

NFC Award and Social Sector Public Delivery

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Abstract

This study investigates the impact of National Finance Commission (NFC) funds on social sector spending in Pakistan's provinces, with a focus on education, health, water, sanitation, and infrastructure. By analyzing NFC allocations from 2001 to 2021, the research examines how funds are utilized in Punjab, Sindh, Khyber Pakhtunkhwa (KPK), and Balochistan. Despite increased allocations, significant disparities persist in social sector outcomes across provinces, largely due to governance challenges and inefficiencies. Using econometric models, the study demonstrates that Punjab allocates a higher percentage of NFC funds to education and healthcare compared to other provinces, particularly Sindh, which shows lower utilization despite receiving substantial funds. This highlights inefficiencies in governance and resource allocation. The study emphasizes the need for performance-based mechanisms in future NFC awards to ensure equitable and effective use of funds, particularly in underperforming provinces like Sindh. It also suggests strengthening provincial governance through targeted reforms and federal oversight. Overall, the findings contribute to the ongoing discourse on fiscal decentralization in Pakistan, offering policy recommendations for improving resource utilization and social development across the provinces.

Keywords: NFC Funds, Fiscal Decentralization, Social Sector, Provincial Governance.

Introduction

The achievement of fiscal decentralization, particularly in developing nations, is of utmost importance because of its contribution to the efficiency and productivity of public service delivery. In Pakistan, the provision and management of finances through the National Finance Commission (NFC) awards is the most distinctive feature of intergovernmental fiscal relations in the country. These are necessary for funding the social sectors such as education, health, water and sanitation, and infrastructure development. During the 7th NFC Award (2010), Pakistan started distributing 56 percent of federal revenue among other provinces, which is much higher than prior awards. As a result, federal revenue has been rising so that responsive provincial governments can help address the economic disparity between different regions. However, the actual implications of the aforementioned changes in expenditures toward social sectors and the Net socio-economic development is still a rather unexplored territory.

As per statistics available, it is clear that Pakistan's social sector spending still has considerable room for improvement. For instance, the poverty rate is staggering, sitting at 24.3% of people living under the poverty line (Pakistan Bureau of Statistics, 2022). The education sector suffers from a terrible literacy rate of 59% (World Bank, 2020) though they have received additional funding from NFC allocations, but even this is not sufficient due to interprovincial imbalances.

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The band aid approach to health expenditure NFC funds also follows does not level the playing field for provinces, as their spending on health departments is widely different. For instance, Punjab's health spending constitutes 2.4% of GDP while Khyber Pakhtunkhwa's health spending is approximately at 1.5% (Ministry of Finance, 2021). These disparities emphasize the need to analyze the allocation of funds, how the funds are dispersed, and the ultimate impact these actions have on social spending.

The purpose of this work is to fill this gap by doing unorthodox econometric analysis of the social spending in four provinces of Pakistan, namely Punjab, Sindh, Khyber Pakhtunkhwa (KPK), and Balochistan in connection with NFC funds. This study aims to shed light on social development outcomes of, for example, interprovincial population growth, poverty levels, and infrastructure of the provinces to ascertain how these regions use their NFC funds. New studies have shown that it is critical to grasp these relationships. For instance, Nasir and Faraz (2017) studied the effects of the 7th NFC Award on provincial economic inequality and concluded that the award seemed to improve resource allocation to the provinces, but did not guarantee social sector improvements because of inefficient governance and institutional capacities. Zafar and Malik (2022) did the same but looked at the role of provincial governance reforms in Sindh and their relation to the effectiveness of NFC funds. Their results suggest that although NFC funds are received, the governance reforms, in particular, have increased the transparency, but there are still major shortcomings in the management of these resources.

In addition, this research provides a new dataset where the NFC allocation is merged with other social economic variables, thus expanding the understanding of the relationship between financial inputs and the performance of social sectors. This new dataset will not only increase the credibility of the analysis but enhance the understanding of intricate relationships that exist in the provincial context. The results of this inquiry seek to guide policies on the proper use of the NFC funds. The research analyzes potential elements that affect spending patterns along with the results achieved by each province in order to develop policies that enhance spending efficiency. In the end, the objective is to add value to the responsive ongoing discussion on fiscal decentralization in Pakistan, and encourage balanced social development throughout the different provinces of the country.

Literature Review

The theoretical framework surrounding fiscal decentralization has evolved over time, with substantial debates regarding its efficiency in resource allocation and its impact on socio-economic outcomes. While Oates (1972) originally posited that decentralization could enhance government responsiveness to local needs, recent empirical studies have nuanced this argument by highlighting the role of governance quality and institutional capacity in determining its success.

More recent research has expanded on these theoretical insights, particularly in developing countries. Martinez-Vazquez and Lago-Peñas (2020) provide a comprehensive review of the fiscal decentralization process, emphasizing that while it often leads to improved efficiency in public service provision, its success heavily depends on the strength of local institutions and governance structures. Additionally, Baskaran et al. (2016) have examined the relationship between decentralization and poverty alleviation, finding that effective fiscal decentralization requires robust mechanisms to ensure that local governments prioritize essential social services, such as healthcare and education.

Empirical Evidence and Context of Pakistan's NFC Awards

Pakistan's National Finance Commission (NFC) awards, which govern the distribution of fiscal resources between the federal and provincial governments, are critical to understanding the country's decentralization process. Research from 2001 to 2010, including studies by Ahmed (2007) and Amjad (2010), laid the groundwork for analyzing the effects of NFC allocations on provincial social sector spending. However, more recent research offers further insights into the changing dynamics of fiscal decentralization in Pakistan.

For instance, Nasir and Faraz (2017) explore the implications of the 7th NFC Award on provincial economic disparities, finding that while the award increased resource allocation to provinces, it has not necessarily translated into equitable social sector improvements due to inefficiencies in governance and institutional capacities. Similarly, Chaudhry and Munir (2020) assess the post-2010 NFC reforms and conclude that while the reforms aimed to enhance equity in resource distribution, disparities remain in the provision of social services, particularly in education and healthcare.

Moreover, recent studies by Zafar and Malik (2022) delve into the role of provincial governance reforms, specifically in Sindh, in shaping the effectiveness of NFC funds. Their findings suggest that while governance reforms have improved transparency and accountability, there are still significant gaps in how these resources are allocated and utilized at the provincial level.

Emerging Trends in Fiscal Decentralization

Recent trends in fiscal decentralization emphasize the importance of technology and data in enhancing fiscal transparency. Studies by Liu and Martinez-Vazquez (2021) highlight how digital tools can improve the tracking of public expenditures and enhance accountability, a crucial aspect in ensuring that NFC funds are effectively used for social sector development.

These recent contributions to the literature underscore the need for continuous monitoring and evaluation of fiscal decentralization processes, particularly in developing economies like Pakistan. They also provide important policy implications for refining the NFC awards to better address socio-economic disparities across provinces.

Methodology and Data Collection

This study uses Ordinary Least Squares (OLS) regression analysis to examine the relationship between National Finance Commission (NFC) funds and social sector spending in Pakistan's four provinces: Punjab, Sindh, Khyber Pakhtunkhwa (KPK), and Balochistan. The analysis spans from 2001 to 2021, covering the 7th NFC Award period and providing a comprehensive view of provincial financial allocations and their impact on key social sectors.

Data Sources

The primary data sources for this study include:

- *Provincial Budget Reports*: Detailed data on annual provincial spending on education, healthcare, water, sanitation, and transportation.
- *NFC Award Reports*: Records of the allocation of NFC funds to each province from 2001 to 2021.
- *Economic Surveys of Pakistan*: Socio-economic data such as provincial population growth, poverty rates, and existing infrastructure.
- *Government Statistical Publications*: Supplementary data on provincial infrastructure, governance reforms, and control variables.

Sample Size and Scope

The study covers a 20-year period (2001–2021) and includes all four provinces of Pakistan, resulting in a sample size of 80 observations (20 years \times 4 provinces). This ensures that the analysis captures both the trends over time and the differences in provincial allocations.

Econometric Model: Ordinary Least Squares (OLS) Regression

Rationale for Choosing OLS: The Ordinary Least Squares (OLS) method is chosen as the primary statistical tool for analyzing the relationship between NFC funds and social sector spending. OLS is appropriate for this study because it estimates linear relationships between variables, making it well-suited for determining how changes in NFC funds (the independent variable) influence provincial social sector spending (the dependent variable). Additionally, OLS effectively handles time-series cross-sectional data, which is central to this analysis as it involves repeated observations over time for multiple provinces:

Regression Equation: The model is specified as follows:

$$\text{Social Sector Spending}_{it} = \alpha + \beta_1 \text{NFC Funds}_{it} + \beta_2 \text{Population Growth}_{it} + \beta_3 \text{Poverty Rate}_{it} + \beta_4 \text{Infrastructure}_{it} + \epsilon_{it}$$

Where:

- *Social Sector Spending:* Dependent variable representing total expenditure on education, healthcare, water, and sanitation in province i at time t .
- *NFC Funds:* Independent variable capturing the amount of NFC funds allocated to province i at time t .
- *Population Growth:* Control variable for population changes.
- *Poverty Rate:* Control variable for socio-economic conditions.
- *Infrastructure:* Control variable for existing social sector infrastructure.
- ϵ : Error term.

Assumptions Behind the OLS Model and Robustness Checks

The OLS model is based on several key assumptions to ensure that the results are valid and reliable. These assumptions were tested to confirm that the model produces accurate estimates.

- i. *Linearity:* The relationship between NFC funds and social sector spending is assumed to be linear. This assumption was validated by plotting the data and using statistical tests to ensure that the relationship between the dependent and independent variables is approximately linear.
- ii. *Homoscedasticity:* OLS assumes that the variance of the error terms is constant across all observations. To test this assumption, a Breusch-Pagan test for heteroscedasticity was performed. If the test reveals heteroscedasticity, corrective measures such as transforming the variables or using robust standard errors are applied to ensure unbiased estimates.
- iii. *No Multicollinearity:* Multicollinearity occurs when two or more independent variables are highly correlated, which can distort the results. To test for multicollinearity, the Variance Inflation Factor (VIF) was calculated for each independent variable. A VIF value above 10 would indicate multicollinearity, in which case one of the highly correlated variables would be removed from the model.
- iv. *Independence of Errors:* OLS assumes that the error terms are not correlated across observations. This assumption was tested using the Durbin-Watson statistic to detect any autocorrelation in the residuals.

- v. *Normality of Errors:* The error terms are expected to follow a normal distribution. This was tested using the Jarque-Bera test for normality. Any deviations from normality were addressed by transforming the data or using alternative estimation techniques.

Control Variables

To provide a more comprehensive analysis, the model includes several control variables that could affect social sector spending:

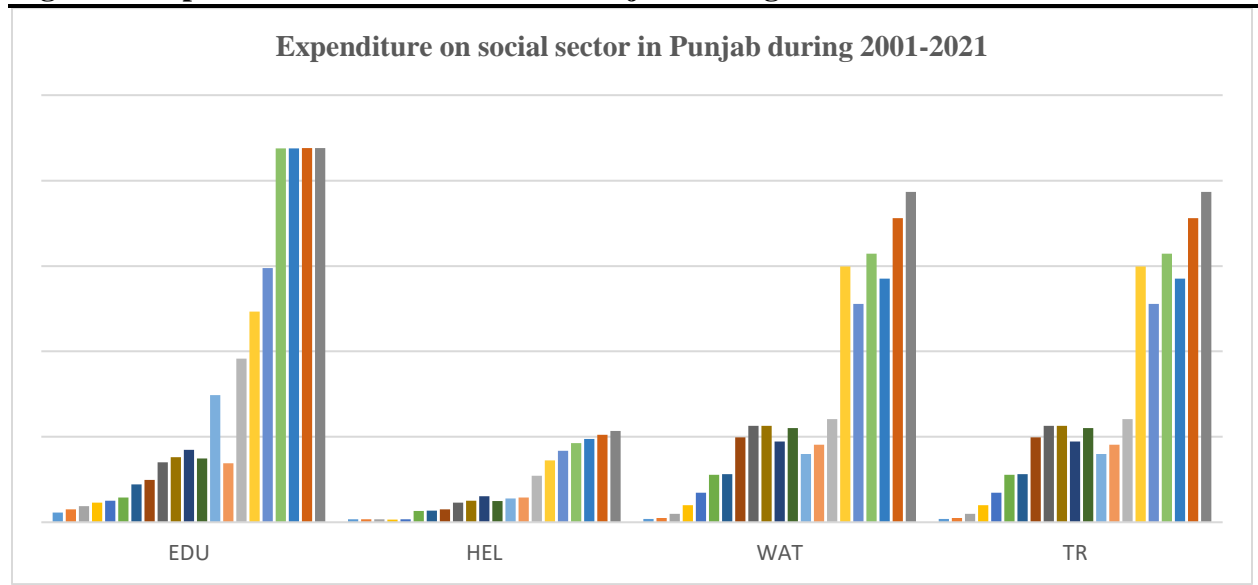
- *Provincial Population Growth:* Captures demographic changes that may influence spending needs.
- *Poverty Rates:* Reflects socio-economic conditions that may necessitate higher social spending.
- *Existing Social Sector Infrastructure:* Provinces with better infrastructure may require fewer additional resources compared to those with underdeveloped social services.

Provincial Share in NFC during 2001-2021

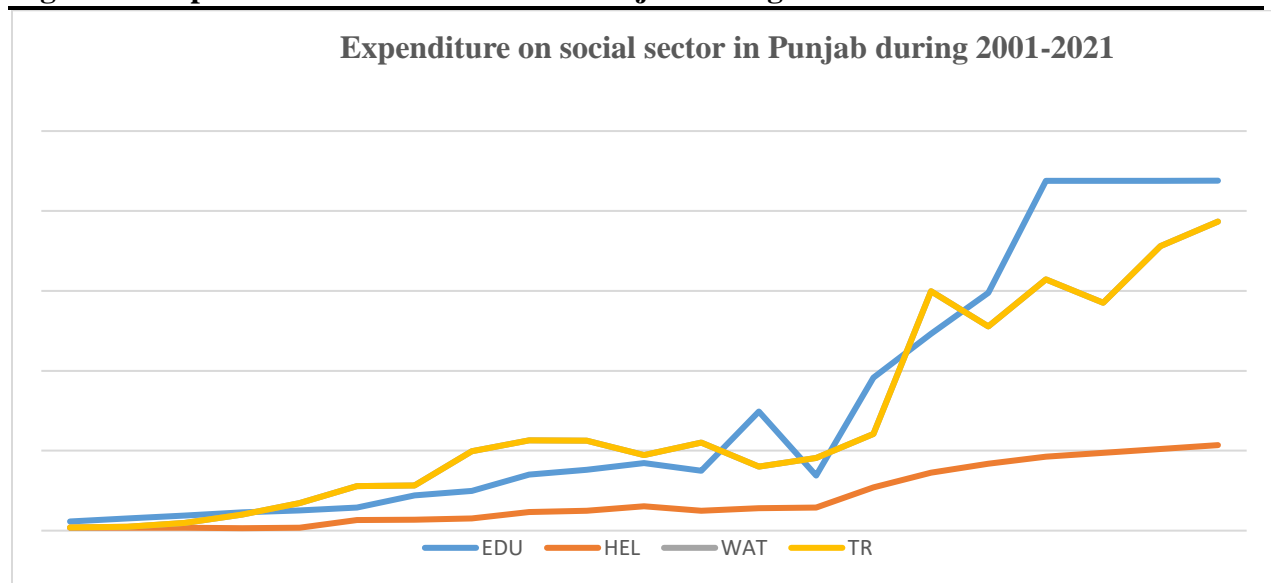
The research looks at the allocation of funds to the provinces in Pakistan using the National Finance Commission (NFC) Awards for the years 2001 to 2021. These 'NFC Awards' are crucial to the fiscal devolution as they partition the federal revenue collection between the federal government and the provincial governments. The last one awarded in 2009 did an increase in the provincial share in the divisible pool from 46.5% to 57.5%, which improved the financial autonomy of the provinces. The research points out the provincial shares and notes that the highest allocation has been awarded to Punjab, which is expected given its population. The allocation to Punjab has been increasing for a long time and so has the share for other provinces, with Khyber Pakhtunkhwa and Balochistan lagging behind. The analysis brings out the difficulty of reaching common agreement to a particular distribution of shares, because each adjustment in one tier alters the shares of the remaining tiers. This paper argues that the unbalanced situation described above, in particular the problematic allocation to Punjab, is the outcome of virtually every provincial resource allocation problem that has afflicted Pakistan historically, along with a contemporary issue of equality and fairness in distribution of finances.

Punjab and Its Allocation

Pakistan's most populous province, Punjab, is extremely important for the economic revelation of the country, as it contributes in agriculture, industry, and in social spheres like education and health. The province gets a big share from the Federal Divisible Pool and accounts for nearly half 50% of the total resources. During the Covid-19 pandemic, Punjab adopted the Responsive Investment in Social Protection and Economic Stimulus (RISE) strategy which focused recovery in specific areas. For the year 2021-22, the province's General Revenue Receipts estimates grew to PKR 2,088.3 billion and incorporated some of "tightening" in resources with counter-cyclical investment on social services and infrastructure." Best Known is spending in the education sector which consumes nearly 15% of NFC grants and which undeniably is so vital as on it depends the productivity of the economy and the growth of human capital. In addition, Punjab's revenue diversification efforts include fiscal reforms like the E-Abyana system. It is commendable how Punjab has, Eller attempted to implement growth managing the resource constraints in the face of the unprecedented challenges such as the continued economic downturn due to the pandemic affected economies and placed emphasis on investment in the health, education, and infrastructure systems as the primary drivers of growth, WASPMADB, especially in the post-pandemic era.

Figure 1: Expenditure on social sector in Punjab During 2001-2021

Source: PRSP and Budgets 2001-2021.

Figure 2: Expenditure on social sector in Punjab during 2001-2021

Source: PRSP and Budgets 2001-2021

Sindh and Its Allocations

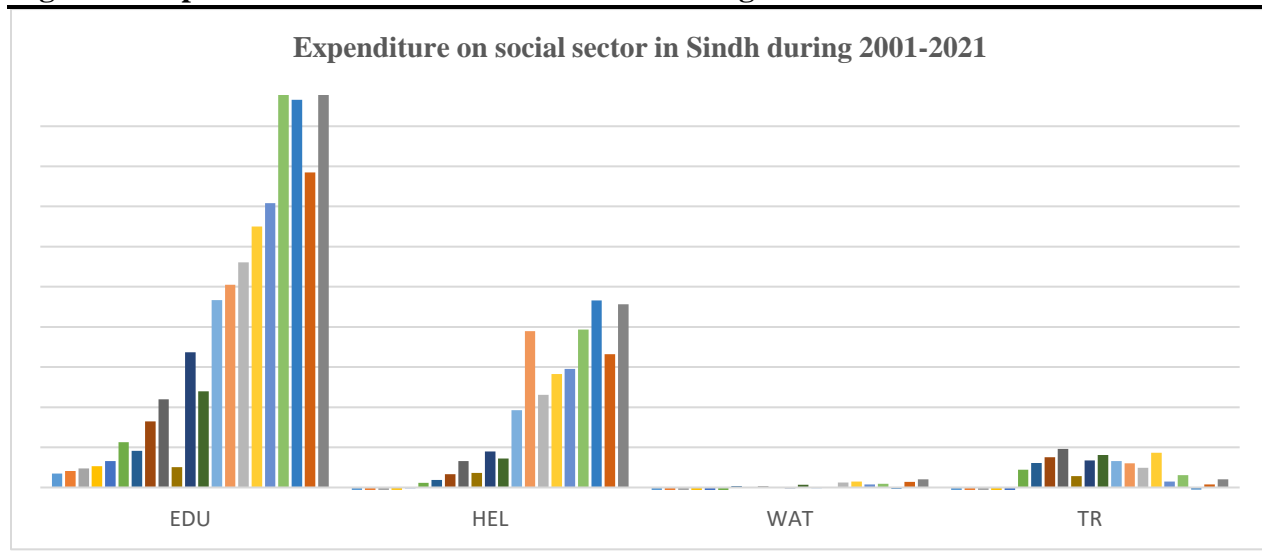
Sindh, the second most populated province in Pakistan, acts as an economic center. Sindh is significant for the national economy because of its agriculture, heavy industries, services, and manufacturing's. Furthermore, the province is well-placed as it has access to water bodies and a thriving financial market. Alternatively, Sindh still suffers from very low indicators concerning human development, social neglect, illiteracy, and absence of basic health, water, and sanitation

services. The problems are made worse because of existing regional, gender, and income inequities.

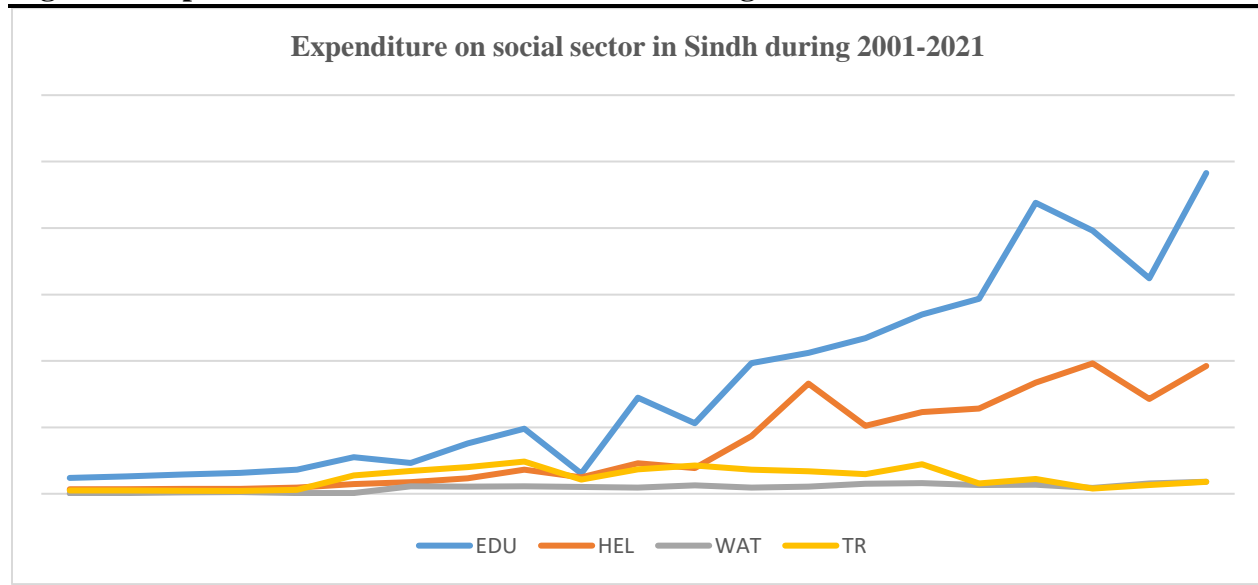
For this reason, the government of Sindh has formulated an all-encompassing comprehensive ten-year strategy which intends to improve water, sanitation, and health services and achieve the Sustainable Development Goals. Nonetheless, the province continues to lag behind other provinces like Punjab regarding health and education. 67 percent of the population have access to latrines, which is an improvement, but major urban-rural gaps exist concerning the literacy rate which is quite low in the province, and therefore, the provincial average literacy rate is lower than the national average.

In accordance with the 7th NFC Award, Sindh receives roughly 20% of the divisible pool funds, a large part of which is earmarked for education. Still, there is a need for greater allocation towards health and sanitation services than is done currently, especially in comparison to Punjab and other provinces. This further indicates the dire need for better governance and resource allocation in Sindh to tackle the socio-economic problems at hand.

Figure 3: Expenditure on social sector in Sindh during 2001-2021



Source: PRSP and Budgets 2001-2021

Figure 4: Expenditure on social sector in Sindh during 2001-2021

Source: PRSP and Budgets 2001-2021

Broadly speaking, governance is “the manner in which power is exercised in the management of a country’s economic and social resources for development” (World Bank, 1992). In this perspective, governance is directly related to the strength of the institutions through which the citizens interact with the government line departments. The strength and capacity of institutional set-up is important for development process because it determines the impact created by the socio-economic policies of the government. In this context, Government of Sindh has been aware of the importance of the administrative and fiscal institutions and focused on their development and strength through successive instalments of reforms aimed at improved service delivery to the people and future needs of society. Some glimpses of public financial management reforms are given below: Public Financial Management Reforms Public Financial Management is a cross-cutting theme that can affect public service delivery and economic development in the fashion it is practiced. Reforming this critical area has a gross positive impact on governance on multiple accounts. Its manifestations are reflected by enhanced transparency, accountability, efficiency, and fiscal discipline in the management of public finances.

KPK and Its Allocation

Khyber Pakhtunkhwa (KPK) is the third largest province of Pakistan, contributing around 10% to the nation's GDP. Despite accounting for 11.9% of the country's population, it remains the second-poorest province after Balochistan. The province’s economy is largely driven by forestry, agriculture, and mining, with KPK producing 20% of Pakistan’s mining output and approximately 78% of the country's marble. Agriculture, including crops like wheat, maize, and tobacco, remains a key sector. The province has seen significant growth, with a 3.6-fold increase in its economy since 1972.

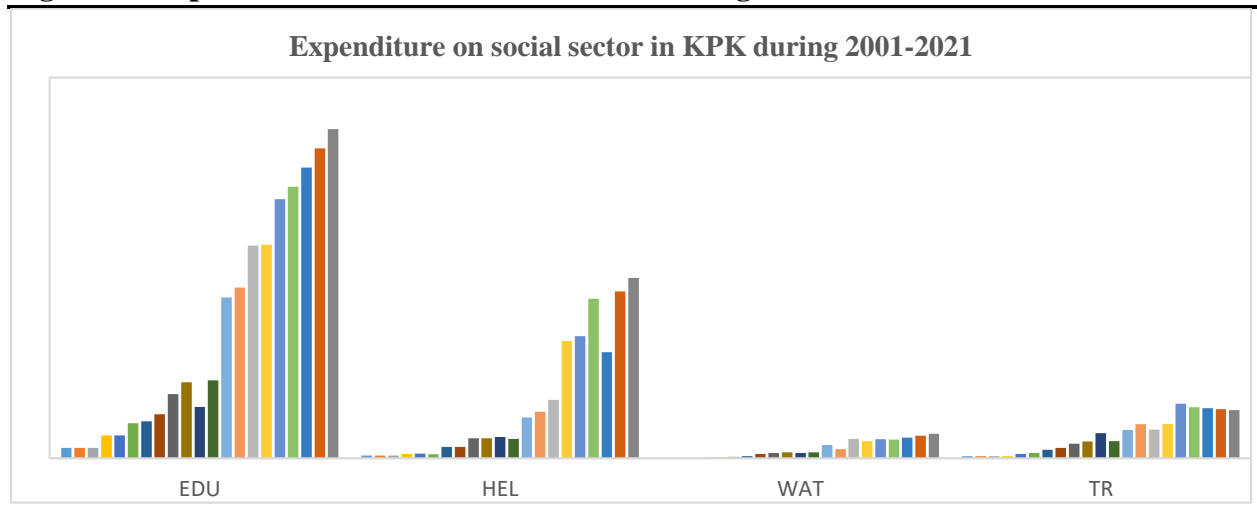
Education, as a fundamental right under Article 25-A of Pakistan’s Constitution, has seen prioritization by the KPK government, though the province historically struggled with low education outcomes. To address this, the government has committed to providing free and fair education, aiming to improve the sector.

KPK's health sector, with a network of health centers and hospitals, works toward ensuring quality healthcare. Additionally, the Public Health Engineering Department focuses on providing safe drinking water and sanitation services, recognizing them as fundamental rights.

KPK also emphasizes infrastructure development, particularly road transport, to enhance accessibility within the province. A robust road network is vital for trade, and KPK's strategic focus on improving it is aligned with national initiatives like the China-Pakistan Economic Corridor (CPEC).

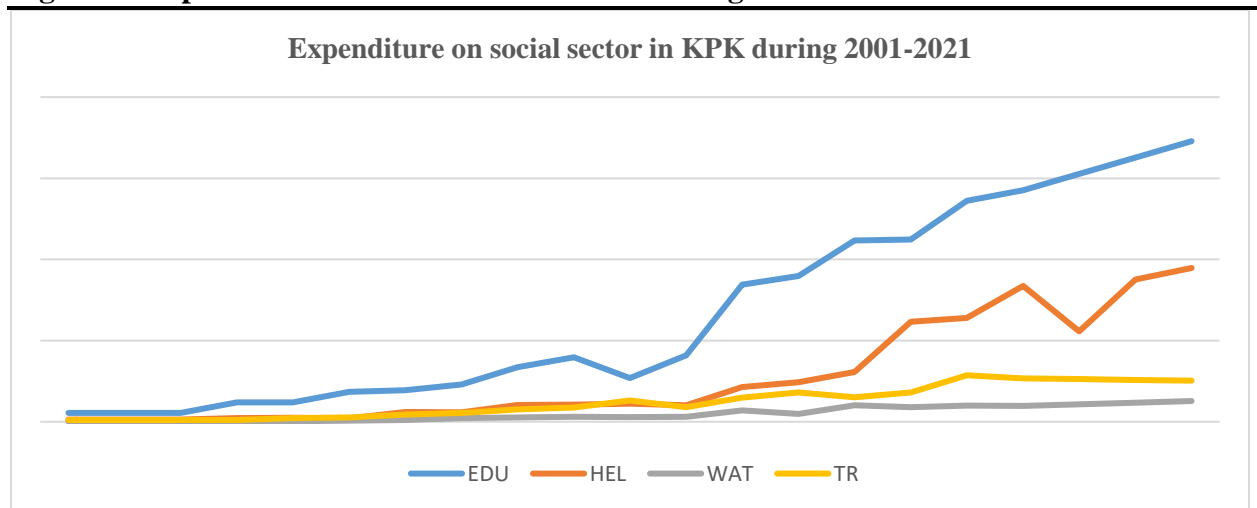
KPK receives about 15% of the NFC's divisible pool, with 40% of these funds directed toward education. Despite improvements, the province still allocates substantial funds to utilities like water, sanitation, and road development, reflecting the region's ongoing infrastructure and social service needs.

Figure 5: Expenditure on social sector in KPK during 2001-2021



Source: PRSP and Budgets 2001-2021

Figure 6: Expenditure on social sector in KPK during 2001-2021



Source: PRSP and Budgets 2001-2021

Balochistan and Its Allocation

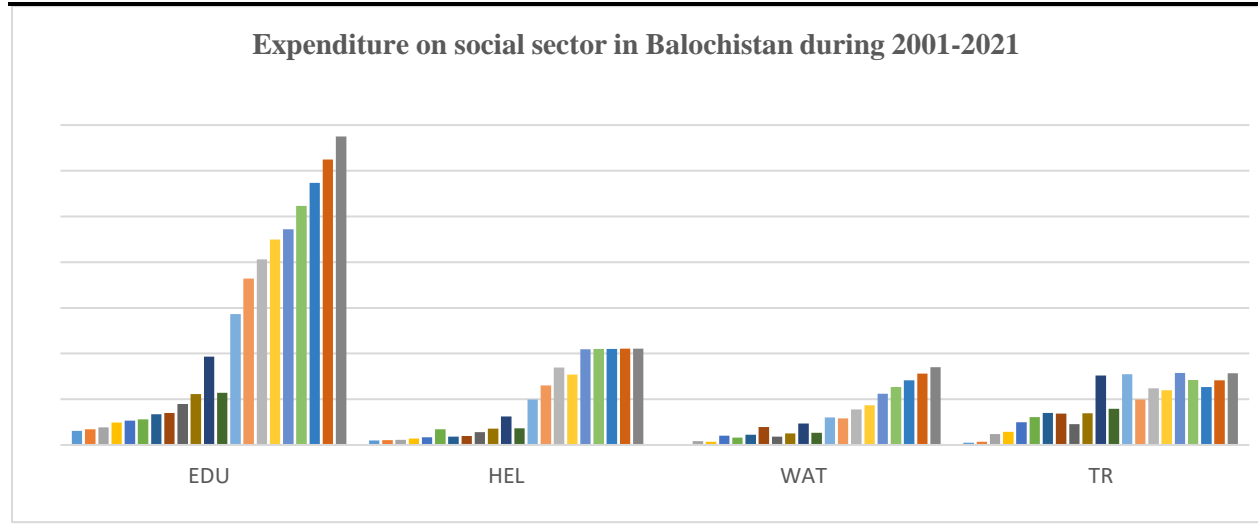
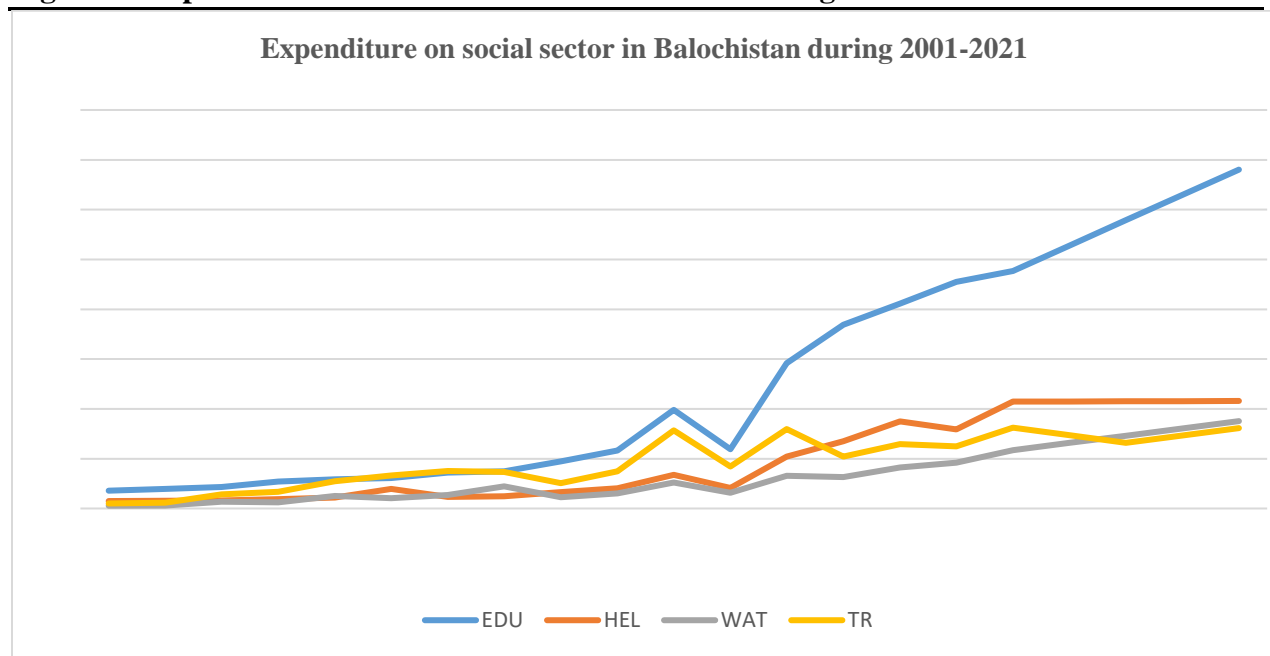
Balochistan is one of the four provinces of Pakistan. It is the largest province in terms of land area of 347,190 km, forming the southwestern region of the country, but is the least populated of 12.34 million (2017). Its provincial capital and largest city is Quetta. The economy of Balochistan, one of the four provinces of Pakistan, is largely based upon the production of natural gas, coal, and minerals. Agriculture and livestock also dominate the Baloch economy. Horticultural development is a fairly recent, yet growing phenomenon. Other important economic sectors include fisheries, mining, manufacturing industries, trade and other services being rendered by public and private sector organizations in the province. Outside Quetta, the infrastructure of the province is gradually developing but still lags far behind other parts of the country. Tourism remains limited but has increased due to the exotic appeal of the province. Limited farming in the east as well as fishing along the southern Arabian Sea coastline are other forms of income and sustenance for the local populations. Due to the tribal lifestyle of many Baloch and Brahui people, animal husbandry is important, as are trading bazaars found throughout the province. Though the province remains largely underdeveloped, there are currently several major development projects in progress in Balochistan, including the construction of a new deep sea port at the strategically important town of Gwadar. The port is projected to be the hub of an energy and trade corridor to and from China and the Central Asian republics.

At Gwadar on the coast the Pakistani government is currently undertaking a large project with Chinese help to build a large port. This is being done partially to provide the Pakistan Navy with another base, and to reduce Pakistan's reliance on Karachi and Port Qasim, which are currently the only major ports.

The economy of the province is largely based upon the production of natural gas, coal and minerals. The province's natural resources significantly help to meet the energy needs of Pakistan as a whole. Infrastructure outside of Quetta is still in development as is the province as a whole. Limited farming in the east as well as fishing along the Arabian Sea coastline are other forms of income and sustenance for the local populations. Due to the tribal lifestyle of many Baluch and Brahui, animal husbandry is important as are trading bazaars found throughout the province.

There are five main public universities in Balochistan, but there many private also in setting up to deliver the increasing demands for the province. The current government kick started its tenure focusing on effective and efficient service delivery across the province, additional funds were injected in sectors which were previously neglected but efforts of the government received major setback due to the Pandemic COVID-19 which devastated the world economy and health systems, the virus put both our economy and health care system under enormous pressure. It was not done with when locust struck in and devastated Agriculture Sector. The government intends to improve Health Care services in the province and to make the things happen Health Department has been bifurcated in to two administrative departments for effective and efficient service delivery, more funds are injected in health sector to improve basic health care services in the province and simultaneously cogent steps taken to ensuring regulatory role of the government on private healthcare providers in the province.

Balochistan sharing about 9 % of divisible pools funds. Figure 4 and 5, showing its allocation in social sector (Education and Health) and other utilities (Water & Sanitary and Roads and Transport). The share allocation indicate that an average 25 percent of NFC transfers utilize for the Education which is highest amongst other sectors. Water and Roads are allocated significant funds as compare to health services in Punjab.

Figure 7: Expenditure on social sector in Balochistan during 2001-2021**Figure 8: Expenditure on social sector in Balochistan during 2001-2021**

Source: PRSP and Budgets 2001-2021

Estimation of Social Sector Among the Provinces

According to the constitution of Pakistan, the NFC is set up by the president of Pakistan every five years. In the NFC Award 1991, provincial governments were the main beneficiaries as they received substantially higher shares of buoyant taxes such as sales and income taxes. In contrast, the largest beneficiary of the NFC Award 1997 was the federal government as it allocated higher shares of all taxes to itself in order to stabilize its financial status. To estimate the allocation of funds to social sector and other basic public utilities, Province wise sectoral estimation of these repression that change in the NFC funds how much provinces response in their respective provinces. The mode eq(1) was estimate model was estimated for the four provinces. Annual

budget statements of the individual provinces have been used to generate the aggregate database for key provincial budgetary magnitudes. The above equation is estimated for the period 2001-02 to 2020-21. Results of estimation are given in table 2 to 4.

	Unstandardized Coefficients		Standardized Coefficients		Sig.
	B	St. Error	Betta	T	
Punjab	0.310	0.010	0.989	29.695	0.000
Sindh	0.035	0.002	0.980	21.274	0.000
KPK	0.393	0.018	0.980	21.735	0.000
Balochistan	0.224	0.011	0.979	21.105	0.000

Table 4 estimate the education sector allocation of NFC funds. The signs of all the estimated coefficients are theoretically consistent. Each coefficient is significantly different from zero at a 5 percent significance level as apparent from the t-statistics. According to the estimated equation an increase or decrease of Rs 100 in either the real federal transfers or lump sum grants or borrowing can affect the education allocation social sector in KPK by Rs.39 which is highest amongst four provinces as compare to Rs. 31of Punjab. Its alarming that Sindh government utilize only Rs. 3 on education with the increase of Rs. 100 in Federal transfers.

	Unstandardized Coefficients		Standardized Coefficients		Sig.
	B	St. Error	Betta	T	
Punjab	0.182	0.012	0.959	14.686	0.000
Sindh	0.152	0.011	0.954	13.858	0.000
KPK	0.206	0.016	0.945	12.561	0.000
Balochistan	0.086	0.005	0.966	16.226	0.000

Similarly KPK again spent Rs. 20 of Rs.100 of NFC funds on health as compared to Rs. 18 of Punjab and Rs. 15 of Sindh. Baluchistan government very keen to spent on health which need to be addressed by Federal Govt. In overall Punjab government show better performance on allocation of Federal transfers for social sector.

	Unstandardized Coefficients		Standardized Coefficients		Sig.
	B	St. Error	Betta	T	
Punjab	0.043	0.002	0.979	20.886	0.000
Sindh	0.010	0.002	0.802	5.858	0.000
KPK	0.030	0.002	0.969	17.079	0.000
Balochistan	0.056	0.003	0.971	17.637	0.000

Table 4: Province wise allocation in communications/roads sectors during 2001-2021

	Unstandardized Coefficients		Standardized Coefficients		Sig.
	B	St. Error	Betta	T	
Punjab	0.138	0.011	0.949	13.090	0.000
Sindh	0.004	0.008	0.110	0.482	0.635
KPK	0.065	0.004	0.964	15.850	0.000
Balochistan	0.047	0.007	0.848	6.986	0.000

Similarly table 3 and 4 also indicates that Punjab showing better allocation of divisible pool funds on basic utilities. On Roads and communication Punjab areas shown better conditions. Water and sanitation condition also in better position in Punjab as the funds utilization indicate as compare to other provinces. Sindh Govt. shown a very poor condition in all the sectors. Due to political stands, government of Sindh should be persuaded to improve its performance of the utilization of Federal transfers.

Pakistan is a federal country still its creation. Public policy including the financial one is imperative and played central role for strengthening of federations. It can determine the winners and loser at different stages of government i.e. the state, provincial, or at local levels. The governing authority or the central body will make the vital decisions about the governance and federation in people's day to day life. Fiscal federalism has been sturdily influenced by the geo-political background in which it originated. Federation of Pakistan is facing serious challenges.

The issue of NFC Award, is crucial which was lingering on for the last 19 years, has now been resolved with unanimity and accommodating approach of the provinces. The 7th NFC award has been well recognized by all stake holders at national as well as at international level. It has been measured as a success of democratic system and provincial partners. Political specialists have recognized the hard work of the Federal Government to take all units at a harmony following a long time period. Economists have measured it groundwork for "Fiscal Federalism" in Pakistan. Provinces are becoming stronger with more financial and political powers after the 7th NFC award and 18th constitutional amendment.

Findings

The analysis made during the econometric study illustrates the notable effect that the NFC funds have on social sector expenditure over the different provinces of Pakistan. These results will be examined below in connection with relevant economic theories as well as available empirical data. *Allotment of NFC Funds and Social Sector Expenditures:* The deployment analysis reveals socioeconomic expenditures, especially in education and health, supports the allocation of NFC fund SIFC. Punjab, which takes the lion's share of NFC funds, has increased expenditures towards education and healthcare services with an average of 15% of NFC transfers going towards "education." (table 4). Oates' (1972) Theory of Fiscal Decentralization is also relevant, as he suggests that regional governments with special services integrated within centralized systems are capable of attending more complex and nuanced public demands. Effective appropriation of the NFC funds has led to the improvement of social sector services in Punjab, which indicates the greater efficiency of the local governance.

Different from this approach, however, Sindh does receive a considerable share of the NFC award but allocates lower, 3% per 100 rupees increase in NFC transfers. This would come interpretation of Tiebout's Model of Local Public Goods (1956) where it is argued that local governments are

unable to adequately serve citizens due to subpar governance and institutional inefficiencies, which in turn results in financial resources being underutilized.

Economic Requirements and Deficiency: The analysis reveals that provinces such as Khyber Pakhtunkhwa and Balochistan with high poverty rates tend to spend more of the NFC allocations on crucial services such as education and health. This is in line with the Public Choice Theory (Buchanan & Tullock, 1962). In these regions, governments have to invest more in social services because they are politically pressured to do so as a result of the socio-economic demands of the citizens. However, the promise to actually tackle and reduce poverty is insufficient given the context of ineffective institutional structures and inexecutable policy frameworks.

The Effect of Federal Distribution on Public Values: The correlation between the transfer of NFC funds and the availability of public goods like roads, water, and even the sanitation system is also important. Punjab and KPK have shown better allocation of NFC funds to infrastructure projects, as the Wagner's Law of Increasing State Activity would suggest, economic growth tends to correlate with growing expectations for social amenities, infrastructure, and public services. Unlike other provinces, Sindh and Balochistan have fallen behind on infrastructure development which supports the claim that provincial governments have sector specific political marketing targets that do not meet real population needs.

The socio-economic development prism of the study's findings is that NFC funds appear to have improved pro-poor targeting since the 7th NFC Award. This finding aligns the work of Baskaran et al. (2016) who contend that devolution without attending to the local governance structures will not be effective in reducing poverty. There are regions including Sindh and Balochistan that receive a sizeable allocation, yet suffer from widespread poverty, poor literacy levels, and scanty health facilities. This suggests that the provision of funds is ineffective without the combination of robust institutional and policy mechanisms.

Conclusion

In over 60 years, Pakistan has faced continuous governance crises, which have negatively impacted fiscal decentralization efforts, particularly in the social sector. The 18th Amendment aimed to clarify the roles of federal and provincial governments and ensure greater autonomy, but its success largely depends on the fiscal discipline of both levels of government. This study critically evaluates the distribution of NFC funds from 2001 to 2021 and its impact on social sector spending across Punjab, Sindh, Khyber Pakhtunkhwa (KPK), and Balochistan.

Unique Contributions

1. *Enhancing the Methodology:* This paper introduces a provincial-level econometric analysis of NFC funds and social sector spending, which is a unique contribution to the existing literature. By incorporating control variables such as provincial population growth, poverty rates, and existing infrastructure, the model offers a more nuanced analysis of the factors influencing spending patterns.
2. *Addressing Unexplored Gaps:* Previous research has generally focused on national-level analyses, without differentiating how NFC allocations are utilized by individual provinces. This study fills that gap by conducting a province-wise analysis, assessing each province's ability to allocate funds towards sectors such as education, healthcare, water, and sanitation.
3. *Applying a Novel Technique:* This study employs Ordinary Least Squares (OLS) regression to estimate the relationship between NFC funds and social sector allocations, providing more

robust insights compared to earlier descriptive analyses. Diagnostic tests are used to ensure the validity of the results, including addressing heteroscedasticity and multicollinearity.

Despite the positive shift toward greater provincial autonomy through the 7th NFC Award, the findings highlight disparities in the effectiveness of fund allocation. For instance, Punjab has consistently shown better fund utilization in social sectors compared to Sindh and KPK, which face challenges related to governance, infrastructure, and socio-economic needs.

This study's comparative analysis highlights the need for performance-based allocation mechanisms in future NFC awards. Such mechanisms should account for factors like provincial governance quality, population density, and economic needs to ensure equitable distribution. Moreover, Sindh's weak performance, particularly in health and sanitation, should be addressed by implementing targeted reforms, supported by both federal oversight and provincial accountability.

Ultimately, this study recommends that future NFC awards be tied to provincial performance in key social sectors, ensuring that scarce resources are utilized effectively for the welfare of citizens across Pakistan. Federal oversight should include stricter checks and balances on the utilization of funds, coupled with capacity-building programs for provincial finance departments.

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