancy in each region and its implications for fiscal policy.
4. **Qualitative Meta-analysis**: Analyzing consistency of findings across studies and identifying factors that contribute to variations in findings.

The data analysis process is conducted iteratively, with triangulation of findings from various sources to ensure the validity and reliability of conclusions. The analysis framework is developed based on research questions and the conceptual framework identified in the literature review.

Validity and Reliability

To ensure the validity and reliability of findings, this research implements several strategies:

1. **Source Triangulation**: Integrating data from various types of sources (academic journals, international institution reports, government documents) to validate findings.

2. **Inter-researcher Triangulation**: The process of data analysis and interpretation is conducted by the research team independently before being consolidated, reducing the potential for subjective bias.
3. **Peer Review**: Initial findings and interpretations are validated through a peer review process by experts in the field of taxation and fiscal policy.
4. **Methodological Transparency**: Detailed documentation of the literature search process, inclusion/exclusion criteria, and analysis process to ensure research replicability.

RESULTS AND DISCUSSION

Tax Buoyancy Profile in South Asian and Southeast Asian Countries

Tax Buoyancy in SAARC Countries

Comprehensive analysis of tax buoyancy in SAARC countries (Pakistan, India, Nepal, Bangladesh, Sri Lanka, Maldives, Bhutan, and Afghanistan) shows significant variation, reflecting heterogeneity in economic structures, institutional capacities, and fiscal policies in the region.

A longitudinal study conducted by Audi et al. (2021) analyzed tax buoyancy in SAARC countries during the 1990-2019 period, focusing on various types of taxes. Key findings revealed that income tax and sales tax show higher tax buoyancy compared to import duties and excise, indicating that direct taxes and domestic consumption taxes function more effectively as automatic stabilizers compared to international trade taxes. Specifically, income tax shows tax buoyancy ranging from 1.15-1.30, while sales tax records buoyancy between 1.10-1.25. In contrast, import duties and excise show lower buoyancy, ranging from 0.70-0.90, indicating weaker responsiveness to economic growth.

Tax buoyancy in Pakistan shows a concerning trend, with an aggregate coefficient of 0.63 (Shahzada et al., 2024), below the threshold value of 1 required for fiscal sustainability. This research identifies socio-institutional factors as the main determinants of low tax buoyancy, including high unemployment rates (coefficient -0.21), unplanned urbanization (-0.18), corruption (-0.29), and weak government effectiveness (-0.24). Conversely, rule of law (0.27) and education level (0.19) positively correlate with tax buoyancy, highlighting the importance of institutional reform to increase the responsiveness of the tax system.

India shows a more complex and dynamic pattern of tax buoyancy. Chakraborty and Thomas (2024) analyzed tax buoyancy in India in the context of fiscal and energy transition, finding significant variations across states and economic sectors. Short-term tax buoyancy coefficients show a range of 0.92-1.18, while long-term tax buoyancy is relatively more stable at around 0.98-1.05. Sectoral analysis reveals that extractive taxes show lower buoyancy (0.76-0.89) compared to non-extractive taxes (1.02-1.15), reflecting challenges in optimally taxing the extractive industry.

Nepal faces structural challenges in its tax system, with relatively low aggregate tax buoyancy ranging from 0.85-0.92 (Kadel, 2020). Tax structure dominated by indirect taxes, a narrow tax base, and weak tax administration are the main factors limiting the responsiveness of the tax system. Disaggregation analysis shows that income tax has the highest buoyancy (0.97), followed by value-added tax (0.93), while international trade tax records the lowest buoyancy (0.71).

Bangladesh shows a positive trend in increasing tax buoyancy, from 0.78 in the early 2000s to 1.03 in the 2010s (Yousuf et al., 2012). Sustainable tax reform, including simplification of tax structure, broadening the tax base, and strengthening tax administration, contributes to increased responsiveness of the tax system. Income tax shows a significant increase in

buoyancy from 0.81 to 1.07, reflecting the effectiveness of reforms in increasing direct tax compliance.

Sri Lanka has relatively stable aggregate tax buoyancy ranging from 0.95-1.05, with variations across tax types. Vijayakumaran and Vijayakumaran (2014) observed that income tax shows the highest buoyancy (1.12), followed by value-added tax (1.04) and other goods and services taxes (0.98). This relatively good tax buoyancy is supported by sustained tax reform and strengthening of tax administration, although structural challenges such as a relatively narrow tax base and high level of economic informality remain constraints.

Maldives, with its economy highly dependent on tourism, shows highly fluctuating tax buoyancy, ranging from 0.72-1.38 depending on the condition of the global tourism sector. This high dependence on one economic sector results in significant volatility in the responsiveness of the tax system, highlighting the importance of diversifying the tax base and the economy in general.

Bhutan, with its unique focus on Gross National Happiness (GNH), shows relatively stable tax buoyancy ranging from 0.97-1.04. This stability partly reflects the approach to sustainable development and balanced economic growth, although a relatively narrow tax base and dominance of the formal sector in tax revenue still pose challenges for increasing tax buoyancy to a higher level.

Afghanistan faces the most significant constraints in developing a responsive tax system, with the lowest tax buoyancy in the SAARC region, ranging from 0.58-0.70. Prolonged political instability, weak institutional capacity, and dominant informal economy are the main barriers to developing an effective tax system. The extensive informal sector, covering more than 80% of economic activity, is beyond the reach of the formal tax system, resulting in a very narrow tax base and low tax buoyancy.

Table 1 presents a summary of tax buoyancy in SAARC countries by type of tax, showing significant heterogeneity in the responsiveness of various tax instruments to economic growth.

Table 1. Tax Buoyancy by Tax Type in SAARC Countries (Average for 2010-2020 Period)

Country	Income Tax	Consumption Tax	Import Duties	Excise	Total Tax Buoyancy
Pakistan	0.82	0.76	0.54	0.43	0.63
India	1.08	1.03	0.86	0.91	0.99
Nepal	0.97	0.93	0.71	0.73	0.89
Bangladesh	1.07	0.94	0.77	0.81	1.03
Sri Lanka	1.12	1.04	0.82	0.85	1.02
Maldives	0.94	1.31	0.78	0.70	1.05
Bhutan	1.01	0.96	0.83	0.88	0.98
Afghanistan	0.62	0.68	0.53	0.47	0.58

Source: Compiled from various sources (Audi et al., 2021; Shahzada et al., 2024; Chakraborty & Thomas, 2024; Kadel, 2020)

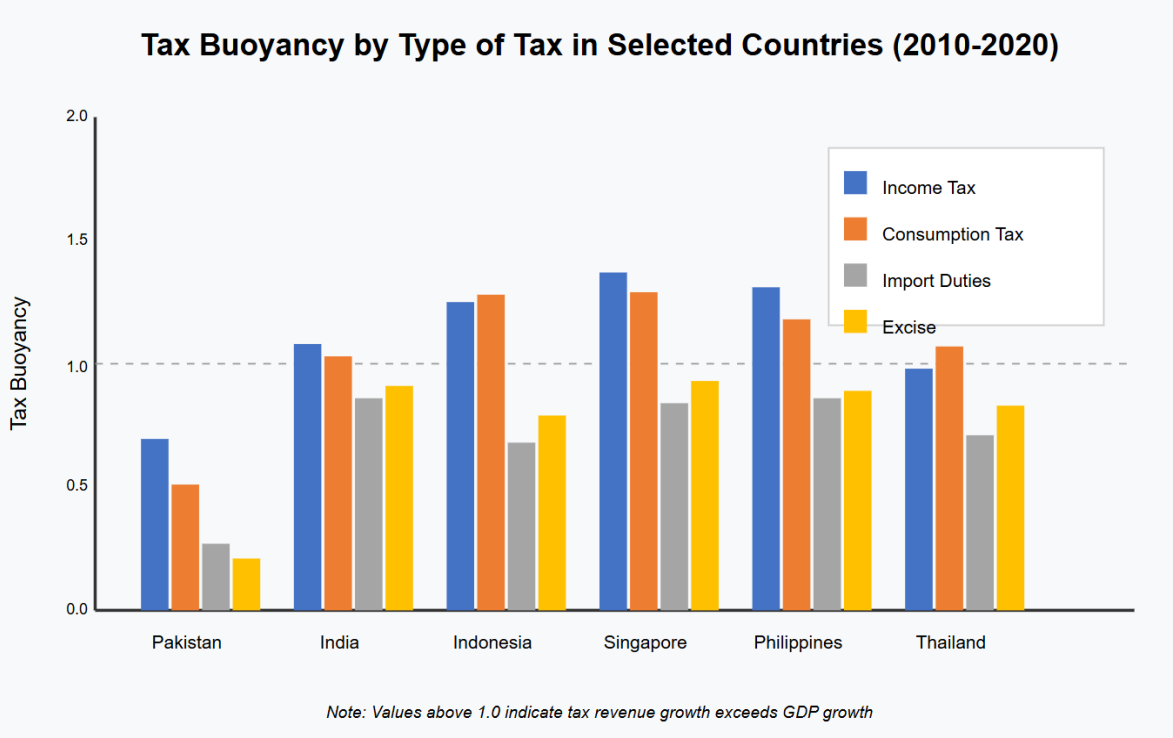

Figure 2 Tax Buoyancy by Tipe of Tax in Selected Countries

Data in Table 1 confirms the general pattern where income tax and consumption tax show higher buoyancy compared to import duties and excise. This pattern is consistent across all SAARC countries, albeit with varying magnitudes, indicating that domestic tax reforms tend to be more effective in increasing the responsiveness of the tax system compared to international trade taxes.

Tax Buoyancy in ASEAN-5 Countries

Analysis of tax buoyancy in the five largest ASEAN countries (ASEAN-5) — Indonesia, Malaysia, Singapore, Thailand, and the Philippines — shows different dynamics compared to SAARC countries, reflecting differences in economic structures, fiscal policies, and tax reforms in this region.

Setyoningrum and Purwanti (2020) present a comparative analysis of tax buoyancy in ASEAN-5 countries for the 2012-2016 period, revealing significant fluctuations both across countries and across years. Table 2 illustrates the volatility of tax buoyancy in this region.

Table 2. Development of Tax Buoyancy in ASEAN-5 Countries 2012-2016 (in percent)

Country	2012	2013	2014	2015	2016	Average
Indonesia	1.20	0.92	0.61	0.92	0.46	0.82
Malaysia	1.80	0.59	0.63	0.17	0.39	0.72
Singapore	1.81	0.42	1.59	0.50	2.23	1.31
Philippines	1.45	1.34	1.23	1.03	1.04	1.22
Thailand	0.36	2.92	-2.38	1.65	0.41	0.59
Average	1.32	1.24	0.34	0.85	0.91	0.93

Source: Setyoningrum & Purwanti (2020), processed data

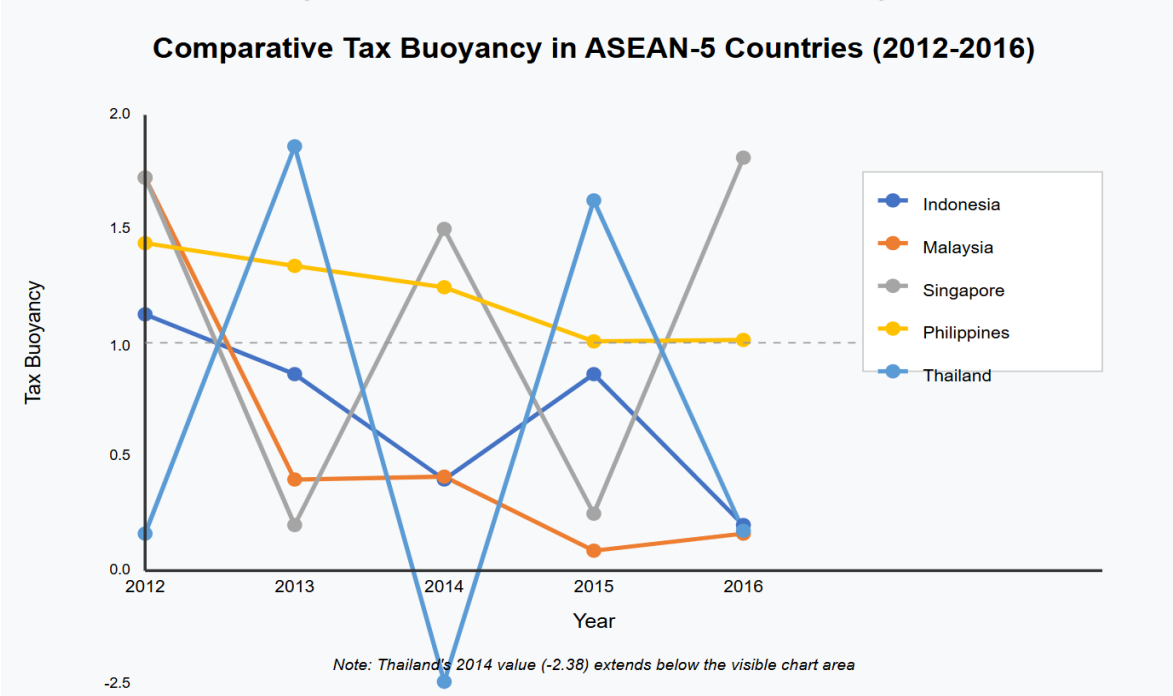

Figure 3 Comparative Tax Buoyancy in ASEAN-5 Countries

Data in Table 2 reveals several important patterns. First, the average level of tax buoyancy varies significantly across ASEAN-5 countries, with Singapore (1.31) and the Philippines (1.22) showing average tax buoyancy above 1, indicating tax systems that are responsive to economic growth. In contrast, Thailand (0.59), Malaysia (0.72), and Indonesia (0.82) show average tax buoyancy below 1, indicating challenges in the responsiveness of the tax system.

Second, the volatility of tax buoyancy also varies across countries. Thailand shows the highest volatility, with a range from -2.38 to 2.92, indicating a highly unstable response of the tax system to economic fluctuations. The Philippines shows the lowest volatility (1.03-1.45), reflecting a more stable and predictable tax system. Singapore, despite having the highest average tax buoyancy, also shows significant volatility (0.42-2.23), depicting high sensitivity of its tax system to economic cycles.

Indonesia shows a declining pattern of tax buoyancy, from 1.20 in 2012 to 0.46 in 2016, indicating structural challenges in the tax system. Sinaga et al. (2023) analyze tax buoyancy in Indonesia in more detail, finding significant variation across tax types. Personal income tax shows the highest buoyancy (1.348), followed by value-added tax (1.281), and overall income tax (1.252). Corporate income tax records the lowest buoyancy (0.937), reflecting a fixed rate structure that is less responsive to economic growth compared to the progressive rate structure on personal income tax.

Iskandar et al. (2021) extend the analysis to the sub-national level, exploring tax buoyancy on local taxes in Indonesia for the 2007-2019 period. The main findings show an aggregate tax buoyancy coefficient of 0.66, with significant differences between district governments (0.72) and city governments (0.85). This difference reflects a broader tax base and more efficient tax administration in urban areas compared to rural areas.

Malaysia faces challenges in increasing tax buoyancy, with a relatively low average coefficient (0.72). Fah (2019) identifies Malaysia's tax buoyancy as 0.87, below the threshold of 1 required for fiscal sustainability. Excessive dependence on oil and gas revenue, a narrow tax base, and a less progressive tax structure are the main factors for low tax buoyancy. Malaysia's tax-to-GDP ratio of 18% in 2016 is relatively low compared to the OECD country

average of 34%, indicating significant room for broadening the tax base and increasing tax compliance.

Pupongsak (2009) analyzes the impact of trade liberalization on tax buoyancy in Malaysia, finding that tax policy is not buoyant for all major tax types. Particularly for international trade taxes, the estimated coefficient shows a negative sign, indicating a decrease in revenue from this sector along with economic growth. This finding is consistent with the global trend where trade liberalization tends to reduce the contribution of import duties to total tax revenue.

Singapore shows the highest tax buoyancy among ASEAN-5 countries, with an average of 1.31 and peaking at 2.23 in 2016. A study conducted by the IMF identifies Singapore's long-term tax buoyancy in the range of 0.84-1.16, indicating a relatively responsive tax system to economic growth. This high tax buoyancy is supported by a highly efficient tax administration system, high tax compliance, and a broad and diversified tax base. Singapore has also succeeded in transitioning from dependence on international trade taxes toward domestic taxes, with income tax and consumption tax significantly contributing to total tax revenue.

Thailand shows the highest tax buoyancy volatility among ASEAN-5 countries, with dramatic fluctuations from -2.38 in 2014 to 2.92 in 2013. This volatility reflects the high sensitivity of Thailand's tax system to economic cycles and policy changes. Nevertheless, Pupongsak (2009) assesses that Thailand's overall tax system is already buoyant and elastic, with main support from corporate tax, personal income tax, and goods and services tax. This research identifies Thailand's tax elasticity coefficient in the range of 0.98-1.12, indicating adequate responsiveness to economic growth in the long term, despite significant short-term fluctuations.

The Philippines shows relatively stable and good tax buoyancy performance, with an average of 1.22 and consistent values above 1 during the 2012-2016 period. Diokno-Sicat et al. (2022) observe that tax buoyancy in the Philippines has been more stable in the last decade compared to the previous period, showing improvement in the effectiveness and predictability of the tax system. Pupongsak (2009) confirms that the Philippines' overall tax system is already buoyant and elastic, with significant contribution from corporate income tax. This good tax buoyancy is supported by a series of tax reforms conducted by the Philippines in the last two decades, including broadening the tax base, improving tax administration, and simplifying the tax structure.

Disaggregation analysis of tax buoyancy by tax type in ASEAN-5 countries also shows a pattern similar to SAARC countries, where direct taxes (income tax) and domestic consumption taxes show higher buoyancy compared to international trade taxes. Table 3 presents a comparison of tax buoyancy by tax type in ASEAN-5 countries.

Table 3. Tax Buoyancy by Tax Type in ASEAN-5 Countries (Average for 2010-2020 Period)

Country	Income Tax	Consumption Tax	Import Duties	Excise	Total Tax Buoyancy
Indonesia	1.25	1.28	0.68	0.79	0.82
Malaysia	0.91	0.89	0.62	0.74	0.72
Singapore	1.37	1.29	0.84	0.93	1.31
Philippines	1.31	1.18	0.86	0.89	1.22
Thailand	0.98	1.07	0.71	0.83	0.59

Source: Compiled from various sources (Setyoningrum & Purwanti, 2020; Sinaga et al., 2023; Fah, 2019; Pupongsak, 2009; Diokno-Sicat et al., 2022)

Data in Table 3 confirms that income tax and consumption tax consistently show higher buoyancy compared to import duties and excise across all ASEAN-5 countries. This pattern is

consistent with findings in SAARC countries, although with variations in magnitude that reflect differences in economic structure and tax systems.

Comparative Analysis of Tax Buoyancy Determinants

Comparative analysis from various empirical studies reveals several key determinants that influence tax buoyancy in South and Southeast Asian countries. Understanding these determinants is important for formulating effective and targeted fiscal policies.

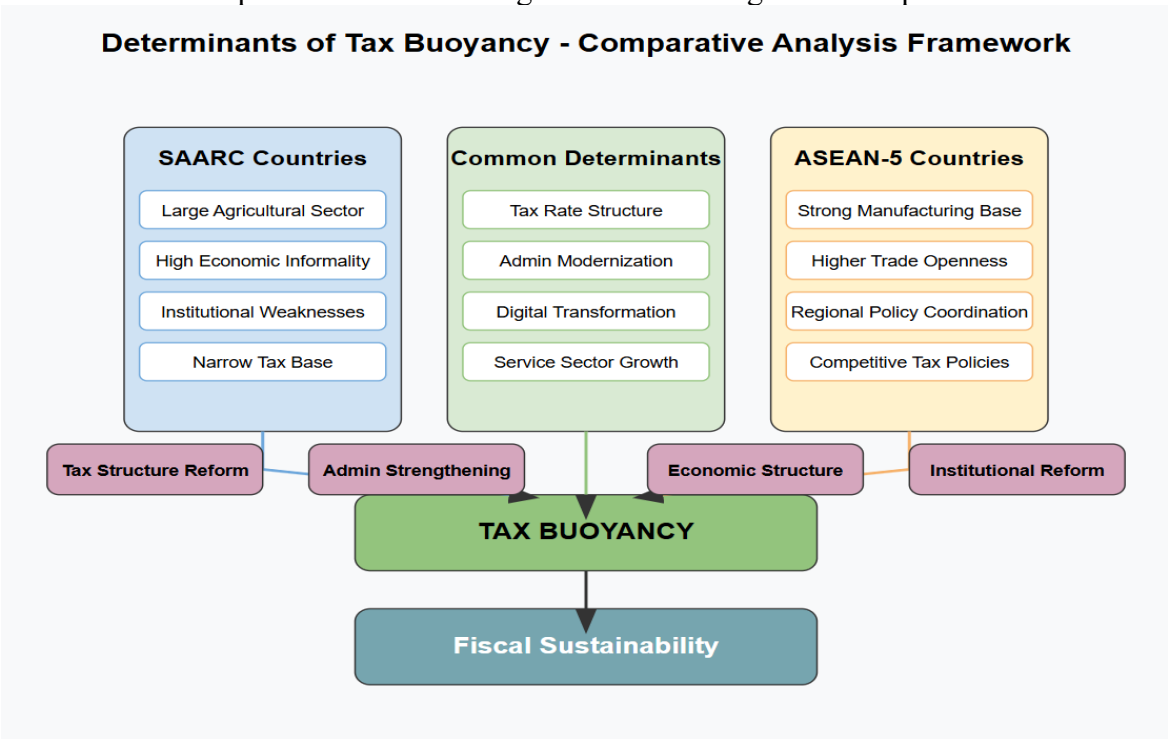

Figure 4 Detrminants of Tax Buoyancy – Comparative Analysis Framework

Economic Structural Determinants

Economic structure is a fundamental determinant of tax buoyancy, with influence that varies depending on the sectoral composition of the economy and the level of development. Comparative analysis reveals several important patterns in the relationship between economic structure and tax buoyancy in both regions.

First, the sectoral composition of the economy has a significant impact on tax buoyancy. Setyoningrum and Purwanti (2020) identify that the manufacturing sector positively correlates with tax buoyancy in ASEAN-5 countries, with an elasticity coefficient of 0.27. Similar findings are reported by Ahmed and Suleiman (2010) in SAARC countries, with an elasticity coefficient of 0.31. The manufacturing sector, which is generally more organized and formal compared to other sectors, offers a broader and more accessible tax base, contributing positively to tax buoyancy.

The service sector also shows a positive correlation with tax buoyancy in both regions, with elasticity coefficients of 0.23 in ASEAN-5 (Setyoningrum & Purwanti, 2020) and 0.19 in SAARC (Ahmed & Suleiman, 2010). Growth in the service sector, especially high-value services such as finance, information technology, and telecommunications, expands the potential tax base and increases the responsiveness of the tax system to economic growth.

In contrast, the agricultural sector shows no significant effect on tax buoyancy in both regions. This phenomenon reflects the challenges in taxing the agricultural sector in developing countries, which is often characterized by high prevalence of subsistence activities, informality, and fragmentation of small producers (Kadel, 2020). In countries with high agricultural sector

contribution to GDP, such as Nepal (26%), Bangladesh (13%), and Myanmar (24%), these challenges contribute to a narrow tax base and relatively low tax buoyancy.

Second, the level of economic openness and integration in global trade shows a complex relationship with tax buoyancy. Setyoningrum and Purwanti (2020) found that the import sector share positively correlates with tax buoyancy in ASEAN-5 countries, with an elasticity coefficient of 0.19. Similar findings were reported by Ahmed and Suleiman (2010) in SAARC countries, with an elasticity coefficient of 0.22.

However, Pupongsak (2009) observed that trade liberalization has a negative impact on the buoyancy of international trade taxes in several ASEAN countries, including Malaysia and Thailand. This phenomenon reflects the trade-off in trade liberalization: on one hand, reduction of tariffs and trade barriers can reduce revenue from import duties; on the other hand, increased trade volume and economic activity can expand the domestic tax base. Countries that have successfully transitioned from dependence on international trade taxes toward domestic taxes, such as Singapore and Thailand, show higher tax buoyancy compared to countries still in the transition process.

Third, the level of economic informality is a crucial determinant of tax buoyancy, with a significant negative correlation in both regions. In countries with high levels of economic informality, such as Pakistan (70% of the workforce), India (80% of the workforce), and Indonesia (60% of the workforce), the effective tax base becomes much narrower than its potential base. Shahzada et al. (2024) estimate that each 10% decrease in economic informality can increase tax buoyancy by 0.15 in Pakistan. Sinaga et al. (2023) found a similar pattern in Indonesia, where economic formalization positively correlates with tax buoyancy, especially for income tax.

Differences in levels of economic informality partly explain the variation in tax buoyancy between South and Southeast Asian countries. Countries with lower levels of economic informality, such as Singapore (13% of the workforce), Malaysia (22% of the workforce), and Thailand (44% of the workforce), tend to show higher tax buoyancy compared to countries with higher levels of informality.

Fiscal Policy and Tax System Design Determinants

Tax system design and fiscal policy have a direct influence on tax buoyancy, with important implications for tax reform. Comparative analysis reveals several key patterns in the relationship between fiscal policy and tax buoyancy in South and Southeast Asian countries.

First, tax rate structure has a significant impact on tax buoyancy. Income tax systems with progressive rate structures show higher buoyancy compared to systems with fixed or flat rates. Sinaga et al. (2023) identify that in Indonesia, personal income tax with a progressive rate structure shows buoyancy of 1.348, significantly higher than corporate income tax with a fixed rate (0.937). Similar patterns are observed in India (Chakraborty & Thomas, 2024), the Philippines (Diokno-Sicat et al., 2022), and Thailand (Pupongsak, 2009). Progressive rate systems are intrinsically more responsive to income growth: as income increases, a greater proportion of additional income is subject to higher tax rates, resulting in more than proportional growth in tax revenue.

Second, the breadth and comprehensiveness of the tax base positively correlate with tax buoyancy. Countries with broader and more comprehensive tax bases, such as Singapore and Thailand, show higher tax buoyancy compared to countries with narrow tax bases such as Pakistan and Nepal. Kadel (2020) estimates that a 10% expansion of the tax base can increase tax buoyancy by 0.18 in Nepal. Fah (2019) identifies that a narrow tax base is the main factor for low tax buoyancy in Malaysia, recommending broadening the tax base as a reform priority. A narrow tax base is often a consequence of proliferation of tax incentives, exemptions, and special tax preferences. ADB (2022) estimates that Asian countries lose an average of 5% of

GDP in potential revenue due to various forms of tax exemptions. The Philippines, for example, loses around 6.2% of GDP due to tax incentives and exemptions, while Indonesia and Thailand each lose about 3.7% and 5.3% of GDP. Rationalization of tax incentives and exemptions can expand the effective tax base and increase tax buoyancy.

Third, tax policy mix, or the composition of tax revenue, affects aggregate tax buoyancy. Countries with greater dependence on direct taxes (income tax) and domestic consumption taxes show higher tax buoyancy compared to countries with dependence on international trade taxes. Audi et al. (2021) found that in SAARC countries, income tax and sales tax function as effective automatic stabilizers, while import duties and excise show weaker responsiveness to economic growth. Similar patterns were identified in ASEAN countries by Pupongsak (2009). The transition from dependence on international trade taxes toward domestic taxes is a common trend in both regions, driven by trade liberalization and regional economic integration. Countries more advanced in this transition, such as Singapore, Thailand, and India, show higher tax buoyancy compared to countries still in the transition process, such as Pakistan, Nepal, and Bangladesh. ADB (2022) estimates that a 10% decrease in the contribution of international trade taxes to total tax revenue, compensated by an increase in domestic taxes, can increase tax buoyancy by 0.12-0.18 in Asian countries.

Fourth, the effectiveness of tax administration significantly influences tax buoyancy. Modernization of tax administration, including digitalization of tax processes, simplification of compliance procedures, and strengthening of institutional capacity, positively correlates with tax buoyancy. Countries with more efficient tax administration systems, such as Singapore, Thailand, and Malaysia, show relatively higher tax buoyancy compared to countries with less developed tax administration, such as Nepal, Bangladesh, and Afghanistan.

Chakraborty and Thomas (2024) identify that in India, states with higher tax administration efficiency indices show higher tax buoyancy. Each 10% increase in tax administration efficiency correlates with a 0.13 increase in tax buoyancy. A study by Fah (2019) in Malaysia reveals that although Malaysia's tax structure is relatively competitive, inefficiencies in tax administration contribute to low tax buoyancy. Modernization and reform of tax administration are the main recommendations for increasing tax buoyancy in the country.

Institutional and Governance Determinants

Institutional factors and governance play a crucial role in determining tax buoyancy, with important implications for fiscal sustainability. Comparative analysis reveals several main patterns in the relationship between institutional quality and tax buoyancy in South and Southeast Asian countries.

First, corruption and weak governance negatively correlate with tax buoyancy. Shahzada et al. (2024) found that corruption (coefficient -0.29) and low government effectiveness (coefficient -0.24) are significant determinants of low tax buoyancy in Pakistan. Setyoningrum and Purwanti (2020) identify a similar pattern in ASEAN-5 countries, where the corruption perception index negatively correlates with tax buoyancy (coefficient -0.21).

Corruption reduces tax buoyancy through several mechanisms: reducing voluntary tax compliance, weakening tax administration, and creating distortions in economic resource allocation. In countries with high levels of corruption, such as Bangladesh (CPI score 26/100), Pakistan (CPI score 28/100), and Myanmar (CPI score 23/100), tax buoyancy tends to be lower compared to countries with lower levels of corruption, such as Singapore (CPI score 85/100), Malaysia (CPI score 51/100), and Bhutan (CPI score 68/100).

Second, rule of law and regulatory quality positively correlate with tax buoyancy. Shahzada et al. (2024) identify that rule of law (coefficient 0.27) is a positive determinant of tax buoyancy in Pakistan. A strong and effective legal system increases tax compliance and

reduces tax avoidance, thus expanding the effective tax base and increasing the responsiveness of the tax system to economic growth.

Wijaya and Anwar (2024) explore the moderating role of regulatory quality in the relationship between economic structure and tax buoyancy in Asia-Pacific countries. Findings show that regulatory quality strengthens the positive effect of the service sector and imports on tax buoyancy. In countries with higher regulatory quality, such as Singapore, the contribution of the service sector to tax buoyancy is about 40% higher compared to countries with lower regulatory quality.

Third, political stability and absence of violence positively correlate with tax buoyancy. Countries with higher political stability, such as Singapore, Malaysia, and Bhutan, show more stable and predictable tax buoyancy compared to countries with higher political instability, such as Pakistan, Afghanistan, and Bangladesh. Political instability reduces investment and economic growth, complicates long-term fiscal planning, and limits the government's capacity to effectively implement tax reforms.

The case of Afghanistan is an extreme example where prolonged political instability results in the lowest tax buoyancy in the SAARC region (0.58). Ongoing conflict and violence have destroyed the formal economic base, hindered the development of tax administrative capacity, and created an extensive shadow economy that is beyond the reach of the formal tax system.

Policy Implications for Increasing Tax Buoyancy

Comparative analysis of tax buoyancy in South and Southeast Asian countries yields several important policy implications for increasing the responsiveness of tax systems and fiscal sustainability.

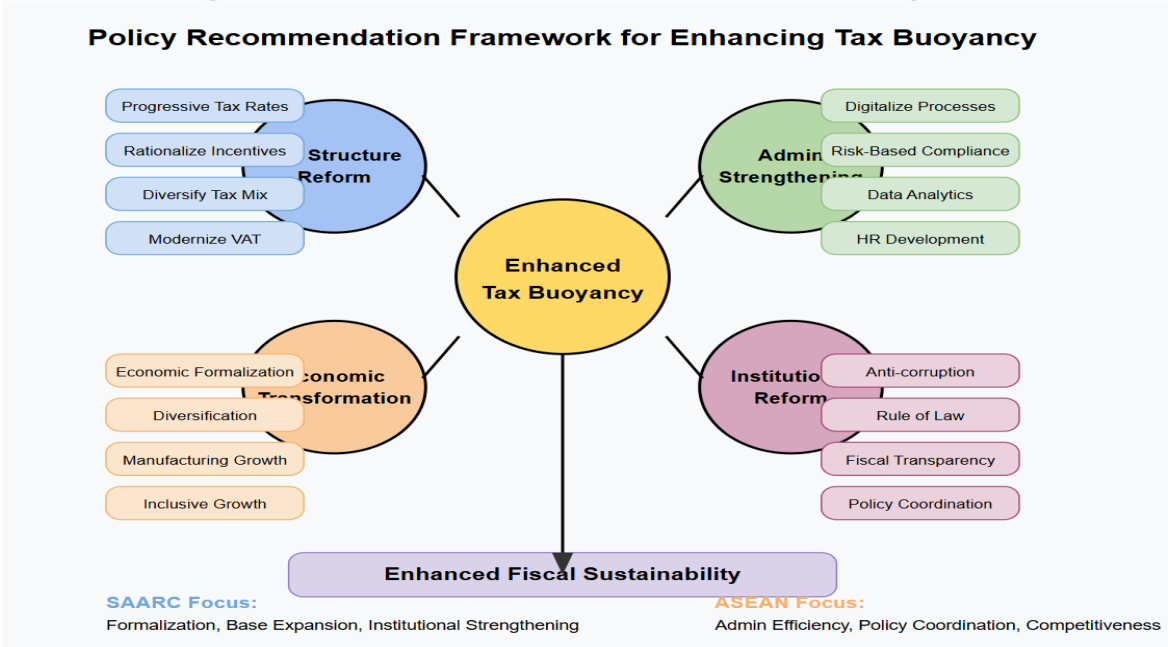

Figure 5 Policy Recommendation Framework for Enhancing Tax Buoyancy

Tax Structure Reform

Tax structure reform is a fundamental strategy for increasing tax buoyancy, with several specific recommendations based on comparative analysis:

Adjustment of income tax rate structure. Given that income tax with progressive rate structures shows higher buoyancy compared to systems with fixed rates, countries with low tax buoyancy may consider increasing progressivity in their income tax systems. Pakistan, Malaysia, and Nepal, with aggregate tax buoyancy below 1, could benefit from this reform.

Sinaga et al. (2023) estimate that increasing income tax progressivity in Indonesia could increase tax buoyancy by 0.15-0.25.

Rationalization of tax incentives and exemptions. Proliferation of tax incentives and exemptions narrows the tax base and reduces tax buoyancy. Rationalization of tax incentives, including systematic evaluation of cost-effectiveness and benefits, can expand the effective tax base and increase tax buoyancy. ADB (2022) estimates that rationalization of tax incentives could increase tax revenue by 2-4% of GDP in some Asian countries, with a positive effect on tax buoyancy.

Transition toward stronger domestic tax systems. Given that domestic taxes (income tax and consumption tax) show higher buoyancy compared to international trade taxes, countries should prioritize strengthening the domestic tax base as part of their trade liberalization strategy. Pakistan, Nepal, and Bangladesh, with relatively high dependence on trade taxes, could benefit significantly from this transition.

Modernization of consumption taxes. Value-added tax (VAT) with a broad base and few exemptions shows high buoyancy in several countries. Modernization of the VAT system, including broadening of coverage, simplification of rate structure, and strengthening of collection mechanisms, can significantly increase tax buoyancy. Sri Lanka, India, and Thailand have shown positive results from VAT reform, with increased tax buoyancy for consumption taxes.

Integration of local taxes into the national fiscal framework. Countries with multi-level tax systems, such as Indonesia and India, are advised to improve coordination between national and sub-national taxes to avoid overlap and inefficiency. Well-designed fiscal decentralization can increase overall tax buoyancy.

Strengthening Tax Administration

Tax administration reform is an important complement to tax structure reform, with several specific recommendations based on comparative analysis:

Acceleration of tax process digitalization. Countries should prioritize digital transformation in tax administration, including development of integrated online tax platforms, electronic tax payment systems, and utilization of technology to increase tax compliance. This digitalization should emphasize not only internal efficiency but also reduction of compliance costs for taxpayers.

Implementation of risk-based compliance systems. Tax authorities are advised to adopt a risk-based approach in compliance monitoring, allocating resources based on taxpayer risk profiles. This approach can increase the effectiveness of tax law enforcement and reduce the compliance burden for compliant taxpayers.

Investment in analytical capacity. Tax authorities should increase their capacity in data analytics, including predictive analytics and machine learning, to identify non-compliance patterns and increase the effectiveness of interventions. Enhanced analytical capacity can also support evidence-based policy development.

Human resource development. Investment in training and development of tax staff is crucial for increasing the effectiveness of tax administration. Capacity development programs should focus not only on technical aspects of taxation but also on management skills, customer service, and ethics.

Economic Structural Interventions

Structural interventions in the economy can influence tax buoyancy through transformation of the economic base underlying the tax system, with several specific recommendations based on comparative analysis:

Economic formalization. Governments should adopt a comprehensive strategy for economic formalization, including simplification of business registration, development of

digital payment systems, and incentives for formalization. This strategy should be designed with an understanding of the constraints and incentives faced by the informal sector.

Economic diversification. Countries with high dependence on certain sectors, such as Malaysia (oil and gas), Maldives (tourism), and Bhutan (hydroelectric), are advised to adopt a comprehensive economic diversification strategy. This diversification can reduce tax revenue volatility and increase fiscal sustainability.

Development of manufacturing and high-value services. Given the positive contribution of the manufacturing and service sectors to tax buoyancy, governments should prioritize policies that support the development of these sectors. These policies should include quality infrastructure, skills development, and a supportive regulatory framework.

Increasing the inclusiveness of economic growth. Inclusive economic growth, which involves previously marginalized groups, can expand the tax base and increase tax buoyancy. Policies to increase inclusiveness should include access to education, health, and financial services.

Institutional and Governance Reform

Institutional reform and strengthening of governance form an important foundation for increasing long-term tax buoyancy, with several specific recommendations based on comparative analysis:

Strengthening anti-corruption efforts. Countries should prioritize eradication of corruption in tax administration through development of strong and independent anti-corruption institutions, increased transparency in tax processes, and strengthening of accountability mechanisms.

Strengthening the rule of law. A strong and effective legal system is essential for increasing tax compliance and reducing tax avoidance, with a positive impact on tax buoyancy. Reforms should include modernization of the tax legal framework, strengthening the capacity of tax courts, and consistent enforcement of tax laws.

Increasing fiscal transparency. Governments should increase transparency in public financial management, including publication of information on tax revenue and expenditure, analysis of tax policy impact, and evaluation of tax administration performance.

Strengthening policy coordination. Better coordination between tax policy, monetary policy, and real sector policy can increase the effectiveness of fiscal policy and tax buoyancy. Formal coordination mechanisms should be developed to ensure policy coherence.

Comparison of Tax Reform Strategies in Both Regions

Comparative analysis reveals several differences and similarities in tax reform strategies adopted by countries in South and Southeast Asia to increase tax buoyancy.

Reform Approach in SAARC Countries

SAARC countries tend to focus on broadening the tax base and strengthening tax administration as the main strategies for increasing tax buoyancy. India, for example, has implemented comprehensive tax reform with the introduction of the Goods and Services Tax (GST) in 2017, which consolidates various indirect taxes into an integrated national value-added tax system. This reform aims to simplify the tax system, reduce compliance costs, and expand the tax base (Chakraborty & Thomas, 2024).

Sri Lanka has also implemented a series of tax reforms, focusing on modernization of tax administration and development of an integrated tax information system. These reforms have contributed to increased tax buoyancy for income tax and consumption tax (Vijayakumaran & Vijayakumaran, 2014).

Pakistan, although still facing significant challenges in its tax system, has initiated initiatives to expand the tax base, including better economic documentation and formalization of the informal sector. Focus on institutional strengthening, including improving the rule of law

and reducing corruption, has also become an important element in Pakistan's reform strategy (Shahzada et al., 2024).

Reform Approach in ASEAN Countries

ASEAN countries, especially ASEAN-5, tend to adopt tax reform approaches that are more oriented toward competitiveness and efficiency. Singapore, for example, has developed a highly efficient tax system with competitive tax rates and effective tax administration, resulting in high tax buoyancy despite a relatively narrow tax base.

Thailand has implemented a series of tax reforms focusing on modernization of tax administration, including digitalization of tax processes and development of electronic tax payment systems. These reforms have increased tax collection efficiency and tax compliance, although tax buoyancy volatility remains a challenge (Pupongsak, 2009).

The Philippines, with a comprehensive fiscal reform program, has adopted a phased approach to tax reform, including the introduction of sin taxes targeted at tobacco and alcohol products, as well as reform of personal and corporate income taxes. These reforms have contributed to relatively stable and high tax buoyancy in the Philippines (Diokno-Sicat et al., 2022).

Indonesia has implemented a series of tax reforms, including tax amnesty in 2016-2017 aimed at expanding the tax base and increasing tax compliance. However, Indonesia's tax buoyancy shows a declining trend during the 2012-2016 period, indicating challenges in maintaining the responsiveness of the tax system to economic growth (Sinaga et al., 2023).

Malaysia, despite having relatively low tax buoyancy, has adopted competitiveness-oriented tax policies with competitive corporate tax rates and incentives to encourage investment. Transition from dependence on oil and gas revenue toward a more diversified tax base becomes the main focus of Malaysia's tax reform (Fah, 2019).

Similarities and Differences in Reform Approaches

Despite differences in tax reform approaches in both regions, several similarities can also be identified:

Focus on digitalization and modernization of tax administration. Countries in both regions recognize the importance of digital transformation in increasing tax collection efficiency and tax compliance. India with GSTN, Thailand with electronic tax systems, and the Philippines with electronic Filing and Payment System (eFPS) show convergence in this approach.

Broadening the tax base through economic formalization. Countries in both regions adopt various initiatives to expand the tax base through formalization of economic activities, albeit with different emphasis and intensity. India, with JAM initiatives, and Indonesia, with tax amnesty programs, show innovative approaches to economic formalization.

Transition toward greater dependence on domestic taxes. Along with trade liberalization and regional economic integration, countries in both regions are experiencing transition from dependence on international trade taxes toward domestic taxes. Success in this transition varies, with some countries such as Singapore and Thailand showing more successful transitions compared to other countries.

The main differences in reform approaches include:

Emphasis on competitiveness versus revenue. ASEAN countries, especially Singapore and Malaysia, tend to emphasize competitiveness in their tax policies, with relatively low tax rates and targeted incentives. In contrast, SAARC countries, such as India and Pakistan, tend to emphasize increasing tax revenue to support development expenditure.

Approach to tax incentives. ASEAN countries tend to use tax incentives more strategically to encourage investment and development of certain sectors, while some SAARC countries face challenges in rationalizing proliferative and not always effective tax incentives.

Level of regional coordination. ASEAN countries show a higher level of regional tax policy coordination, with initiatives such as the ASEAN Forum on Taxation aimed at reducing tax barriers in regional economic integration. Similar coordination is less developed among SAARC countries.

CONCLUSION

This research has explored and compared tax buoyancy in South and Southeast Asian countries through a comprehensive literature study approach. The analysis reveals several important findings:

1. **Significant variations in tax buoyancy across countries.** Tax buoyancy varies significantly in both regions, ranging from 0.58 in Afghanistan to 1.31 in Singapore. This variation reflects fundamental differences in economic structures, tax system design, institutional capacity, and fiscal policy approaches.
2. **Consistent patterns in responsiveness of various types of taxes.** In both regions, income tax and domestic consumption tax show higher buoyancy compared to international trade taxes. Income tax with progressive rate structures, in particular, shows higher buoyancy compared to taxes with fixed rates.
3. **Economic structural determinants.** Sectoral composition of the economy, level of economic openness, and level of economic informality are important determinants of tax buoyancy. Manufacturing and service sectors positively correlate with tax buoyancy, while the level of economic informality negatively correlates.
4. **Fiscal policy and tax system design determinants.** Tax rate structure, breadth and comprehensiveness of the tax base, tax policy mix, and effectiveness of tax administration have significant influence on tax buoyancy. Tax systems with progressive rate structures, broad tax bases, and efficient administration show higher buoyancy.
5. **Institutional and governance determinants.** Corruption and weak governance negatively correlate with tax buoyancy, while rule of law, regulatory quality, and political stability positively correlate. Countries with stronger institutions show higher and more stable tax buoyancy.
6. **Tax reform approaches.** Countries in both regions adopt various reform approaches to increase tax buoyancy, with convergence in focus on digitalization of tax administration and broadening of the tax base, but divergence in emphasis on competitiveness versus revenue.
7. **Economic base transformation.** Economic formalization, economic diversification, and development of the manufacturing and high-value service sectors have the potential to increase tax buoyancy through transformation of the economic base underlying the tax system.

These findings underscore the complexity of the relationship between economic structure, fiscal policy, institutional capacity, and tax buoyancy. Success in increasing tax buoyancy requires a comprehensive approach that integrates tax reform with structural economic transformation and institutional strengthening.

Policy Recommendations

Based on comparative analysis and research findings, several policy recommendations can be formulated to increase tax buoyancy in South and Southeast Asian countries:

Recommendations for Tax Structure Reform

1. **Adoption of progressive rate structures for income tax.** Countries with fixed or less progressive income tax rates, such as Pakistan, Malaysia, and Nepal, are advised to consider increasing progressivity in their income tax systems. Well-designed

progressive rate structures can increase tax buoyancy without sacrificing economic competitiveness.

2. **Rationalization of tax incentives and exemptions.** Countries should conduct systematic evaluation of the cost-effectiveness and benefits of tax incentives and exemptions, with the aim of expanding the effective tax base. This evaluation should consider not only the direct impact on tax revenue but also the indirect impact on economic growth, equity, and resource allocation.
3. **Diversification of tax policy mix.** Countries with high dependence on international trade taxes, such as Pakistan, Nepal, and Bangladesh, are advised to prioritize development of the domestic tax base, including income tax and consumption tax. This diversification can increase the stability of tax revenue and tax buoyancy.
4. **Modernization of consumption taxes.** Countries should consider modernization of their consumption tax systems, including broadening of VAT coverage, simplification of rate structures, and strengthening of collection mechanisms. An efficient and comprehensive VAT system can significantly increase tax buoyancy, as shown by the experiences of India, Thailand, and Sri Lanka.
5. **Integration of local taxes into the national fiscal framework.** Countries with multi-level tax systems, such as Indonesia and India, are advised to improve coordination between national and sub-national taxes to avoid overlap and inefficiency. Well-designed fiscal decentralization can increase overall tax buoyancy.

Recommendations for Strengthening Tax Administration

1. **Acceleration of tax process digitalization.** Countries should prioritize digital transformation in tax administration, including development of integrated online tax platforms, electronic tax payment systems, and utilization of technology to increase tax compliance. This digitalization should emphasize not only internal efficiency but also reduction of compliance costs for taxpayers.
2. **Implementation of risk-based compliance systems.** Tax authorities are advised to adopt a risk-based approach in compliance monitoring, allocating resources based on taxpayer risk profiles. This approach can increase the effectiveness of tax law enforcement and reduce the compliance burden for compliant taxpayers.
3. **Investment in analytical capacity.** Tax authorities should increase their capacity in data analytics, including predictive analytics and machine learning, to identify non-compliance patterns and increase the effectiveness of interventions. Enhanced analytical capacity can also support evidence-based policy development.
4. **Human resource development.** Investment in training and development of tax staff is crucial for increasing the effectiveness of tax administration. Capacity development programs should focus not only on technical aspects of taxation but also on management skills, customer service, and ethics.

Recommendations for Economic Structural Transformation

1. **Economic formalization.** Governments should adopt a comprehensive strategy for economic formalization, including simplification of business registration, development of digital payment systems, and incentives for formalization. This strategy should be designed with an understanding of the constraints and incentives faced by the informal sector.
2. **Economic diversification.** Countries with high dependence on certain sectors, such as Malaysia (oil and gas), Maldives (tourism), and Bhutan (hydroelectric), are advised to adopt a comprehensive economic diversification strategy. This diversification can reduce tax revenue volatility and increase fiscal sustainability.

3. **Development of manufacturing and high-value services.** Given the positive contribution of the manufacturing and service sectors to tax buoyancy, governments should prioritize policies that support the development of these sectors. These policies should include quality infrastructure, skills development, and a supportive regulatory framework.
4. **Increasing the inclusiveness of economic growth.** Inclusive economic growth, which involves previously marginalized groups, can expand the tax base and increase tax buoyancy. Policies to increase inclusiveness should include access to education, health, and financial services.

Recommendations for Institutional and Governance Reform

1. **Strengthening anti-corruption efforts.** Countries should prioritize eradication of corruption in tax administration through development of strong and independent anti-corruption institutions, increased transparency in tax processes, and strengthening of accountability mechanisms.
2. **Strengthening the rule of law.** A strong and effective legal system is essential for increasing tax compliance and reducing tax avoidance, with a positive impact on tax buoyancy. Reforms should include modernization of the tax legal framework, strengthening the capacity of tax courts, and consistent enforcement of tax laws.
3. **Increasing fiscal transparency.** Governments should increase transparency in public financial management, including publication of information on tax revenue and expenditure, analysis of tax policy impact, and evaluation of tax administration performance.
4. **Strengthening policy coordination.** Better coordination between tax policy, monetary policy, and real sector policy can increase the effectiveness of fiscal policy and tax buoyancy. Formal coordination mechanisms should be developed to ensure policy coherence.

Research Contribution and Limitations

Research Contribution

This research provides several significant contributions to the literature on tax buoyancy and fiscal policy in developing countries:

1. **Comprehensive comparative analysis.** This research presents a comparative analysis of tax buoyancy covering two important economic regions that are rarely compared simultaneously in previous studies, providing new insights about differences and similarities in tax buoyancy determinants.
2. **Multi-dimensional approach.** This research integrates various dimensions of tax buoyancy determinants—economic structural, fiscal policy, institutional—in a comprehensive analytical framework, providing a holistic understanding of factors that influence the responsiveness of tax systems.
3. **Contextual policy implications.** This research formulates specific and contextual policy recommendations for increasing tax buoyancy, taking into account the heterogeneity of economic conditions, institutional capacity, and policy priorities in both regions.
4. **Analytical framework for evaluating tax reform.** This research develops an analytical framework for evaluating the impact of tax reform on tax buoyancy, which can be applied in fiscal policy studies in other contexts.

Research Limitations

Despite this research's efforts to present a comprehensive analysis, several limitations need to be acknowledged:

1. **Dependence on secondary data.** This research relies on secondary data from various literature sources, which may have limitations in terms of novelty, completeness, and comparability. Differences in data collection methodology and variable definitions across studies may affect the validity of comparisons.
2. **Heterogeneity in analysis periods.** The reviewed studies cover varying analysis periods, which may be influenced by different economic cycles and policy changes, complicating direct comparison across countries.
3. **Focus on aggregate tax buoyancy.** Although this research presents some disaggregation analysis by tax type, the main focus remains on aggregate tax buoyancy, which may obscure important variations in the responsiveness of various components of the tax system.
4. **Limitations in causal analysis.** The literature study methodology limits the ability to establish strong causal relationships between the identified determinants and tax buoyancy, so findings should be interpreted with caution.

Future Research Directions

Based on the findings and limitations of this research, several directions for future research can be identified:

1. **More sophisticated econometric analysis.** Future research could adopt more sophisticated econometric methods, such as panel dynamics and structural equation modeling, to explore causal relationships between determinants and tax buoyancy more rigorously.
2. **Disaggregation of tax buoyancy analysis.** More detailed analysis of the responsiveness of various components of the tax system, including more specific tax categories and sub-categories within main taxes, could provide more nuanced insights about tax buoyancy determinants.
3. **In-depth case studies.** In-depth case studies of successful tax reforms that have increased tax buoyancy in certain countries could provide valuable insights about the practical implementation of policy recommendations identified in this research.
4. **Analysis of digitalization impact.** Given the importance of digital transformation in tax administration, future research could focus on the specific impact of various aspects of digitalization on tax buoyancy and tax system efficiency.
5. **Implications of global structural changes.** Future research could explore the implications of global structural changes, such as shifts toward the digital economy, climate change, and demographic transformation, on tax buoyancy and fiscal sustainability in South and Southeast Asian countries.

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