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The Trend Analysis of Public Education Expenditure: A Cross-Country Comparative Analysis with Focus on Nepal

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Abstract

Background

Public expenditure on education shapes human capital and long-run development, and this study situates Nepal's public education spending within cross-country trends from 2000 to 2024 to benchmark it against developed, emerging, and South Asian peers. Yet a consolidated long-horizon comparison that accounts for post-federalization budgeting and the COVID-19 period remains scarce, obscuring Nepal's relative performance and the scale of its financing shortfall.

Methods

Two indicators were analyzed using secondary time-series data from the World Bank: government education expenditure as a share of GDP and as a share of total government expenditure. Countries were grouped (developed, emerging, South Asia), and trends were summarized with descriptive trajectories and group comparisons based on Excel-processed series.

Results

Developed economies generally align with the GDP benchmark and show stable budget shares through 2020-2021; emerging economies display steady upward trajectories without a pronounced pandemic-year dip in the nominal series. Most South Asian systems remain below international reference ranges on one or both indicators. Nepal's series lies between these poles, about 3 to 5 percent of GDP and roughly 10 to 22 percent of public outlays, indicating material effort that is frequently short of benchmark levels.

Conclusion

Benchmarks are informative signposts, but performance depends on sustaining real effort through shocks and on how funds are composed and executed. For Nepal, the comparative evidence points to a dual task: align finance levels more consistently with international reference ranges and strengthen spending quality so allocations translate into broad, durable gains in social and economic sectors.

Novelty

The study provides a comparative, benchmark-referenced trend profile for Nepal against developed, emerging, and South Asian groups, incorporating the 2020-2021 shock to aid interpretation while remaining focused on public-finance trends rather than causal claims.

Keywords: Public expenditure, education expenditure, human capital, Nepal, comparative analysis.

Introduction

People have long recognized that education is a vital factor in both social development and economic growth. Public investment in education is a key factor in building human capital, increasing productivity, and speeding up economic growth in many different countries. The countries that consistently spend a large part of their GDP and national budget on education tend to have more stable and fair economic growth (World Bank, 2024). This is especially important in a world economy that is becoming more and more dependent on knowledge, innovation, and digital skills. In this economy, making education a top priority is both a developmental need and a competitive need. This basic understanding has not only influenced national education policies but has also led to the development of theoretical frameworks, the most important of which is Human Capital Theory, which explains how education drives long-term economic growth.

The link between education and economic growth is well-supported by economic theory, especially Human Capital Theory, which says that spending money on education pays off in the long run by making workers more productive, helping them adapt to new technologies, and building better institutions (Becker, 2009; Hanushek & Woessmann, 2020b). In this sense, spending on public education, as measured by indicators such as the education share of GDP or the total government budget, is not just a financial commitment; it also demonstrates a country's intention to invest in its future skills.

Even though these connections are well-known, countries spend very different amounts on education. Historically, high-income countries like Sweden, Canada, and South Korea have provided strong funding for education and have seen the benefits in terms of innovation, job creation, and global competitiveness (OECD, 2022). On the other hand, many low- and middle-income countries still have fiscal, structural, and political problems that make it hard for them to invest enough in education, even though they are dealing with high levels of unemployment, inequality, and skills mismatch (UNESCO, 2022). This disparity in educational investment underscores the urgent need for strategic reforms in resource-constrained nations, where unlocking the full potential of education could serve as a powerful lever for inclusive and sustainable economic growth and development.

Nepal presents a compelling case within this global landscape. As a low-income South Asian country experiencing significant political and economic transition, Nepal has gradually increased its focus on education financing, especially after adopting federalism in 2015. Government commitments to achieving the Sustainable Development Goals (SDGs), particularly SDG 4, Quality Education, are reflected in successive national plans and budgets (NPC, 2020). However, the proportion of public spending on education remains volatile and often falls short of international benchmarks. UNESCO (2022) recommends that countries allocate 4-6% of GDP and 15-20% of total government expenditure to education, but Nepal's figures have frequently remained below these thresholds.

This reality underscores the urgency of understanding how public education expenditure in Nepal compares globally, particularly across developed, emerging developing, and South Asian countries. Through a trend analysis of cross-country expenditure patterns from 2000 to 2024, this study aims to provide both a macro-level perspective and a context-specific insight into Nepal's education financing. Such an investigation is crucial for informing evidence-based policy reform, optimizing resource allocation, and reinforcing Nepal’s path toward inclusive and sustainable economic growth.

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Literature Review

Theoretical Stance: Education, Public Expenditure, and Economic Growth

The theoretical foundation for analysing the role of education in economic growth lies primarily in the human capital perspective, developed by economists such as Schultz (1961) and Becker (2009). This thought conceptualises education as an investment that enhances individual capabilities, increases productivity, and contributes to aggregate national income. At its core, the theory posits that a more educated workforce is not only more productive but also more adaptable to technological change and innovation, ultimately fostering sustained economic growth.

Empirical expansions of Human Capital Theory have further strengthened this position. Hanushek and Woessmann (2020b) emphasized that learning outcomes, not just years of schooling, are critical for long-term economic progress. According to them, countries with higher cognitive skills, often nurtured through effective education systems, exhibit faster and more equitable economic growth. Similarly, Romer's (1990) endogenous growth theory supports the idea that investment in human capital, including education, drives technological innovation and productivity, which are self-reinforcing over time.

Moreover, education expenditure is considered a public good with long-term spillover effects (Samuelson, 1954). As such, public policy plays a vital role in funding and facilitating equitable access to quality education. Modern public finance theories argue that investments in education improve the allocation of resources, reduce social disparities, and promote inclusive development (Musgrave & Musgrave, 2017). Thus, sustained public investment in education is essential for fostering equity and long-term economic progress in society.

Policy Provisions of the Nepal Government and Empirical Insights

Nepal's policy path over the past two decades has increasingly recognized the centrality of education to national development. The country has aligned its strategic plans with global goals, particularly SDG 4, which advocates for inclusive and equitable quality education and lifelong learning for all. The Sixteenth Plan (2024/25–2028/29) of Nepal emphasizes expanding access, improving quality, and ensuring equity in education. It aims to allocate at least 15 percent of the total national budget and 4 percent of GDP to education (NPC, 2024) in line with UNESCO's (2022b) global benchmarks.

However, actual allocations have often lagged behind these targets. According to the Economic Survey 2024/25 by the Ministry of Finance (MoF), education received approximately 11.6 percent of the national budget, representing about 3.3 percent of GDP, figures below the UNESCO recommendation of 4-6 percent of GDP and 15-20 percent of government expenditure (MoF, 2025). These discrepancies highlight a persistent challenge in translating policy commitments into budgetary realities.

Although national plans set clear financing targets, budgeting and execution reveal binding constraints. In the post-federal context, local-level school-education outlays are financed predominantly through federal conditional grants, about 97% in 2018, leaving little room for local priority setting; local governments devoted only around 2.2% of their discretionary resources to social sectors, and recurrent items accounted for over 95% of education spending in FY 2018 (World Bank, 2022b). In parallel, the school sector has relied heavily on pooled external financing: under the School Sector Development Plan, development partners committed approximately US$485 million through a Joint Financing Arrangement (Europian Union, 2017) and for the School Education Sector Plan, eight Joint Financing Partners committed US$780 million for 2023-2027, with an estimated funding gap of about US$900 million (UNICEF Nepal, 2023). More recent program documents indicate a remaining gap of roughly US$472 million as of April 2025 (World Bank, 2025a). These figures substantiate continued reliance on foreign aid for the operation of educational projects and plans in Nepal. It means Nepal's public education financing heavily depends on foreign aid and grants.

On the empirical front, studies have found that public expenditure on education in Nepal is positively correlated with economic growth indicators such as GDP per capita and labour productivity. For example, Paudel (2023) used time-series econometric analysis and found that a 1 percent increase in capital education expenditure led to a 5.59 percent increase in GDP, compared to 2.57 percent from current expenditure. Similarly, Khanal (2020) found the positive role of education in the economic growth of Nepal. This highlights the greater economic return from public investment in education.

Another cross-country panel analysis by Mallick et al. (2016), which included Nepal, revealed a statistically significant and positive relationship between education spending and GDP growth across 14 Asian countries. Similarly, Nowak and Dahal (2016) demonstrated through cointegration techniques that secondary and higher education enrolment in Nepal is positively associated with long-run GDP growth. The enrolment rates are directly connected with the education investment. So, the public investment in education is crucial for sustainable economic growth. These findings validate the theoretical claims that investment in human capital, particularly through public funding in education, contributes directly and indirectly to economic advancement. Nonetheless, challenges persist in ensuring efficient allocation, utilization, and outcomes of such spending.

South Asia records the highest private-school enrolment shares globally at the primary and secondary levels, alongside the largest regional household share of total education spending (about 38%). In Nepal, households finance roughly half of total education spending, and approximately one-quarter of primary enrolment is in private schools (UNESCO, 2021). This public-private mix does not alter the definition of public education expenditure used in this study, but it does affect interpretation: (a) a larger role for NSAs can shift costs from government to households; (b) cross-country comparability improves when readers understand the background composition of total education finance; and (c) policy implications differ when increases in public outlays occur alongside rising private payments. Accordingly, in reporting public-expenditure trends and benchmark gaps, this review briefly situates Nepal within the regional NSA landscape to avoid understating total investment in human capital.

Despite the well-established link between education expenditure and economic growth, there is a noticeable lack of recent and comprehensive trend analysis comparing Nepal's public education spending with that of developed countries, emerging developing countries, and South

Asian countries, which includes the least developed countries as well. Existing studies often focus on isolated time periods, aggregate national data, or singular economic indicators, without examining long-term patterns across comparable economies. Moreover, the implications of Nepal's post-federalization fiscal landscape and the broader impact of global events such as the COVID-19 pandemic have not been adequately integrated into trend-based analyses. This gap limits Nepal's ability to assess its relative performance, draw policy lessons from global peers, and make data-driven decisions for future investment in education.

Methods

This study adopts a quantitative and comparative research design grounded in the analysis of secondary time-series data. The aim is to examine the longitudinal trends in public education expenditure across selected countries, with a particular focus on Nepal, to understand its positioning within global and regional contexts. This method allows for the exploration of macro-level fiscal patterns in education over a sustained period, contributing to the broader discourse on education financing and economic growth.

Data Sources and Variables

All data used in this study were retrieved from the World Development Indicators (WDI) maintained by the World Bank (2025b). The WDI provides internationally harmonized and regularly updated datasets, widely used in empirical economic and social research for their reliability and cross-national comparability. The use of WDI ensures consistency in data definitions, collection methods, and classification across countries.

Two main indicators were used to measure the scale and importance of public investment in education. The first, government expenditure on education as a percentage of Gross Domestic Product (GDP), acts as a macroeconomic measure showing how much of a nation's total economic output is allocated to education. This indicator indicates how much a country values education within the broader scope of national development and economic planning. The second, government expenditure on education as a percentage of total government spending, offers insight into the internal fiscal prioritization of education within the public budget. It demonstrates how education competes with other sectors for public resources and is a key indicator of the government's policy focus on human capital development. Collectively, these indicators provide a comprehensive view of both the economic ability and political commitment behind a country's investment in education.

These indicators are aligned with global benchmarks recommended by UNESCO, which suggest that countries allocate between 4-6 percent of GDP and 15-20 percent of public expenditure to education (UNESCO, 2022b). These thresholds serve as normative reference points for comparing the performance of individual countries, including Nepal. Moreover, each variable was sourced from the website exactly as analyzed here, and no extra processing was undertaken.

Country Groupings and Selection Criteria

This study uses a purposeful sampling of countries divided into three groups for cross-country comparison. The first group includes developed nations (e.g., Australia, Canada, Denmark, Norway, Sweden, the UK, and the USA), selected for their strong fiscal capacities and mature education systems, serving as benchmarks for global best practices in public education investment. The second group comprises emerging economies (e.g., Brazil, India, China, South Africa), chosen for their growing influence in economic and educational sectors, enabling analysis of shifting investment trends during rapid development. The third group features South Asian neighbours (e.g., Bangladesh, Sri Lanka, Pakistan, Bhutan, Maldives, Afghanistan, India), which, like Nepal, share common structural features, such as similar education system patterns, economic transitions from least developed to developing status, and resource constraints. This classification allows for an integrated assessment of how Nepal's public education expenditure trends compare with and differ from both regional peers and global courses.

The study examines public education expenditure trends from 2000 to 2024 using two indicator series from the World Bank: government expenditure on education as a percentage of GDP and government expenditure on education as a percentage of total government spending. Both indicators are reported in percent in the databank, so no additional transformation was required. The data were organized and visualized in Microsoft Excel, and line graphs were used by inserting the function of Excel to display the annual trajectories for each country and for the comparison sets. To compare country groups such as developed countries, emerging developing countries, and South Asian countries, we calculated the average value for each indicator over the entire 25-year period using the average function in Excel. These twenty-five-year averages were then used to compare the groups and to position Nepal within them. The same procedure was applied to both indicators to ensure a consistent basis for comparison across countries and groups.

Results

The Trend of Public Expenditure in Education in South Asian Countries

South Asia, located in the southern part of the Asian continent, comprises eight countries: Afghanistan, Bangladesh, Bhutan, India, the Maldives, Nepal, Pakistan, and Sri Lanka. Figures 1 and 2 show the trajectories of educational expenditure as a share of total government outlays and of GDP from 2000 to 2024. The patterns display pronounced cross-country variation that reflects differences in fiscal capacity, competing budget priorities, and the place of education within national development strategies. Read alongside the figures, these contrasts provide the comparative frame for interpreting Nepal's position within the region.

Afghanistan remains among the least developed countries, with fragile infrastructure and constrained access to basic services, including schooling. Prolonged conflict has disrupted institutions and delivery systems, with sustained effects on participation and quality (M. M. Rahman, 2018). From 2000 to 2024, education's share of the national budget generally ranged between about 10 percent and 17 percent, while spending as a share of GDP fluctuated around 3 percent to 4 percent. These levels underscore the pressure of security and humanitarian demands on the budget and help explain why education efforts have remained below widely cited international benchmarks.

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Bangladesh has recorded notable advances in both the economy and education in recent years, supported by an expanding manufacturing base and deliberate policy initiatives that have improved literacy and access (T. Rahman et al., 2019). Yet between 2000 and 2024, public education spending remained modest, at roughly 1 percent to 2 percent of GDP and 10 percent to 18 percent of total government expenditure. This places Bangladesh at the lower end within South Asia and below common international reference levels, indicating a continuing gap between social sector ambitions and the fiscal space devoted to education.

Bhutan, a small mountainous state, has pursued a coherent human development agenda in which education, health, and poverty reduction reinforce one another. The government's commitment to free schooling up to age eighteen is emblematic of this approach and has supported steady gains in enrolment and completion (Schuelka & Maxwell, 2016). Between 2000 and 2024, education spending amounted to about 4 percent to 8 percent of GDP and 11 percent to 20 percent of total government expenditure. These values lead the region and frequently meet or exceed widely used global benchmarks, reflecting both policy priority and relatively effective public finance management in the sector.

India, the region's largest economy, operates a vast education system that includes a large network of higher education institutions. Persistent regional disparities and pockets of low literacy, however, remain central challenges for equity and learning (Kotásková et al., 2018). Between 2000 and 2024, public education spending was around 3 percent to 5 percent of GDP, and education's share of total government expenditure ranged from about 11 percent to 17 percent. While these levels have been relatively stable, they generally fall short of international benchmarks, suggesting scope for both greater fiscal prioritization and improved effectiveness in translating allocations into learning outcomes.

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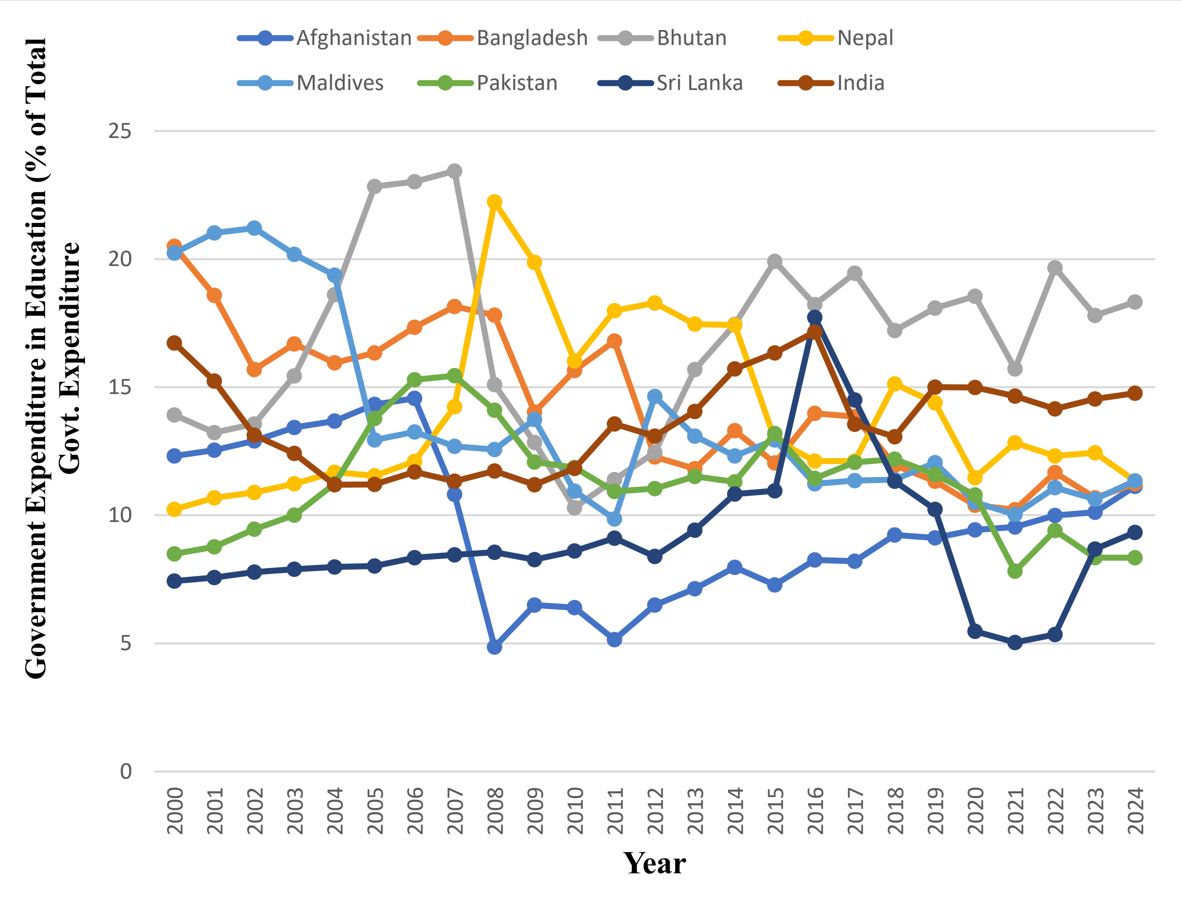
Figure 1: *The Trend of Percentages of Education Expenditure of Total Expenditure of Government in South Asian Countries*



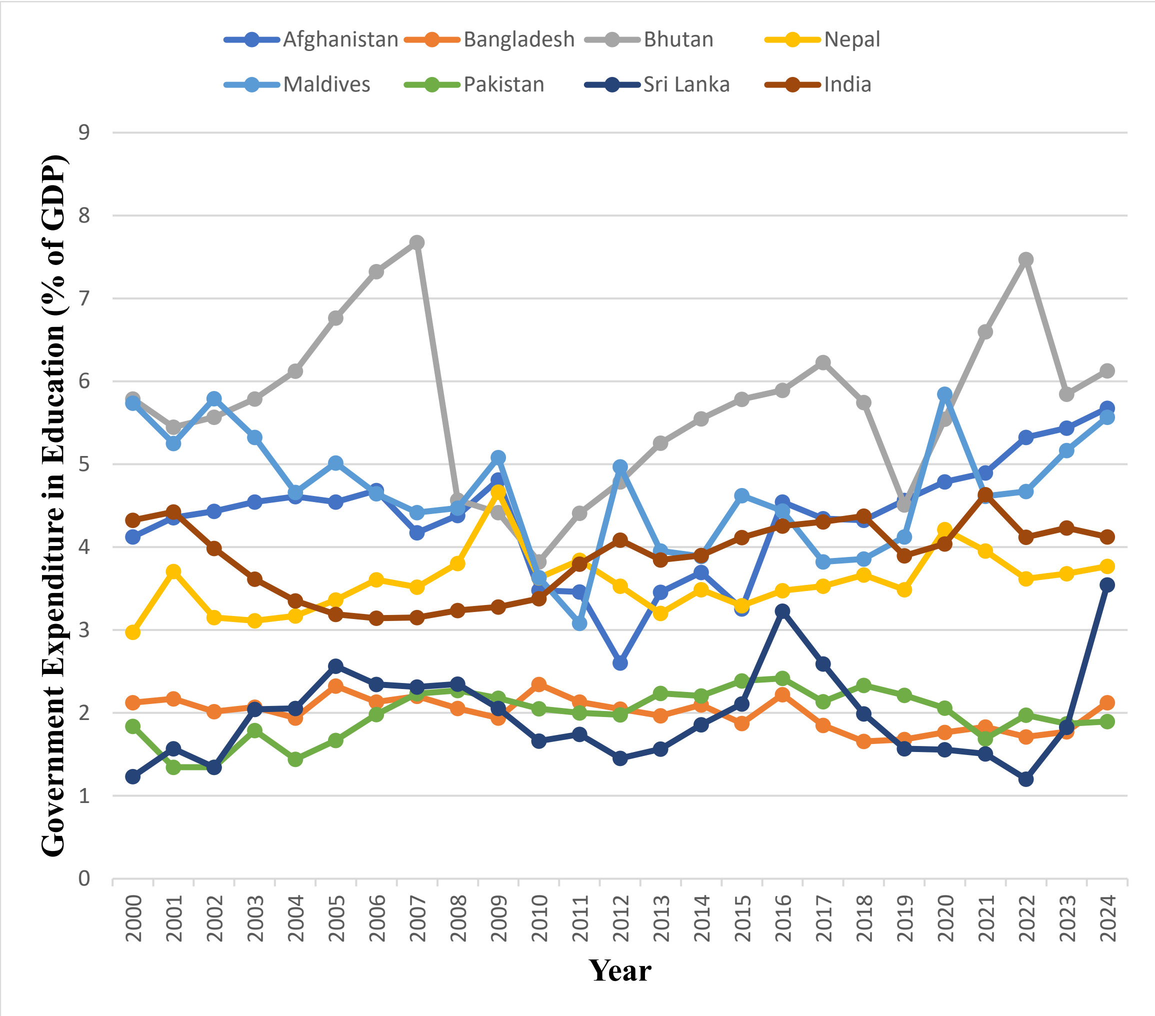
Source: Author's presentation using the data from the World Bank (2025b)

Education expenditure in the Maldives averages about 3 to 5 percent of gross domestic product and about 10 to 14 percent of total government spending from 2000 to 2024. A visible softening during the early pandemic years aligns with global evidence of a contraction in real education outlays in 2020 (World Bank, 2022a), and the country's heavy reliance on tourism and fisheries helps explain the sensitivity of fiscal space to external shocks (Gupta, 2018). Sustaining effort at the lower bound of international reference ranges while keeping the budget share below benchmark levels risks constraining quality and resilience; the Maldives should raise the budget share of education as revenues recover and build buffers that protect learning during future shocks.

Nepal's public education spending ranges between about 3 and 5 percent of gross domestic product, with education's share of the government budget fluctuating between about 10 and 22 percent across 2000 to 2024. The temporary dip from 2020 to 2021 is consistent with the global pandemic shock to education finance (World Bank, 2022a), while literature documenting gains in access and literacy provides important context for interpreting these levels (Nowak & Dahal, 2016). The central challenge is to convert steady allocations into stronger outcomes, which requires pairing stable or higher funding with efficiency-oriented reforms in budgeting and service delivery so that each additional rupee yields demonstrably better learning.

Pakistan allocates about 2 to 3 percent of gross domestic product to education, and about 10 to 15 percent of total government spending, with little sustained upward movement from 2000 to 2024. These levels sit below common benchmark ranges and align with evidence of persistent regional disparities in access and learning (Aman et al., 2022). In a South Asian context marked by a large role for non-state actors amid low public effort, distributional concerns can intensify (UNESCO, 2022b). Without a decisive increase in public financing and stronger regulation that ensures equitable quality across providers, Pakistan is likely to entrench a two-tier system that widens inequality in educational opportunities.

Figure 2: *The trend of the Percentages of Education Expenditure on GDP of South Asian Countries*



Source: Author's presentation using the data from the World Bank (2025b)

Sri Lanka has made sustained gains in education and human development, with adult literacy exceeding ninety-two percent and a long tradition of broad access and completion (UNESCO, 2022). Recent work documents improvements in access, quality, and progression at primary and secondary levels, supported by steady public commitment (Rathanasiri, 2020).

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These achievements are noteworthy, but maintaining momentum now depends on converting expanded access into durable learning gains and equitable quality across regions rather than relying on legacy strengths alone.

Between 2000 and 2024, the share of gross domestic product devoted to education fluctuated between two and six percent, while education's share of total government expenditure ranged from eight to seventeen percent, based on the World Development Indicators series (World Bank, 2025b). Taking into account widely used finance benchmarks, four to six percent of GDP and fifteen to twenty percent of public expenditure, Sri Lanka sits near the lower to mid-range on the GDP indicator and falls short on the budget-share indicator in many years (UNESCO, 2022b). Meeting the GDP benchmark only intermittently and undershooting the budget-share benchmark indicates a prioritization gap; closing it will require sustained fiscal commitment and sharper execution so that additional rupees purchase measurable improvements in teaching and learning.

Regionally, South Asia devotes around four percent of GDP to education on average, below the global mean of roughly 4.8 percent, and many systems experienced a pandemic-related softening in real education spending in 2020 (UNICEF, 2020; World Bank, 2022a). Bhutan has often met or exceeded the benchmarks, illustrating what consistent prioritization can achieve even in smaller economies. Sri Lanka performs above parts of the regional distribution yet still trails global comparators; the policy imperative is to consolidate fiscal effort and protect quality-enhancing expenditures, especially teacher support and learning recovery, amid shocks and competing claims on the budget.

Viewed through these patterns, the message for South Asia is clear: the region is consistently underinvesting in education and needs to move from gradual changes to intentional fiscal prioritization. Governments should aim for sustained allocations of four to six percent of GDP and fifteen to twenty percent of public spending. However, these headline shares only matter if resources are protected during shocks and directed toward things that improve learning, such as teacher time and coaching, strong school leadership, foundational literacy and numeracy, learning materials, and maintaining essential infrastructure. Budget implementation must become more transparent and performance-based, with midyear adjustments when learning outcomes fall behind. In areas where a large non-state sector exists alongside low public effort, equity safeguards are crucial to prevent private growth from creating a two-tier system; this involves fair regulation of fees and standards, smart targeting of public subsidies, and data on who benefits. Bhutan demonstrates that consistent prioritization is achievable even for small economies, whereas Sri Lanka's position, higher than some regional parts but still behind global peers, highlights the need to establish a medium-term fiscal plan, protect quality-enhancing expenditures, and speed up learning recovery.

The Trend of Public Expenditure in Education in Developed Countries

Developed nations, often referred to as industrialized countries, are characterized by advanced economic structures, substantial levels of industrialization, and elevated standards of living. These countries typically exhibit a high gross domestic product (GDP) per capita, sophisticated infrastructure, and a highly educated citizenry (Sergi et al., 2019). Nations

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frequently identified within this category include the United States, Canada, Australia, Japan, the countries of Western Europe, and certain states in the Middle East. These societies are marked by robust economic development, low incidence of poverty, and consistently high rankings on the Human Development Index (HDI). The trends in public spending on education, both as a share of GDP and as a proportion of national budgets, are depicted in Figures 3 and 4.

Developed economies in my sample display sustained public investment in education with relatively stable trajectories across 2000-2024, generally meeting or approaching the GDP-share benchmark while showing more variation on the budget-share indicator as education competes with wider welfare spending. Policy orientation in these systems has progressively emphasized access with quality, most visibly through the expansion of early childhood education, skills-oriented upper-secondary pathways, and vocational tracks, alongside efforts to align provision with demographic change and technological transitions. The time series also registers a temporary softening around 2020-2021, consistent with evidence of a pandemic-year contraction in real education spending, after which most lines resume their prior paths (Al-Samarrai et al., 2020). The core risk for high-income systems is complacency, maintaining headline shares while tolerating composition shifts that undercut learning; budgets should be countercyclical and performance-informed, ring-fencing quality-enhancing items such as early learning, teacher professional development, and learning recovery so that stable expenditure translates into measurable gains in achievement and equity.

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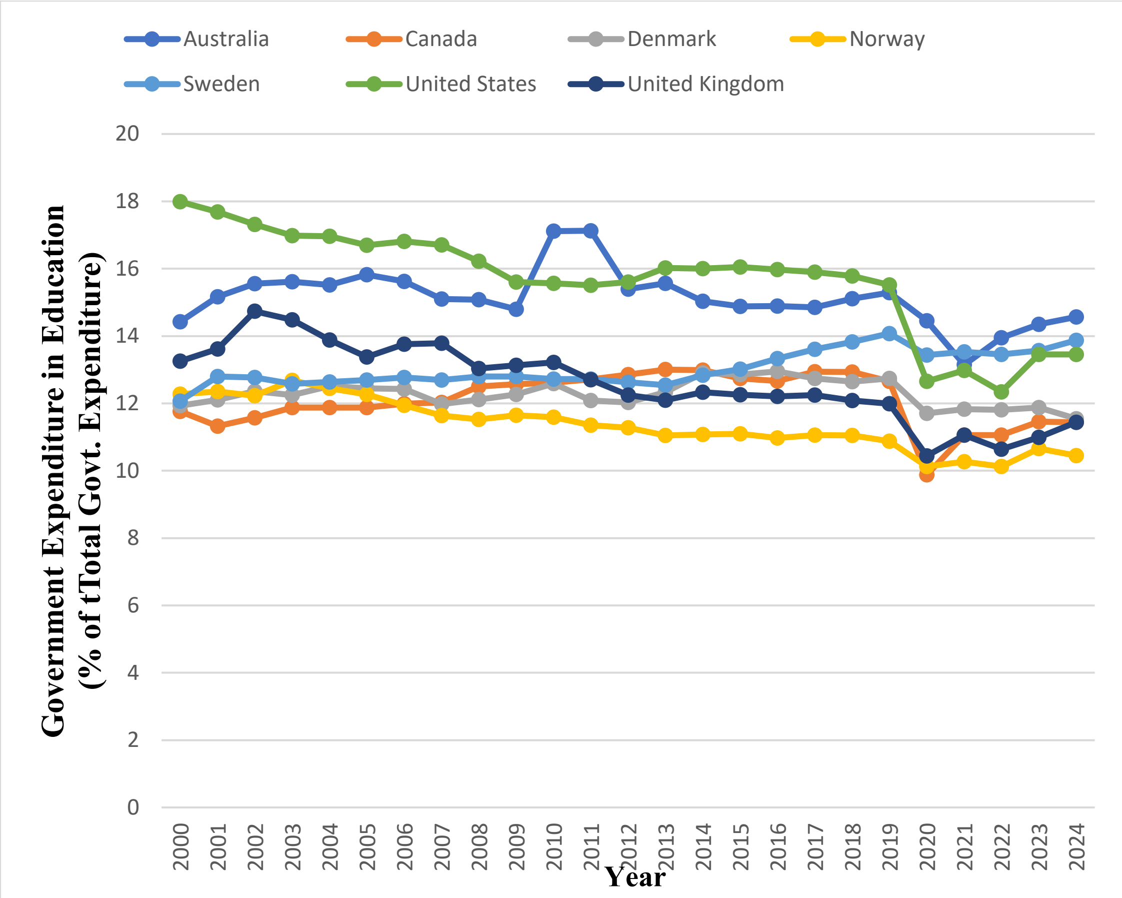
Figure 3: *The trend of the Percentage of Educational Expenditure to Government Budget in Developed Countries*



Source: Author's presentation using the data from the World Bank (2025b)

Across developed economies, public education spending shows mixed trajectories over 2000-2024: some systems raised both the GDP share and the budget share, while others held steady or declined modestly as priorities shifted. Australia's series is comparatively stable, with education accounting for about 13-15 percent of total government expenditure and 5-6 percent of GDP over the period (figures 3 and 4). Set against widely used international benchmarks (4-6 percent of GDP and 15-20 percent of public expenditure), Australia generally meets the GDP threshold while sitting just below the budget-share range in many years. The priority is not merely to edge the headline shares upward but to safeguard the composition of spending, protecting early learning, teacher professional development, and learning-recovery lines, so that stable effort translates into measurable gains in attainment and equity.

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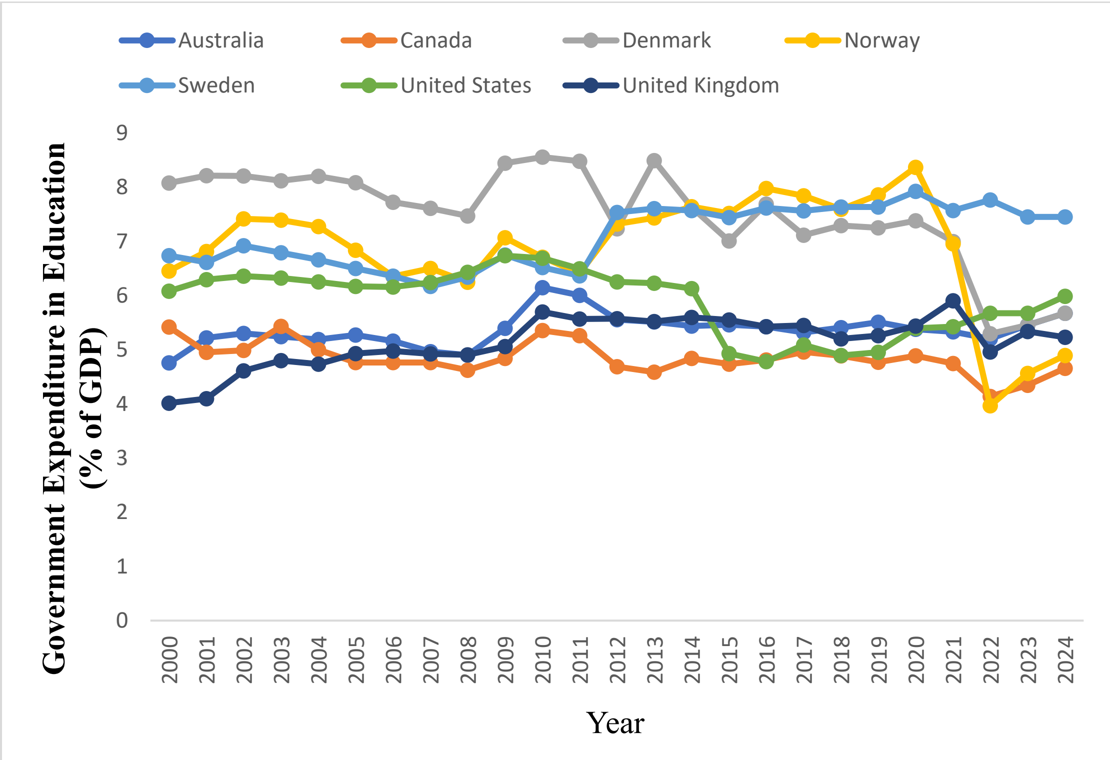
Figure 4 : *The trend of the Percentage of Educational Expenditure to GDP in Developed Countries*



Source: Author's presentation using the data from the World Bank (2025)

Over the past twenty-five years, Canada's public education outlays have been about five to five and a half percent of gross domestic product and roughly ten to fifteen percent of total government expenditure. Set against the four to six percent of GDP and fifteen to twenty percent of expenditure reference ranges used for international comparison, the GDP share generally aligns, while the budget share is often below the range. These trend levels, viewed alongside a large economic base and small population size, help explain how Canada sustains broadly inclusive and advanced provision of education even when the budget share does not always reach the benchmark.

From 2000 to 2024, Denmark's series reports education spending around twelve to fifteen percent of gross domestic product and about 6 to 8.6 percent of total public expenditure. Relative to the UNESCO reference ranges, the GDP share is high in our data, while the budget share typically sits below the benchmark band. Read purely as trends, these profiles are consistent with a high-income context in which scale and stable commitment allow quality and equity to be maintained despite a budget share that falls short of the benchmark in many years.

Norway records education spending of about six to eight percent of gross domestic product and about ten to eighteen percent of total government expenditure over the period. According to the UNESCO ranges, the budget share frequently meets or exceeds the reference band, while the GDP share varies around it. Taken together, these trajectories, interpreted in light of substantial fiscal capacity and a relatively small population, clarify how Norway delivers broad access and advanced provision even when benchmark alignment is not continuous across years.

Sweden's public education expenditure has been about six to seven and a half percent of gross domestic product and about twelve to fifteen percent of total government spending in the past thirteen years. Compared with UNESCO's reference points, the GDP share sits near the benchmark, and the budget share lies at the lower edge of the band. The observed paths, combined with the scale of the economy and a durable state commitment to education, support the conclusion that Sweden sustains inclusive and advanced provision even where the budget share does not consistently meet the benchmark.

The United Kingdom spends about five to six percent of gross domestic product on education and roughly eleven to thirteen percent of total public expenditure from 2000 to 2024. In relation to UNESCO's ranges, the GDP share meets the lower bound, while the budget share remains below the target band. These trend characteristics, considered alongside a large economy and established universal access, indicate that the system can remain extensive and advanced despite budget shares that fall short of benchmark levels.

The United States allocates about five to seven percent of gross domestic product to education and about twelve to sixteen percent of total government expenditure from 2000 to 2025. Set against UNESCO's reference ranges, the GDP share aligns with the lower end, while the budget share is often below the band. Read as trends, the combination of a very large economy, diversified revenue base, and sustained public commitment helps account for broad access and advanced provision even when finance shares do not always reach benchmark thresholds.

A comparative analysis of these trends indicates that while many developed countries meet or approach the benchmark for education spending relative to GDP, most fall short when it comes to allocating the recommended share of their total government budgets to education. Nonetheless, countries such as Australia, Canada, Denmark, Norway, Sweden, the United Kingdom, and the United States have established strong education systems characterized by commitments to equity, access, and educational quality. These systems, even when operating below financial benchmarks, underscore the critical role that sustained investment in education plays in fostering human development and economic progress.

Moreover, across the developed economies in my sample, the time series are notably resilient through 2020–2024: education outlays as shares of GDP and of total public expenditure remain broadly stable, with no pronounced contraction comparable to that observed in several South Asian systems. This pattern is consistent with evidence that high-income countries buffered social sectors during the pandemic, despite global findings that about half of the countries reduced real education spending in (Al-Samarrai et al., 2020; World Bank, 2022a). OECD indicators likewise show relatively steady public education shares across the membership during the crisis window (OECD, 2023). Read against figures, the absence of a visible dip suggests that fiscal capacity, automatic stabilizers, and established budget protections helped preserve education's trend trajectory, reinforcing the interpretation that these systems prioritized continuity of provision when macroeconomic conditions deteriorated.

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A second feature of the series is that several developed countries meet the lower bound of the GDP benchmark but fall short on the budget-share benchmark, yet still sustain extensive, inclusive, and advanced provision. That juxtaposition is intelligible in light of large economic bases and moderate population sizes, which allow a given percentage to translate into substantial absolute resources, alongside a long-standing state commitment to (OECD, 2023). Taken together, the trends support a simple conclusion: benchmark alignment is informative for international comparison, but in high-income contexts, the combination of scale and stable prioritization can maintain quality and equity in education even when headline budget shares lie below the normative band.

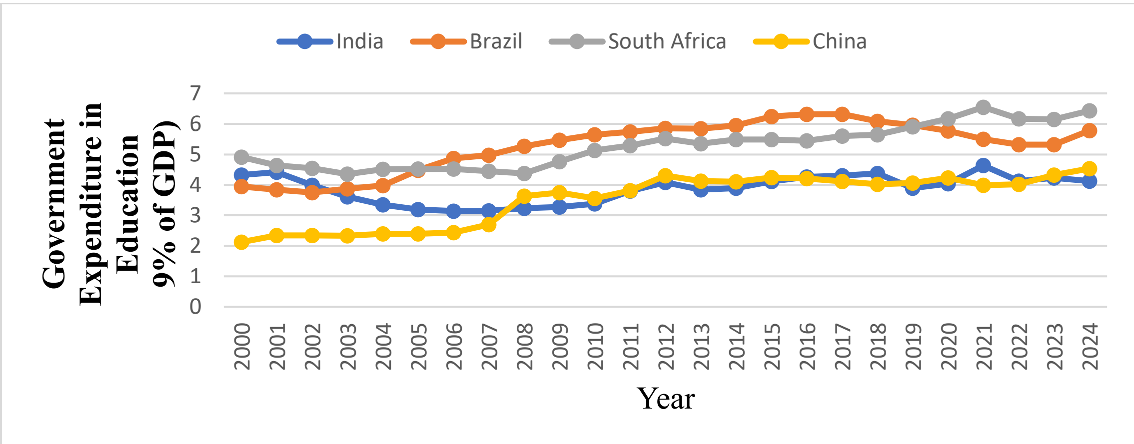
The trend of Public Expenditure in Education in Emerging Developing Countries

Emerging developing countries are those undergoing rapid economic transformation, marked by accelerating industrialization, expanding middle classes, and substantial population sizes. Nations such as Brazil, India, China, and South Africa exemplify this group, having recorded robust economic growth over recent decades, at times outpacing that of more established economies (Radulescu et al., 2014).

Educational financing in these countries has increasingly become a policy priority, reflected in rising public expenditure ratios relative to both GDP and national budgets. Notably, the average ratio of public spending on education to GDP in emerging economies rose from 3.9 percent in 2000 to 4.5 percent by 2024 (World Bank, 2022a). These trends are illustrated in Figures 5 and 6.

India offers a representative case within this context. Over the past decade, its public investment in education has remained relatively stable, with spending ranging between 3.3 percent and 4.5 percent of GDP. Simultaneously, the share of education in the total government budget has fluctuated between 11 percent and 17 percent. Although these figures remain slightly below the UNESCO benchmarks, four to six percent of GDP and fifteen to twenty percent of total government expenditure, India's commitment to education has shown a positive path, with incremental increases observed in recent years.

Figure 5: *The trend of the Percentage of Educational Expenditure to the Government Budget in Emerging Developing Countries*



Source: Author's presentation using the data from the World Bank (2025b)

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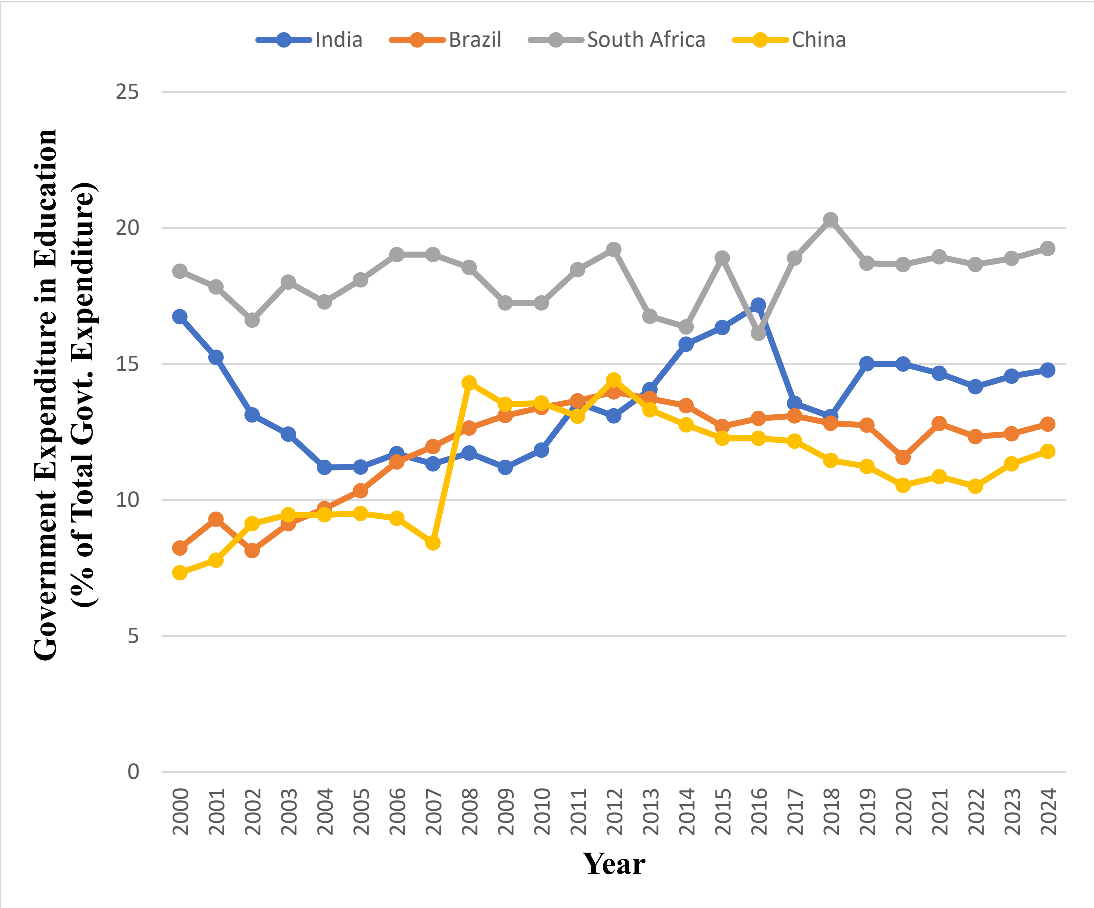
China has made notable strides in education investment over the past decade, with public expenditure on education ranging from 3.5 percent to 4.5 percent of its Gross Domestic Product (GDP) between 2000 and 2024. During the same period, education accounted for approximately 10.5 percent to 15 percent of the national budget. Although these figures remain just below UNESCO's recommended benchmarks (2022), four to six percent of GDP and fifteen to twenty percent of total government expenditure, they reflect a consistent upward trend, indicative of China's prioritization of education as a key component of its development agenda.

As an emerging and developing country, China has enacted a series of strategic policies aimed at expanding access to education. These include eliminating tuition fees for compulsory education in rural areas and significantly investing in vocational education. Parallel efforts have also been made to raise the quality of instruction through improved teacher training and fostering pedagogical innovation in the classroom environment (Sun et al., 2018). These policy choices are consistent with the upward trajectory and consolidation of China's public education expenditure observed in the data, helping to translate sustained fiscal effort into system-wide expansion while maintaining a clear focus on education for better economic performance.

Figure 6: *The trend of the Percentage of Educational Expenditure to GDP in Emerging Developing Countries*



Source: Author's presentation using the data from the World Bank (2025b)

Brazil has demonstrated a marked increase in education investment over the past decade. Between 2000 and 2024, the ratio of education expenditure to Gross Domestic Product (GDP) ranged from 5.3 percent to 6.3 percent, placing it above UNESCO's recommended threshold of four to six percent. Additionally, the share of the education budget within total government expenditure varied between 14 percent and 16 percent. While this reflects Brazil's strong commitment to the education sector, the proportion still falls just short of UNESCO's benchmark of fifteen to twenty percent.

South Africa has also shown substantial progress in public education financing during the same period. From 2000 to 2024, its education expenditure accounted for between 4.3 percent and 6.6 percent of GDP. At the same time, education represented between 17 percent and 20 percent of the total government budget, placing South Africa squarely within UNESCO's recommended ranges and underscoring the country's strategic focus on educational development.

As Hanushek and Woessmann (2020b) emphasize, education is a foundational pillar for economic growth and national development, which is possible through high and sustainable financing in education. Emerging developing economies show a clear upward trajectory in public education expenditure from 2000 to 2024, reinforcing the view that education is a core engine of long-run growth. Notably, the data series does not display a pandemic-year dip; this suggests that, despite global evidence of real spending pressures in 2020, these countries largely protected education within their fiscal frameworks as the crisis unfolded (World Bank, 2022a). While several still fall short of the UNESCO reference range on one or both indicators, sustained increases against a backdrop of large economic bases and very large populations translate even modest percentage shares into substantial absolute resources (UNESCO, 2024). Read together, the trends support a simple conclusion: consistent public financing, maintained through the COVID-19 shock and scaled by economic size, has enabled these systems to expand access while strengthening quality, helping to power their advancing technological capacity and robust economic performance in the global arena.

Discussion

Across the three groups, public education spending diverges in both level and stability, and these differences map closely onto the human-capital and endogenous-growth perspectives: systems that sustain effort and translate shares into sizeable resources accumulate skills and productivity more reliably (Becker, 2009; Romer, 1990; Schultz, 1961). Developed economies in the sample generally meet the GDP-share reference while allocating a smaller budget share; emerging economies show steady consolidation; most South Asian systems under-allocate on one or both indicators, a pattern shaped by the region's large non-state footprint and household financing (UNESCO, 2021). Nepal's trajectory, about 3 to 5 percent of GDP and roughly 10 to 22 percent of public outlays over 2000-2024, remains frequently below the 15-20 percent budget guideline even when the GDP share nears the 4 to 6 percent band (UNESCO, 2022b). Read against these frames, Nepal's effort is material but not benchmark-consistent, which helps explain its mid-table standing despite rising policy attention.

Education Finance Watch reports that about half of the countries reduced real education spending in 2020, even where nominal series were flat (World Bank, 2022a). The data series are consistent with this context: several South Asian lines, including Nepal's, soften around 2020-2021, whereas developed systems hold relatively steady, and the emerging group shows no pronounced dip in nominal shares. The contrast reflects fiscal capacity, automatic stabilizers, and budget protections in advanced and large emerging economies, while nominal reporting can mask real contractions where inflation rose quickly. For Nepal, the brief dip followed by reversion signals partial protection of the sector, but not at a scale or duration sufficient to shift the trajectory toward sustained benchmark alignment during the shock.

The efficiency concern is corroborated by Nepal's spending composition and intergovernmental finance: recurrent-heavy allocations and tight conditional grants have long dominated, with low capital intensity and limited local discretion (Coudouel et al., 2022; Gyawali et al., 2021). Human-capital evidence further shows that gains depend on what funding buys, learning, not enrollment alone, so increases in shares that largely finance wages without complementary quality inputs yield weaker returns (Hanushek & Woessmann, 2020a). In a South Asian setting, where non-state actors and household outlays are sizable (UNESCO, 2021). Under-allocation on the public side can also amplify distributional risks. Taken together, Nepal's central challenge is twin-tracked: close the level gap with reference ranges and close the use gap so additional rupees translate into measurable, system-wide improvements for social and economic development, rather than maintaining current trajectories.

Conclusion

The comparative evidence shows that headline finance shares are informative but not decisive; what matters is the ability to sustain effort through shocks and to turn shares into well-executed resources. What sets different country groups apart is their capacity to maintain educational effort amid shocks and to convert a share of GDP or the budget into substantial, effectively managed resources. Advanced economies demonstrate this through resilient crisis trajectories; large emerging markets show steady consolidation as growth broadens the base; South Asia's shortfalls highlight the costs of under-allocation and volatility. For Nepal, the lesson is not just that levels are below international benchmarks, but that progress depends on two linked conditions: a credible and resilient fiscal path in real terms, and spending that is thoughtful and well-executed to reliably achieve gains in access, equity, and learning. Benchmarks, in this view, are signposts, not final goals.

A practical way forward follows directly from that reading. First, anchor education finance in a multi-year framework that maintains its real value through downturns, so the series becomes consistently upward rather than episodic. Second, enhance the use of funds: shift the mix toward quality-improving non-wage items and essential capital while tightening execution and transparency, ensuring each additional rupee produces visible improvements across the system. Third, improve intergovernmental financing, with less rigidity in earmarks, more predictability, and a focus on performance, to protect classroom-facing expenditures where learning occurs. Finally, consider public shares alongside the footprint of non-state actors and household out-of-pocket payments to monitor distributional risks; doing so guarantees that

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increased effort results in fair access, not parallel systems. In short, Nepal's path requires closing both the level gap and the efficiency gap simultaneously, transforming fiscal commitment into lasting human-capital gains for overall development.

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