

**FISCAL EQUALIZATION  
AMONG PROVINCES  
IN  
THE NFC AWARDS**

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### **Abstract**

*This paper constructs a Fiscal Equalization Index (FEI) to calculate the extent of fiscal equalization among the provinces achieved in various NFC Awards. Results show that the process of fiscal equalization had largely broken down prior to the 2009 NFC award, following the ad-hoc arrangements announced in 2006. Earlier awards have, however, been fiscally equalizing in character primarily through special grants and inclusion of new straight transfers. According to the FEI, though the highest level of fiscal equalization was achieved following the 1990 NFC award, the largest improvement in the index has been with the 2009 NFC award, which has introduced an element of fiscal equalization for the first time in divisible pool transfers.*

## **FISCAL EQUALIZATION AMONG PROVINCES IN THE NFC AWARDS**

### **INTRODUCTION**

Fiscal equalization refers to attempts within a federal system of government to reduce fiscal disparities among jurisdictions, which emerge due to variation in sub-national jurisdictions ability to raise revenues to meet the public expenditure needs of their residents. This is because of an imbalance in the assignment of revenue sources to sub-national levels and their expenditure needs, given the allocation of the inter-governmental fiscal powers and responsibilities.

In the Pakistani context, the need for transfers is highlighted by the fact that while provincial governments generate only about 8% of total national resources, their share in total public spending is 28%. Also the fiscal capacity of the four provinces varies, with the relatively more developed provinces being able to self-generate a higher proportion of their resource requirements. As such, transfers take place, according to the provisions of the National Finance Commission (NFC) awards, with the objective of removing both vertical and horizontal imbalances between own-revenues and expenditure.

The purpose of this paper is to examine whether the NFC awards have contributed to the process of fiscal equalization in Pakistan and if so, to what extent. We start by first highlighting some theoretical issues in the study of fiscal equalization in Section 2. Section 3 presents international practices in fiscal equalization. Section 4 reviews the various NFC awards and presents the provincewise trend in federal transfers. Section 5 describes the methodology used in this paper to measure the extent of fiscal equalization with the help of an index. Section 6 describes the trend in the fiscal equalization index. Finally, in Section 8 are presented the conclusions.

### **2. SOME CONCEPTUAL ISSUES**

The increasing international trend towards fiscal decentralization has made the subject both more important and perhaps more controversial. Several issues have been subject to intensive debate. These include the reasons for introducing some form of equalizing policy. The basic question is would it not be simpler to reassign functions and revenues? Further, if equalization is necessary or unavoidable, how are fiscal disparities measured across jurisdictions and how is equalization best achieved?

The case for equalization must be examined in the context of the fiscal design of the federalism and decentralization. Preferably the allocation of revenue sources among government tiers should follow the assignment of functions. However a number of problems arise from this proposition. First, allocation of expenditure responsibilities and tax sources should be governed by a set of principles including those based on efficiency and equity. According to Shah (1994) and Pasha (1997) assignments of functions are primarily based on efficiency considerations including spatial externalities, economies of scale, administrative and compliance costs and preservation of internal common market. As opposed to this, taxes are assigned on the basis of degree of mobility of tax bases, efficiency in tax administration, avoidance of 'tax exporting', etc. These considerations are particularly important in the context of developing countries where institutional capacities are limited. As such the matching of expenditures and resources at the sub-national level may not always be feasible or desirable.

Second, even if overall balance between functions and resources is largely achieved at every government tier, the balance may not be obtained for each unit within a particular tier. Also, decentralized functions undergo modification over time, following changes in the preferences for service provision or in the technology of public good production. Therefore a unit-by-unit allocation of functions and resources and their periodic adjustment is likely to be a perilous if not an impossible political exercise.

The next important issue in the debate on financial equalization is how should the disparities be measured or what should be the level of fiscal equalizing transfers? The concept of fiscal disparities and its measurement is complex and indeed controversial. Views of analysts have evolved over time. Initially, there is a need to

distinguish between differences that result because of local choices in the fiscal expenditure mix from those that arise due to low tax base and high fiscal needs, which are largely outside the control of sub-national governments. The latter is referred to as “disparities”, arising because the capacity to raise revenue to finance publicly provided services and the amount needed to provide these goods is not matched [Ladd (1999)].

Literature on the design of equalization transfers distinguishes between revenue equalization and expenditure, or need, equalization. The combination of both is referred to as need-capacity gap equalization. Broadway and Flatters (1982), on economic efficiency grounds, advocate a focus on differences in net fiscal benefits across jurisdictions. They call for full equalization of differences in tax revenues. Auld and Eden (1984) also conclude that revenue equalization programs are consistent with economic theory.

However, proponents of the need to remove horizontal fiscal imbalances argue that equalization transfers should consider both expenditure needs and revenue means in determining the equalization entitlements [Musgrave (1961), Le Grand (1975), Shah (1994)]. The constraint is in the implementation of this principle. “The distinctions between differences in needs, costs and expenditures or the need-capacity gap, is far from evident and presents a great deal of conceptual and technical difficulties” [Dafflon (2007)].

According to Faber and Otter (2003) resource equalization is an established policy in most decentralized and federal countries. Over the past few decades revenue equalization has taken a wide variety of forms. Redistributive effects depend on the equalization formula as well as the effects of the ceiling and floor provision. Also since beneficiary jurisdictions differ in size and population, the redistribution between jurisdictions must take into account the population of each jurisdiction. This is accounted for by focusing on per capita revenues. In this paper fiscal equalization is measured on the basis of revenue equalization.

### **3. INTERNATIONAL PRACTICES OF FISCAL EQUALIZATION**

In order to correct vertical and horizontal imbalances, both federations and decentralized unitary systems have made arrangements for financial transfers from one level of government to another. The relative size and structures of these transfers differ considerably. Because most central governments have control over the major tax sources, arrangements have usually taken the form of financial transfers to the states, although occasionally they have taken the form of some state transfers to central governments or inter-state transfers for equalization purposes.

Table 1 gives an indication of the significance of total central transfers to correct both vertical and horizontal imbalances as a share of the total constituent unit revenues. This measures the extent of dependence of sub-national governments on transfers. It appears that dependence of states on transfers is generally higher in federations as compared to unitary governments and in transitional or new federations (like South Africa, Pakistan, India). Transfers to sub-national governments have generally taken various forms. The first is revenue sharing, that is, shares in the proceeds of specified central taxes. The second type is unconditional grants. The third is conditional grants for specific purposes requiring the recipient governments to meet certain conditions or to match from their own revenues the central grants. The extent to which these transfers have been used varies considerably.

| <b>TABLE 1</b>   |                        |                              |
|--|------------------------|------------------------------|
| <b>CENTRAL TRANSFERS AS PERCENT OF TOTAL CONSTITUENT UNIT REVENUES</b> |                        |                              |
| <b>(States and Local)</b>  |                        |                              |
| <b>Country</b>   | <b>Total Transfers</b> | <b>Conditional Transfers</b> |
| <b><i>Mature Federations:</i></b>                                      |                        |                              |
| Australia  | 45.3                   | 21.3                         |
| United States  | 29.6                   | 29.6                         |
| Germany  | 43.8                   | 9.8                          |
| Canada   | 19.8                   | 15.8                         |
| Switzerland  | 24.8                   | 17                           |
| <b><i>Transitional Federations:</i></b>                                |                        |                              |
| Pakistan   | 85.1                   | -                            |
| Spain  | 72.8                   | 41.9                         |
| South Africa   | 96.1                   | 11.0                         |
| Brazil   | 30.0                   | 7.5                          |
| India  | 46.0                   | 18.7                         |
| <b><i>Mature Unitary Systems:</i></b>                                  |                        |                              |
| Japan  | 37.2                   | 16.2                         |

|                             |      |     |
|-----------------------------|------|-----|
| Sweden                      | 15.8 | 4.4 |
| <b>Source:</b> Watts (2005) |      |     |

Revenue sharing is the most widespread practice. The Constitution stipulates sharing of key taxes in many countries. In Germany, for example, revenue from the central income taxes, corporation and turnover taxes are shared. In Australia, the Goods and Services Tax is transferred unconditionally to the states. In South Africa, revenue sharing is applied to all central taxes. In India, some duties (like stamp duties) are levied by the central government but are entirely collected and appropriated by the states. Some taxes are both levied and collected by the central government but the proceeds are assigned to those states in which they have been collected on the basis of the origin principle. As opposed to this, revenue-sharing also takes place on the basis of a distribution formula given frequently by constitutionally mandated quinquennial Finance Commissions.

Given that in many cases revenue-sharing of central tax proceeds has been constitutionally mandated, some analysts classify them as a form of state revenues rather than as a transfer. However, that can be misleading for, unlike their own taxes and user fees, the states have no control on the size of the revenues they will receive as this is determined by the rates and levels of central taxation. They are, therefore, better classified as transfers. They share the characteristics of unconditional central grants, but have the further advantage that instead of being determined as a fixed amount by the central government, they are based on a specified share of major taxes and, therefore, rise as the economy grows. This explains why they have been so widely used as the key mechanism to reduce inter-governmental fiscal imbalances.

The arrangements for removing or reducing horizontal imbalances among sub-national governments in some countries are set out in summary form in Box 1.

| <b>Box 1</b><br><b>EQUALIZATION ARRANGEMENTS</b> |  |
|--|--|
| Switzerland                                      | Federal transfers based on formulae involving a range of criteria ranking cantons by financial capacity as the basis for tax-sharing and conditional grants, but the equalizing transfer system is smaller than in Germany, Canada and Australia.  |
| Canada   | Federal transfers: stand-alone equalization scheme based on formula (adjusted from time to time) assessing provincial revenue capacity in terms of 33 provincial tax and non-tax revenue sources against a middle range five-province standard and providing unconditional grants representing 42% of all transfers.   |
| Australia  | Federal transfers: based between 1933 and 1981-82 on recommendations derived from determination of needs of claimant states by a standing independent Commonwealth Grants Commission; after 1981-82 took the form of adjustments to the general Adjustment Grant transfers based on calculation of relativities of expenditure needs among states; since 2000 based on application of relativities to distribution of central GST tax. Allocation by CGC based on calculation of revenue capacity and expenditure needs from comparisons of 18 revenue categories and 41 expenditure categories. |
| Germany  | Primarily inter-state transfers (62%): equalization through an inter-state revenue pool to which rich Lander pay and from which poor Lander draw according to a formula; plus federal transfers (38%): Federal Supplementary Payments of 1.5% of value-added tax (V AT). The primary per capita distribution of the shares of the Lander of a portion of the V AT also has an equalizing effect.   |
| India  | Federal transfers from a pool of all union taxes supplemented by unconditional grants, based on the recommendations of quinquennial Finance Commissions recommending both the share to be allocated to the states as a group, and the allocation among states taking account of population, per capita income, area, economic and rural infrastructure needs, and tax effort.  |
| Spain  | Federal transfers: since 1987 criteria including population, size, personal income, fiscal effort, number of internal provinces within Autonomous Community, and distance to state capital; applied by federal government to shares of federal tax revenue transferred to Autonomous Communities.  |
| Brazil   | Distribution of state participation fund (state share of three main federal taxes) with participation coefficient for each state based mainly on redistributive criteria (85 percent of fund goes to poorer regions in the North, Northeast, and West-West). A similar fund for municipalities is less redistributive and more population based.   |
| South Africa                                     | General national revenue-sharing transfer, with National Government distribution of "equitable shares" among provinces following recommendations of Financial and Fiscal Commission based on demographic profiles of provinces comprising an education share, a health share, a social security share, and population, backlog, economic activity and institutional components.  |
| Sweden   | Cost equalization transfers based on 15 indices: municipalities and country councils whose per capita income is below national average receive a grant and those above pay a fee (i.e. scheme is self-balancing), plus a supplementary block grant from the central government containing a population-related and age-related portion. Implemented by an Equalization Commission.   |
| Japan  | Local Allocation Tax (the main central government unconditional revenue-sharing transfer) is distributed to local governments on a uniform formula based on basic financial need and basic financial capacity.   |
| Source: Shah (1994)                              |  |

#### 4. A REVIEW OF THE NFC AWARDS



The history of revenue sharing in the sub-continent can be traced back to pre-partition days. Since partition, eight revenue-sharing awards have been announced in Pakistan. The first award was the Raisman award of 1951. This was followed by National Finance Commission awards in 1961-62, 1964, 1970, 1974, 1990, 1996 and 2009. The 1990 award was delayed for a considerable period. Two NFCs were formed in 1979 and 1985 but no awards were announced due to lack of consensus among the federating units. Similarly, NFCs were constituted in 2000 and then in 2005. Despite a number of meetings on both occasions, an award could not be agreed upon. Consequently, for the 2006 NFC all the provincial Chief Ministers vested the authority to the President to announce an award. As a result the President under Article 160(6) of the Constitution of Pakistan, through Ordinance No.1 of 2006, made amendments in the “Distribution of Revenues and Grants-in-Aid Order, 1997”, with effect from July 1, 2006. The NFC Award of 2009 is an achievement of the current democratically elected government as a consensus has been achieved after a gap of over twelve years.

**Divisible Pool Transfers:** Table 2 gives composition of the divisible pool of taxes in terms of which taxes were shared and the proportion in which these were shared between the federation and the provinces combined in the last four Awards. It seems that the trend has been to increase the size of the divisible pool. The 1990 NFC award achieved this through inclusion of new taxes, specially excise duties on some commodities in the pool. The 1996 Award further strengthened the trend and included all federal taxes in the divisible pool. Since the divisible pool was substantially expanded, the share of provinces in the divisible taxes was reduced. The 2006 and 2009 NFCs have adopted the strategy of enhancing the provincial share in the divisible pool of taxes.

| <b>TABLE 2</b>                                       |  |   |                     |                                 |                              |
|--|--|---|---------------------|---------------------------------|------------------------------|
| <b>EVOLUTION OF DIVISIBLE POOL IN VARIOUS AWARDS</b> |  |   |                     |                                 |                              |
| <b>Divisible Pool</b>                                |  | <b>SHARED REVENUE SOURCES<sup>a</sup></b> |                     |                                 |                              |
|  |  | <b>NFC<br/>1990</b>                       | <b>NFC<br/>1996</b> | <b>NFC<br/>2006<sup>d</sup></b> | <b>NFC<br/>2009</b>          |
| <b>A.</b>  | <b>INCOME TAX<sup>b</sup></b>                    |   |                     |                                 |                              |
|  | Personal   | 80%                                       | 37.5%               | 45%-50%                         | 56%-57 ½%                    |
|  | Corporate  | 80%                                       | 37.5%               | 45%-50%                         | 56%-57 ½%                    |
|  | Wealth Tax                                       | -   | 87.5%               | 45%-50%                         | 56%-57 ½%                    |
| <b>B.</b>  | <b>SALES TAX</b>                                 | <b>80%</b>                                | <b>37.5%</b>        | <b>45%-50%<sup>e</sup></b>      | <b>56%-57 ½%<sup>f</sup></b> |
| <b>C.</b>  | <b>EXCISE DUTIES</b>                             |   |                     |                                 |                              |
|  | Tea  | -   | 37.5                | 45%-50%                         | 56%-57 ½%                    |
|  | Tobacco  | 80%                                       | 37.5%               | 45%-50%                         | 56%-57 ½%                    |
|  | Sugar  | 80%                                       | 37.5%               | 45%-50%                         | 56%-57 ½%                    |
|  | Betel nut  | -   | 37.5%               | 45%-50%                         | 56%-57 ½%                    |
|  | All excise duties (Excluding GST)                | -   | 37.5%               | 45%-50%                         | 56%-57 ½%                    |
| <b>D.</b>  | <b>EXPORT DUTIES</b>                             |   |                     |                                 |                              |
|  | Cotton   | 80%                                       | 37.5%               | 45%-50%                         | -                            |
|  | Jute   | -   | -                   | 45%-50%                         | -                            |
| <b>F.</b>  | <b>ESTATE AND SUCCESSION DUTIES</b>              | -   | -                   | -                               | -                            |
| <b>G.</b>  | <b>CAPITAL VALUE TAX ON IMMOVABLE PROPERTIES</b> | -   | <b>37.5%</b>        | <b>45%-50%</b>                  | <b>devolved to provinces</b> |

a. Share of the provinces combined.  
b. Excluding taxes on income consisting of remuneration paid out of federal consolidated fund.  
c. Announced by the President  
d. Provincial share was decided to be 45% for 1<sup>st</sup> Financial year and would reach 50% with subsequent increase of 1% per annum.  
e. Other than 1/5<sup>th</sup> of sales tax collected in lieu of zila/octroi transfer to be transfer to the province of origin.  
f. Sales Tax on services devolved to provinces

Overall, it appears there has been an effort towards fiscal decentralization and of greater transfers to the provincial governments in Pakistan which have over the years played an increasingly important role in the provision of basic social and economic services like education, health, irrigation, roads etc. in the country.

Turning next to the revenue sharing formula between the provinces, revenues from the divisible pool of taxes have been distributed among provinces on the basis of their population. This has been fundamentally changed in the NFC Award of 2009, with provincial shares computed on the basis of multiple criteria of population, poverty/ backwardness, inverse population density (IPD) and revenue generation/ collection (see Table 3). In addition, the province of Khyber-Pakhtunkhwa (K-PK) has been given a 1% share in the divisible pool prior to distribution as compensation for costs of the War on Terror. For the first time, revenue sharing formula in the divisible pool is being used to ensure a degree of fiscal equalization through the inclusion of

indicators like backwardness/ poverty and IPD, although the criterion of revenue generation/ collection mitigates against this. The derived shares of the provinces are presented in Table 4.

| Award    | Tax             | Sharing Criteria (Weight)   |
|----------|-----------------|---|
| NFC 1990 | Divisible Taxes | Population (100%)   |
| NFC 1996 | Divisible Taxes | Population (100%)   |
| NFC 2006 | Divisible Taxes | Population (100%)   |
| NFC 2009 | Divisible Taxes | Population (82%)<br>Poverty (10.3%)<br>Revenue (5%)<br>IPD* ( 2.7%) |

\*Inverse Population Density

| Province     | NFC<br>1990      | NFC<br>1996      | NFC<br>2006      | NFC<br>2009      |
|--------------|------------------|------------------|------------------|------------------|
| Punjab       | 57.87<br>(57.87) | 57.37<br>(57.87) | 57.37<br>(57.36) | 51.74<br>(57.36) |
| Sindh        | 23.29<br>(23.29) | 23.29<br>(23.29) | 93.71<br>(23.71) | 24.55<br>(23.71) |
| KPK          | 13.54<br>(13.54) | 13.54<br>(13.54) | 13.82<br>(13.82) | 14.62<br>(13.82) |
| Balochistan  | 5.30<br>(5.30)   | 5.30<br>(5.30)   | 5.11<br>(5.11)   | 9.09<br>(5.11)   |
| <b>TOTAL</b> | <b>100.00</b>    | <b>100.0</b>     | <b>100.0</b>     | <b>100.0</b>     |

Figures in brackets are population shares according to the last Census conducted prior to the Award.

**Straight Transfers:** Besides divisible pool transfers, the federal government also makes straight transfers to the provinces. The institution of straight transfers from the federal to provincial governments of development surcharge on gas, excise duty on gas and crude oil and net hydel profits on the basis of collection initiated in 1990 NFC award has been taken forward by the subsequent NFCs. In the 1996 NFC award, royalty on gas and crude oil was also given to the provinces. In addition, Khyber-Pakhtunkhwa (K-PK) was receiving net hydel profits from WAPDA at a capped level of Rs.6 billion annually. The 2009 NFC resolved the outstanding issue of arrears of net hydel profits and development surcharge on gas. It also altered the basis of calculating straight transfers. As a proportion of inter-governmental transfers, straight transfers show a significant increase (see Table 5).

|         | <b>Divisible<br/>Pool Transfers</b> | <b>Straight<br/>Transfers</b> | <b>Special<br/>Grants</b> | <b>Total</b>      |
|---------|-------------------------------------|-------------------------------|---------------------------|-------------------|
| 1990-91 | 32.1<br>(95.0)                      | 1.7<br>(5.0)                  | -<br>(-)                  | 33.8<br>(100.0)   |
| 1991-92 | 47.5<br>(72.2)                      | 16.3<br>(24.8)                | 2.0<br>(3.0)              | 65.8<br>(100.0)   |
| 1996-97 | 119.2<br>(85.5)                     | 18.2<br>(13.1)                | 2.0<br>(3.0)              | 139.4<br>(100.0)  |
| 1997-98 | 104.0<br>(79.0)                     | 20.3<br>(15.4)                | 7.4<br>(5.6)              | 131.7<br>(100.0)  |
| 2005-06 | 244.6<br>(77.4)                     | 62.8<br>(19.9)                | 8.7<br>(2.7)              | 316.0<br>(100.0)  |
| 2007-08 | 403.1<br>(79.6)                     | 70.6<br>(13.9)                | 33.0<br>(6.5)             | 506.7<br>(100.0)  |
| 2009-10 | 574.1<br>(80.0)                     | 87.2<br>(12.1)                | 57.8<br>(7.9)             | 689.0<br>(100.0)  |
| 2010-11 | 865.8<br>(81.0)                     | 197.0*<br>(18.4)              | 6.0<br>(0.6)              | 1068.7<br>(100.0) |

Figures in parenthesis give share in total transfers.  
\*Inclusive of arrears and the sales tax on services like telecommunications.

**Grants/Subventions:** Besides revenue sharing from the divisible pool and straight transfers, inter-governmental transfers have also taken the form of unconditional grants in Pakistan. The 1990 NFC Award gave grants to the provinces to finance their revenue deficits. This created an incentive for provinces to increase their revenue deficits, undermining key principles of financial responsibility and fiscal prudence. The 1996 NFC award promoted the concept of grants/subventions for fiscal equalization to smaller provinces. Special grants were given to the two smaller provinces equivalent to Rs 3.3 billion for K-PK and Rs 4 billion for Balochistan. These grants, which were inflation indexed, were given for five years. Incentive of matching grants for higher fiscal effort to provincial governments was also introduced, subject to own revenue growth exceeding 14.2%. A maximum limit was, however prescribed for the matching grant.

In the 2006 NFC award, total subvention/grants for provinces were enhanced from Rs 8.7 billion to Rs 27.7 billion, with the provision for further increases linked to

growth of net proceeds in the divisible pool. Punjab and Sindh which were not given any grants in the 1996 award, were entitled to receive Rs. 3.1 and Rs. 5.8 billion respectively along with Rs 9.7 billion and Rs 9.2 billion respectively for KPK and Balochistan. By 2009-10 these grants and subventions had increased almost 58 billion. The 2009 NFC has discontinued the use of grants/ subventions as a mechanism of transfers. Only Sindh is getting a Rs. 6 billion grant in lieu of abolition of octroi/ zila tax grant.

In conclusion, it appears that, by and large, intergovernmental transfers between the federation and federating units has evolved within the broad, highly progressive overriding philosophy of promoting fiscal decentralization. However, the revenue sharing formula to meet the differential needs of the provinces remained stagnant for a number of years and whatever changes were made were ad-hoc and opaque. Fiscal equalization was based primarily on adhoc grants/ subventions. The 2009 NFC Award has initiated the practice of building in fiscal equalization explicitly in the revenue sharing formula. It, therefore, becomes important to see whether or not intergovernmental transfers have been successful in addressing the issue of horizontal inequalities across provinces.

### ***Provincewise Trend in Federal Transfers***

The Provincial shares in total federal transfers are presented in Table 6 in the last four NFC awards, for years just before and after a particular award. Clear patterns emerge from the Table. First, the share of the largest province-Punjab has declined over time. Punjab received over 55% of federal transfers just prior to the 1990 NFC award. Thereafter its share has declined, showing temporary recovery prior to the 1996 NFC award. The share of Sindh has increased significantly in the late 90s and in the earlier part of last decade. KPK's share in transfers peaked after to the 1990 NFC award, increasing to 19%, and has declined thereafter. The 1996 NFCs did attempt to restore the province's share but the 2006 arrangements further lowered it. The 2009 NFC attempts to redress this. As far as Balochistan is concerned, both the NFCs of 1990 and 1996 had enhanced the share in federal transfers to above 11% but this trend has not been maintained subsequently.

|  | 1990-1991 | 1991-1992 | 1996-1997 | 1997-1998 | 2005-2006 | 2007-2008 | 2009-10 | 2010-11 |
|--|-----------|-----------|-----------|-----------|-----------|-----------|---------|---------|
| Total Federal Transfers<br>(Rs in Billion) | 33.8      | 65.8      | 139.4     | 131.7     | 316.0     | 506.7     | 718.3   | 1068.7  |
| Punjab                                     | 55.3      | 45.1      | 51.3      | 47.0      | 47.1      | 47.3      | 47.2    | 46.7    |
| Sindh                                      | 24.0      | 23.9      | 24.9      | 23.8      | 30.1      | 29.8      | 29.3    | 26.7    |
| KPK  | 12.7      | 19.0      | 15.9      | 17.8      | 14.4      | 14.8      | 15.2    | 17.1    |
| Balochistan                                | 7.9       | 12.0      | 7.9       | 11.4      | 8.4       | 8.0       | 8.3     | 9.5     |
| Pakistan                                   | 100.0     | 100.0     | 100.0     | 100.0     | 100.0     | 100.0     | 100.0   | 100.0   |

|             | 1990-91 | 1991-92 | 1996-97 | 1997-98 | 2005-06 | 2007-08 | 2009-10 | 2010-11 |
|-------------|---------|---------|---------|---------|---------|---------|---------|---------|
| Punjab      | 0.953   | 0.778   | 0.884   | 0.810   | 0.821   | 0.824   | 0.822   | 0.815   |
| Sindh       | 1.030   | 1.026   | 1.069   | 1.021   | 1.270   | 1.257   | 1.235   | 1.127   |
| KPK         | 0.948   | 1.418   | 1.186   | 1.328   | 1.043   | 1.072   | 1.099   | 1.234   |
| Balochistan | 1.453   | 2.264   | 1.491   | 2.151   | 1.647   | 1.569   | 1.565   | 1.857   |
| Pakistan    | 1.000   | 1.000   | 1.000   | 1.000   | 1.000   | 1.000   | 1.000   | 1.000   |

\*Ratio of share in transfers to share in population.

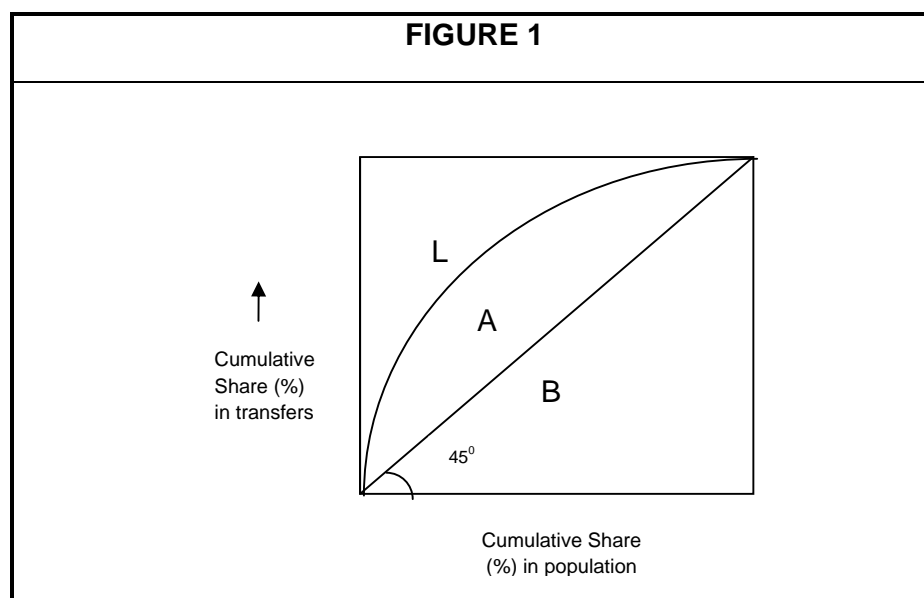
Given this pattern and trend, what do these transfers imply in terms of relative per capita transfers to each province? Table 7 gives the relative per capita transfers (defined as ratio of share in transfers to share in population). It appears that Punjab has always been getting less than its population share. Sindh has always had a share higher than its population, and its relative per capita transfer has, more or less, systematically increased over time except in the latest Award. Per capita transfers to KPK demonstrate a varying trend, increasing after to the 1990 and 1996 NFC awards, and declining thereafter till the 2009 NFC award. Balochistan has always received a higher per capita transfer than any other province. However, the magnitude of the transfer has varied, increasing to a high of 2.26 in 1991-92.

Interestingly, per capita transfers to the smaller provinces have been the highest in the immediate aftermath of NFC awards. This implies that the awards by and large, have made an effort to compensate the smaller provinces for their limited fiscal capacity. The only exception is the 2006 ad-hoc revenue sharing arrangements when the change in relative per capita transfer to the smaller provinces was either

minimal (KPK) or negative (Balochistan). As such, it is not immediately clear what the trend in fiscal equalization has been in Pakistan. To answer this question we develop a Fiscal Equalization Index (FEI) in the next section.

## 5. THE FISCAL EQUALIZATION INDEX [FEI]

The Gini Coefficient based on the Lorentz curve has traditionally been used to quantify the extent of income inequality. We use a similar technique to determine the extent of fiscal equalization achieved by transfers. This requires a comparison of the cumulative share in transfers of provinces in ascending order of development with the corresponding cumulative share in population. This is diagrammatically shown in Figure 1.



If curve L lies for the most part above the  $45^\circ$  line then this indicates that fiscal equalization is taking place. This requires computation of the area A below the curve L, for which we designate the following:

$S_B, S_K, S_P, S_S$

Share of Balochistan, K-PK, Punjab and Sindh respectively in transfers

$P_B, P_K, P_P, P_S$

Share of Balochistan, K-PK, Punjab and Sindh respectively in population

It is assumed that in the ascending order of level of development we have Balochistan, K-PK, Punjab and Sindh. This is justified in Box 2.

The Area A is derived as follows:

$$A = S_B \left[ \frac{1}{2} P_B + P_N + P_P + \frac{1}{2} P_S \right] + S_N \left[ \frac{1}{2} P_N + P_P + \frac{1}{2} P_S \right] + S_P \left[ \frac{1}{2} P_P + \frac{1}{2} P_S \right] + \dots \quad (1)$$

The Fiscal Equalization Index, FEI, is then derived as

$$FEI = \frac{B - A}{B}$$

$$\text{or } FEI = 1 - \frac{A}{B} \quad \dots \quad (2)$$

Where  $B = \frac{1}{2}(100)(100) = 5000$

In the event of perfect fiscal equalization where all the transfers accrue to the least developed province, we have that

$$A = (100)(100) = 10000$$

and  $FEI = -1.$

With some fiscal equalization,

$$A > B$$

and  $-1 < FEI < 0$

Alternatively, if there is perfect disequalization and the most developed province receives all the transfers then

$$A = 0$$

and  $FEI = 1$

Therefore, there is fiscal disequalization when

$$0 < FEI < 1$$



**BOX 2**  
**DEVELOPMENT RANKING OF PROVINCES**

For estimation of the FEI, we need the ranking of provinces in terms of level of development. Sindh appears as the most developed province in almost all development indicators, with the exception of Human Development Index (HDI). Also, KPK and Balochistan interchange to occupy the third and the fourth rank in different indicators. Therefore, the ranking of provinces in ascending order of development is Balochistan, K-PK, Punjab, Sindh.

| Development Ranking of Provinces  |                                       |                             |                                      |                                |                                   |                                       |
|---|---------------------------------------|-----------------------------|--------------------------------------|--------------------------------|-----------------------------------|---------------------------------------|
|   | Average Household Income <sup>a</sup> | Per Capita GDP <sup>b</sup> | Human Development Index <sup>c</sup> | Deprivation Index <sup>d</sup> | Incidence of Poverty <sup>e</sup> | Vulnerability to Poverty <sup>f</sup> |
| Punjab  | II                                    | II                          | I                                    | II                             | II                                | II                                    |
| Sindh   | I                                     | I                           | II                                   | I                              | I                                 | I                                     |
| K-P-K   | IV                                    | III                         | III                                  | IV                             | IV                                | III                                   |
| Balochistan   | III                                   | IV                          | IV                                   | III                            | III                               | IV                                    |
| <sup>a</sup> According to Household Income and Expenditure<br><sup>b</sup> According to Bangali, (2003)<br><sup>c</sup> According to Hussain, (2003) and Jamal, (2007)<br><sup>d</sup> According to Jamal, (2007)<br><sup>e</sup> According to Asian Development Bank (2003)<br><sup>f</sup> According to Jamal, (2007) |                                       |                             |                                      |                                |                                   |                                       |

## 6. TREND IN THE FISCAL EQUALIZATION INDEX

Based on the methodology described earlier, we have estimated the FEI for the years just before and after the last four NFC awards. Table 8 highlights that federal transfers had ceased to achieve the most important objective of fiscal equalization by 2005-06, prior to the 2006 Presidential order. The adhoc Presidential order did not reverse the trend, but in fact, strengthened it. The FEI for overall federal transfers has changed from -0.012 to 0.014 during the last decades. The table clearly reveals that the two awards – NFC 1990, 1996 – were fiscally equalizing, with 1990 NFC award being somewhat more equalizing than the 1996 NFC award. Thereafter, we see that the index has changed sign and has become positive, indicating that federal transfers by 2005-06 had become fiscally disequalizing. The NFC award of 2009 has, however, reversed the trend and contributed to some fiscal equalization.

Table 8 also presents the FEI index by type of transfer. A number of important insights emerge from the analysis. First, divisible pool taxes, which account for bulk of federal transfers have historically been fiscally neutral, being distributed on the basis of population. However, the 2006 ad-hoc arrangements, which allocated part of sales tax (1/6 allocated in lieu of octroi/zila tax) on the basis of collection, has titled it

marginally to being fiscally disequalizing. It benefited Sindh, in particular, to the detriment of KPK and Balochistan.

The 2009 NFC makes the divisible pool transfers fiscally equalizing for the first time in the fiscal history of the country. This is because of the inclusion of the development indicators in the revenue sharing formula. Second, straight transfers were playing an important role in fiscal equalization upto 1997-98, i.e. till after the 1996 NFC award. Thereafter these transfers have become an important source of inequality in federal transfers. The growth in the share of straight transfers, especially gas-related revenues to Sindh has resulted in a dramatic fall in the share of KPK and Balochistan in straight transfers.

|                           | 1990-91       | 1991-92       | 1996-97       | 1997-98       | 2005-06      | 2007-08      | 2009-10       | 2010-11       |
|---------------------------|---------------|---------------|---------------|---------------|--------------|--------------|---------------|---------------|
| Divisible Pool Transfers  | 0.000         | 0.000         | 0.000         | 0.000         | 0.000        | 0.018        | 0.020         | -0.068        |
| Straight Transfers        | -0.252        | -0.347        | -0.220        | -0.206        | 0.208        | 0.173        | 0.162         | 0.007         |
| Special Grants            | -             | 0.123         | 0.123         | -0.632        | -0.864       | -0.420       | -0.443        | 0.763         |
| <b>Total</b>              | <b>-0.012</b> | <b>-0.084</b> | <b>-0.026</b> | <b>-0.067</b> | <b>0.017</b> | <b>0.011</b> | <b>0.014</b>  | <b>-0.061</b> |
| <b>Δ Due to the Award</b> | <b>-0.072</b> |               | <b>-0.041</b> |               | <b>+0.06</b> |              | <b>-0.075</b> |               |

\*Ratio of share in transfers to share in population.

The 1996 NFC increased the importance of special grants and employed them as a principal tool for achieving horizontal equity, as these were given only to the two smaller provinces of KPK and Balochistan. Special grants in the 2006 Ad-hoc arrangements were also given to Sindh and Punjab which somewhat mitigated the equalizing influence of these transfers as is reflected by the decline in the absolute magnitude of the FEI in 2007-08 as compared to just before the award (see Table 8).

Our analysis also clearly indicates that NFC awards have to be announced in a timely fashion. Fiscal equalization breaks down or is significantly dampened close to the end of tenure of an award as the transfers fail to meet the resource needs of the relatively backward provinces. This is demonstrated by the FEI in the last year just

prior to the year when the award is due. Lack of consensus among the federating units and the inability to agree upon an award leads to distortions and exacerbates fiscal inequalities. Timely announcement of appropriately designed revenue sharing awards promotes an important government objective of distribution of resources necessary for equitable provision of basic social and economic services. To ensure this, the NFC Secretariat at the Ministry of Finance has to be strengthened with capacity to collect data on basic indicators and undertake analysis such that the NFC deliberations are supported by more technical analyses and there is more frequent monitoring of the consequences of an award.

To derive which NFC award represents the biggest change in fiscal equalization, we have computed the change in FEI due to the award. The largest change has occurred after the 2009 NFC award. This implies that the award has made the biggest effort to redress the imbalance caused by the Presidential Order of 2006.

## **7. CONCLUSIONS**

This paper analyses the last four NFC revenue sharing arrangements from the viewpoint of achieving fiscal equalization. Construction of the FEI, perhaps for the first time, provides clear conclusions. There was, in fact, a breakdown in fiscal equalization in Pakistan prior to the 2009 NFC Award. The Ad-hoc award of 2006 announced by the then President had clearly failed to improve equity in intergovernmental revenue transfers and had, therefore, been unsuccessful in achieving its basic objective. The 1990 NFC award followed by 1996 and the 2009 NFC awards have, however, contributed to fiscal equalization.

Results show that the 2009 NFC award has brought about the highest change in the FEI and therefore has made the biggest effort at ensuring equalization of revenues. Future NFCs will have to not only strengthen the trends but also have to ensure timely announcement of awards as our results shows dampening of fiscal equalization towards the end of the tenure of a particular award. The deliberations will have to be supported with better and more accurate data bases and analyses on indicators and on incidence of the federal taxes.

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