

# **Policy Research and its Implementation: Pakistan and Canada**

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## 1. Introduction

Official statistics play a fundamental role in the development of policy. Social indicators track progress. Data are used in social science research. Thus statistics support research conducted which has clear implications for policy to advance social and human rights objectives.

The culture of science seems to assume that, based on merit, better research based on better data will lead to better public policy. While no one argues that ignorance improves policy, it is also the case that better research does not inevitably lead to better public policy.

This paper explores the challenges in using social-science research for policy decisions. The discussion first is a general description of how data feeds research to feed policy. Examples are then considered using two countries, Pakistan and Canada, which are poles apart in economic and social development. In Pakistan obtaining reliable basic data is a very difficult; thus, policy decisions are made where gaps in data are filled with other considerations. In Canada reliable data abound but policy decisions are also influenced by political considerations and then 'marketed' to the public.

## 2. The Use of Official Statistics and Policy Research for Policy Formulation

The link between official statistics, social-science research and policy formulation may be thought of as a hierarchy with each layer relying, at least in part, on the layer below This hierarchy has at its foundation basic data. These are used for social and economic indicators These indicators in turn are used in social-science research which forms part of the information base for political

This hierarchy is illustrated in Table 1 The example included there is related to unemployment and minimum wages and is intended to illustrate how social-science research relies on basic data.

Basic data or official statistics are usually gathered and published by governmental agencies.- These include basic demographic, social and economic statistics; including infant and maternal mortality rates, literacy rates, GDP, unemployment, income (average, median and inequality), educational attainment and literacy rates.

Social scientists will then use the basic indicators in studies of economic development, education and health care. These studies typically will deal with interconnections and implications for change.

**Table 1 : From Official Statistics to Public Policy**

<b>Policy / Information Hierarchy</b>	<b>Example</b>
Policy Implications	Setting the minimum wage to encourage economic growth while leaving the working poor enough to live on and without encouraging social exclusion.
Understanding	Relationship between Minimum Wages and the Unemployment Rate and the economic status of vulnerable populations
Indicators Data	Unemployment Rate Number Unemployed

Policy decisions are based, at least in part, on an understanding of current social conditions (based on social indicators) and based on an understanding of how government actions can improve those social conditions.

Political decisions are not based solely on social-science. Government leaders usually wish to retain power and this often involves rewarding their supporters whose interests may out-weight scientific research.

The reliance of public policy decision makers on quality information presents many challenges. In the next two sections the challenges are discussed in the context of Pakistan and Canada. While both countries face challenges they arise at different places in Table 1 's the hierarchy.

### **3. Pakistan: Progress in Improving Basic Statistics**

Official statistics are collected by the Bureaux of Statistics, both at the Federal and the Provincial (State) level. These are collated and published at the national and regional level by the Federal Bureau of Statistics and at the sub-regional level by the provincial bureaux. Collecting reliable basic statistical information in Pakistan is very difficult. Pakistan has a literacy rate of under 50%, a population much of it rural, and a paucity of resources - both human and material - where allocations to collecting statistics is not high on the list of priorities of the Finance Ministers. Collecting data in Pakistan, particularly in the rural areas can be frustrating.

Thus, in Pakistan, the greatest challenge is in obtaining primary data which are reliable and consistent. Only some of the errors apparent in official statistics are the consequence of omission. There are indications that data quality has improved for foreign aided projects but that much progress is still necessary in other fields. Monitoring and publication of quality indicators may be part of such a program.

The problems encountered in collection data in Pakistan is best typified by the combination of methods used in estimating the Gross Domestic Product (GDP). There has been growing concern about the size and the influence of the unrecorded or underground (or black) activities of the economy. The problem is gaining severity as these activities are assuming larger proportions over the years. Despite the widespread recognition of the importance of underground and informal activities ambiguity exists regarding this phenomenon.

In Pakistan it is generally accepted that the underground (or unreported) sector of the economy contributes substantially to the overall economy but is not fully represented in the estimates of GNP. A recent study by Ahmed [1993] estimates the size of the black economy of Pakistan as about 40% of the GNP. This therefore leads to an improper estimation of the resource base available to the country for revenue generation and also to improper planning for allocation of resources across sectors.

Estimates of GNP are derived by sector (agriculture, manufacturing, etc) and by expenditure component (consumption, capital formation etc). These estimates are reconciled by taking private consumption expenditure as the residual. Therefore, the approach essentially adopted to sizing the GNP is by estimation of the value added in each sector.

All three methods-expenditure, income and product-are used depending upon the sector, as shown in Table 2. This choice of method is influenced not only by the nature of economic activities pursued within a particular sector but also by the availability of data.

**TABLE 2: Approach Adopted by the FBS for Estimation of Value Added by Sector**

<b>Sector</b>	<b>Approach</b>
Agriculture	Product*
Mining and Quarrying	Product
Manufacturing	Product
Construction	Expenditure**
Electricity and Gas Distribution	Product
Transport, Storage and Communications	Income***
Wholesale and Retail Trade	Product
Banking and Insurance	Income
Ownership of Dwellings	Product
Public Administration and Defence	Income
Services	Income

\* Product method: difference in value of gross output of producers measured in ex-factory / establishment market prices (inclusive of indirect taxes) and value of intermediate inputs used measured and producer's values

\*\* Expenditure method: sum of the final uses less intermediate inputs

\*\*\* Income method: sum of factor incomes accruing from production (including consumption of fixed assets)

Two broad approaches can be distinguished for deriving the value added annually of a sector. In the first approach, the Federal Bureau of Statistics (FBS) estimates the value added in a sector by application of either the product, expenditure or income method only for the bench mark year (1980-81). Beyond this a notional growth rate is applied to get value added estimates for each subsequent year. This approach has been used for the livestock sub-sector of agriculture, for small-scale manufacturing, for ownership of dwellings and for social, personal and community services. The respective growth rates assumed in value added (at constant prices) are 6.0%, 8.4%, 5.3% and 6.5%. The basis for these growth rates is not always clear. The ad hoc nature of this approach is a reflection of the absence of data, due to lack of annual censuses or surveys. For example, the Census of Small Scale and Household Manufacturing Industries has been carried out infrequently (in 1976-77, 1983-84, 1987-88 and 1996-97). The assumed growth rate of 8.4% is the annual growth rate derived for the inter-censal period, 1976-77 to 1983-84. Given the improvised nature of this approach, estimates of value added in the particular sectors are likely to be subject to a significant margin of error. Almost 25% of the economy is estimated in this manner.

The other approach involves independent estimation of value added each year. For each sector a network of information providing agencies has been established by the FBS which furnish relevant data each year. For example, estimate of value added in the major crops sub-sector is based on figures of output supplied annually by the Federal Ministry of Food and Agriculture, on estimates of value of by-products provided by the Provincial Directorates of Crop Reporting, on harvest prices and seed rates from Provincial Departments of Agriculture, on fertilizer use from the Federal Directorate of Fertilizer Supplies, on consumption of pesticides and insecticides from the Provincial Plant Protection Departments and by Pakistan Pesticides, on canal water releases from the Provincial Irrigation Departments and so on. Therefore, the reliability of estimation of sectoral value added is primarily a function of the quality of information provided by these agencies.



Reliability of estimation is high in sectors where public sector agencies, semi-autonomous bodies or public companies dominate and provide the requisite data to the FBS. This includes electricity and gas distribution, construction( excluding building), transport (excluding road and water transport), finance and insurance and public administration and defence. The quantum of underreporting is limited in these sectors (sub-sectors). Only minor problems are observed in FBS coverage of these sectors as illustrated by the exclusion of self-generation of electricity by households and commercial establishments in the electricity and gas distribution sector, by omission of value added by real estate, business services and emerging financial institutions (like Modarbas, exchange dealers, etc.) in the finance and insurance sector, by the lack of coverage of public utilities like water and sanitation agencies and parastatal enterprises outside the government budget (like the social security institutions and the seed and fertilizer distribution agencies) and the omission of value added from private telephone, postage and television services in the communications sub-sector.

In the case of some sectors a hybrid approach is used. Some magnitudes are derived on an annual basis while others have been computed only for the bench mark year and are assumed to be unchanged in subsequent years. For example, in the wholesale and retail trade sector the portion of output marketed and net trade margins are assumed to have remained at the 1980-81 levels. In such • cases, the reliability of value added estimates is adversely affected in the absence of periodic updating of the assumptions.

Also, in the case of some sectors, even though an institutional network of information exists, there are serious problems in reporting due to the undocumented, hidden or informal nature of activities within such sectors. For example, data on output of fishing is provided by the Marine Fisheries Department of the Federal Ministry of Agriculture and the Provincial Fisheries Departments on the basis of value of fish sold at auctions. FBS recognises that these figures are understated, especially in the case of inland fisheries, and arbitrarily doubles the figure provided by the departments. In the forestry sub-sector, data is provided by the Chief Conservator of Forests of each province. It relates only to state forests and there is substantial under-reporting due to theft or self-procurement by households of firewood and timber.

On an overall basis, it appears that the FBS approach to estimation of sectoral value added is fraught in some cases with problems of sizing the base (either value of output, employment, turnover, etc.) and in some sectors with defects in measurement of value added per unit of the sectoral base. The former problem appears to be more serious in the case of sectors like fishing, forestry, mining and quarrying, construction and large scale manufacturing and the latter problem in sectors like road transport, wholesale and retail trade, ownership of dwellings and social, community and personal services.

An in-depth analysis of the methodology used by the FBS for estimating value added in each sector reveals substantial understatement of the estimation to the GNP as a consequence of shortcomings in coverage of the traditional activities and also because FBS has been slow to incorporate emerging activities as the economy becomes more diversified with the rise in income levels and as the process of privatisation gains momentum in the country.

Other examples of defects in data have been drawn from the most recent 1998 census of Pakistan to the previous one from 1981. One analysis deals with the published literacy rate and the other concerns the regional distribution of the population.

The first example, based on the census compares the literacy rate published with each census. Literacy is determined by whether the individual could read and write a simple letter. The literacy rate in 1998 was 45%, significantly more than the 1981 figure of 26%.

Since the censuses concern only Pakistan citizens immigration and emigration should have only a minimal impact. The data indicated that of the 40 million literates in 1998 most were under the age of 10 in 1981; thus, they were not asked the literacy question in 1981. The analysis represents a reality check on the reported increase in literacy by examining the increased literacy among the population who reported literacy in each of the two censuses. That is, the analysis concentrated on those who responded to both the 1981 and 1998 censuses.

When one compares the 1981 and 1998 literacy for those which answered the literacy question in both censuses, the number of literates increased by about 20%. A cohort analysis compares the responses that individuals gave in 1981 to that they gave 1998. These data are presented in Figure 1. That chart indicates significant growth; it was greatest for those who were 10-14 in 1981. Regardless, most of the increase in literacy reported was in the population who were less than 10 in 1981. Thus, while some may dispute the number becoming literate as adults, one would expect this to have only a minor impact of the overall reported literacy level.

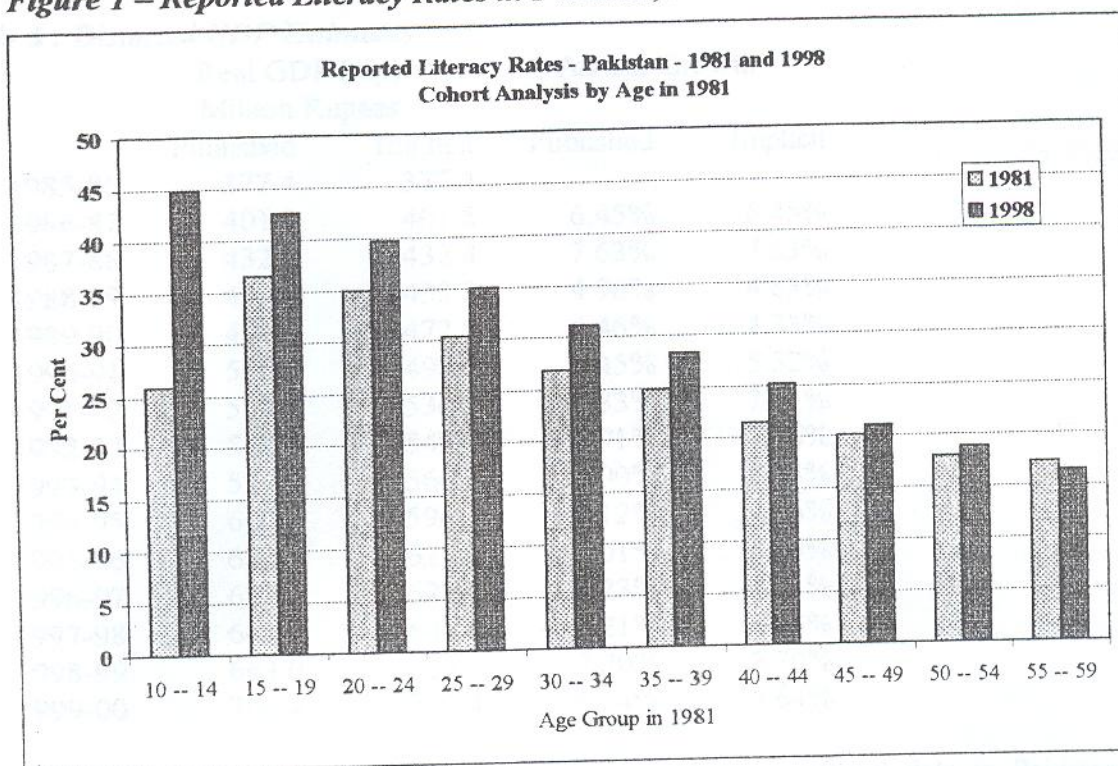
Figure 1 illustrates the cohort increase in literacy. For those over the age of 15 it was more modest. These data suggest that millions of Pakistanis learned to read when they were adults. Corresponding statistics on school and adult education enrolment and output do not confirm this substantial gain in literacy. Moreover, only in the previous year the FBS published the results of the Household Income and Expenditure Survey 1996-97 which showed a substantially lower literacy rate. The comparative data from this and the Census is shown in Table 3

The comparisons clearly put the results of the 1998 census into question. Further, the growth rate of over 1% per year revealed by the Censuses of 1981 and 1998 and the phenomenal jump of over 10% in the two years between the HIES and the Census, therefore, would suggest that a population census should be carried out more frequently.

	Household Income and Expenditure Survey 1996-97	Census and Housing Population, 1998
Pakistan	34.6%	45.0%
Urban	51.8%	64.7%
Rural	26.9%	32.6%
Male	23.5%	56.5%
Female	11.13%	32.6%



**Figure 1 – Reported Literacy Rates in Pakistan, 1981 and 1998**



The second example concerns the changes in the inter-provincial share of populations. Access to resources and economic opportunity is governed by these shares. In the years of plenty, prior to the nineties, the allocation of resources and access to employment was not a matter of contention, therefore, the censuses were not hostage to these statistics. Table 4 shows the delay in holding the census and the marginal change in the inter-regional share of population between 1981 and 1998.

**Table 4 : Population Distribution Regionally**

	Share of Population			
	1961	1972	1981	1998
Punjab	62.23%	60.10%	57.88%	57.32%
Sindh	20.45%	22.62%	23.29%	23.68%
NWFP	14.01%	13.40%	13.54%	13.86%
Balochistan	3.31%	3.88%	5.30%	5.14%

Public policy can be distorted by using statistics to tell a given tale. Information on all sectors of the economy are readily available in developing countries on at least a quarterly basis. In Pakistan these are based on data derived from periodic censuses or surveys of economic activities (some are annual) with a high proportion of non-response. The adjustments can then be used judiciously to provide a one-sided story. For instance the Survey of Household and Medium Industries is conducted decennially and the estimates of output are extrapolated forwards until the next. The results from the succeeding survey is then used to revise the previous published estimates of national accounts. This should have been done for the period between 1988 and 1997 when the estimates of annual growth were scaled down from 8.4% to 5.3%. Consequential year-on-year changes were not published in the estimates of National Accounts released in June 2000. Table 6 shows that while the underlying implicit numbers were computed, the published statistics were made to tell a story which was distorted. Thus instead of showing that during 1996-97 the actual growth rate was 1.0% and it was reported to be 1.2% (the last year of Benazir Bhutto's second government) and that the corresponding growth rates for the next year were 1.2% and 2.5% respectively (the first year of Nawaz Sharif's second term).



**Table 6 : Distorted GDP Estimates**

	Real GDP (mp) Million Rupees		Annual Growth	
	Published	Implicit	Published	Implicit
1985-86	377.4	377.4		
1986-87	401.8	401.8	6.45%	6.45%
1987-88	432.4	432.4	7.63%	7.63%
1988-89	453.9	453.3	4.96%	4.83%
1989-90	474.1	472.9	4.46%	4.33%
1990-91	500.0	498.1	5.45%	5.32%
1991-92	539.1	536.5	7.83%	7.71%
1992-93	549.5	545.9	1.91%	1.76%
1993-94	570.9	566.3	3.90%	3.74%
1994-95	600.1	594.4	5.12%	4.96%
1995-96	630.2	623.2	5.01%	4.85%
1996-97	637.9	629.6	1.23%	1.01%
1997-98	645.6	645.6	1.21%	2.55%
1998-99	663.0	663.0	2.70%	2.70%
1999-00	700.4	700.4	5.64%	5.64%

These examples have illustrated the major problems in official data in Pakistan. The next section concerns Canada where data quality is better but the link to public policy remains problematic.

#### **4. Canada: Does Public Policy Rely on Policy Research?**

Official statistics in Canada come from Statistics Canada which *The Economist* ranked as the best statistical agency in the world. As well, the basic data published in Canada are very reliable. A great deal of care is taken with sampling frame and precision.

Do this high quality basic data lead to better public policy? One might have thought so but the linkage is not obvious based on the presentation and misrepresentation of research in public policy discussions in the media or as presented in government publications.

Political decisions, even in the presence of excellent scientific information are influenced as much by perceptions and political considerations as by 'facts'. This is because policy decisions made by governments are fundamentally political decisions. They are made based on the best research information available but are designed to serve a political purpose.

Thus while basic research may be of excellent quality, its implementation will depend on political implications. Two examples illustrate how the choice of statistics in the portrayal of information can assist a government in 'marketing' of policy.

Generally governments have an interest in making policies appear progressive, that is, benefiting the poor. The following examples, illustrate how simple statistical techniques can be used to make fundamentally regressive tax proposals appear progressive.

The following quote is from a budget document released by the federal finance department. Suggesting the "exempting food from sales tax gives higher-income people a greater absolute tax

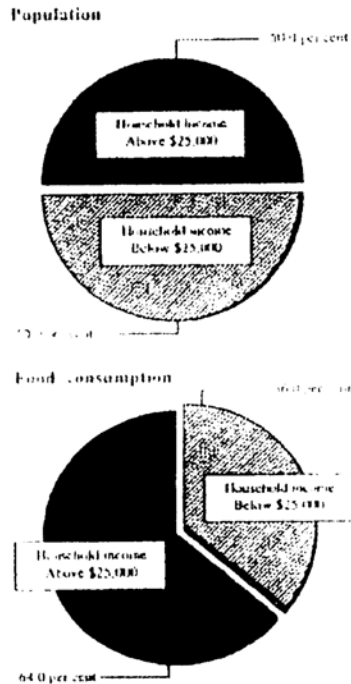


benefit than those at lower-income levels. This is because higher-income people spend more on food and, in particular, more on expensive foods and restaurant meals." (Finance Canada, 1987)

This quote accompanied a graph (Figure 2) showing the high-income Canadians spent more on food than low-income Canadians. The statement is accurate but leaves the incorrect impression that low-income Canadians would not be the major beneficiaries if food was excluded from the sales tax.

**Figure 2**

**Higher-Income Households Spend More on Food Than Lower-Income Households**



Any serious economic analysis would assess tax incidence as a per cent of income and conclude that a sales tax which included food would be more regressive than one which excluded it

Ultimately food was not included in the sales tax. The government department which hinted in 1987 that including food would be progressive said the opposite, when it was opportune in 1997.

*"Another instrument for addressing fairness in sales tax burdens is to exempt from taxation some commodities that are more heavily consumed by low-income individuals. Key examples are the tax-free treatment of basic groceries." (Tax Fairness, Finance Canada, Budget of February 1997)*

Thus economic analysis using either absolute or relative expenditures allows the good basic data to support either side of the policy question of whether including food in a sales tax would be progressive.

A government report was released with the 1992 budget which purported to

analyze the impact of proposed changes to the Child Tax Benefit, an income support program. Previously the support was delivered through a monthly cheque of \$35 combined with an annual cheque. Government announced a new program which would combine the monthly and annual cheques in to a single monthly cheque. For low-income children total support, on an annual basis, was no greater.

You could not tell this from the analysis which was published.

*"Lower-income families with one child will receive a monthly payment of up to \$144, significantly more than the monthly payment of \$35 they now receive. Approximately two million families with incomes below \$50,000 will receive larger monthly payments than they do now." (Health and Welfare Canada, 1992)*

The concentration on the increasing monthly cheque while ignoring the lost annual cheque is a device which conceals more than it reveals about the impact of the program. Nowhere did budget documents published with the proposal acknowledge that low-income children received the same total funds. The analysis totally concentrated on the diversion that monthly cheques increased.

Indeed, the Globe and Mail, Canada's premier newspaper, appear to have fallen for the ruse in their subsequent editorial. *"Mr. Mazankowski's reforms will sharply raise support for low-income families with children. The plan will allow Ottawa to make monthly payments of up to \$ 144 for each child in a low-income family, four times the current family allowance. About two million families with incomes below \$50,000 a year will receive larger monthly payments than they now do"* (Globe and Mail, 1992)

Such techniques which obscure more than they clarify are standard practice in public policy debates.

While Canada does not have the fundamental data collection challenges of Pakistan, policy is a balance of political and social-science considerations. This is perhaps as it should be in a democracy. However, once the public policy decision has been made social-science 'facts' and observations are often presented as justification for the decision. The marketing of policy often uses the same techniques which others use to sell laundry soap and used cars.

## **5. Conclusion**

In an ideal world official statistics would be collected so that social indicators are reliable and consistent. In that world, research of a social science nature would be free of bias and would be the oxygen for the public policy discussion which is a foundation of democracy.

In an ideal world political decisions would be based on social objectives which honour human rights and would be based on the best social-science research available.

This paper has demonstrated that basic data collection in a country like Pakistan can be challenging.

In Canada, official statistics and policy research are of exceptional quality. Yet political decisions are still based as much on political consideration as on science. Once decisions have been made government agencies publish the data which supports the decision which had been made.

## **REFERENCES**

- Sen, Amartya (1999). *Development as Freedom*, New York. Finance
- Canada (1987). *The White Paper, Tax Reform 1987*, Ottawa Finance
- Canada (1997). *Tax Fairness*; Ottawa Globe and Mail (1992) Editorial;  
Toronto
- Health and Welfare Canada (1992) *The Child Benefit - A White Paper on Canada's New Integrated Child Tax Benefit*, Ottawa.



Government of Pakistan, Finance Division, Economic Adviser's Wing; (2000), Economic Survey 1999-2000, Islamabad

Government of Pakistan, Statistics Division, Federal Bureau of Statistics, (1999), Pakistan Integrated Household Survey 1996-97; Islamabad

Government of Pakistan, Statistics Division, Population Census Organisation. (1977), Population Census of Pakistan 1972 : Statistical Report of Pakistan, Islamabad

Government of Pakistan, Statistics Division, Population Census Organisation, (1984); 1981 Census Report of Pakistan, Islamabad

Government of Pakistan, Statistics Division, Population Census Organisation, (1998), Population and Housing Census of Pakistan 1998 : Census Bulletin - 1; Islamabad

Government of Pakistan, Statistics Division, Federal Bureau of Statistics; (1999); Labour Force Survey 1996-97, Islamabad

- Government of Pakistan, Statistics Division, Federal Bureau of Statistics; (1999), Household Integrated Economic Survey 1996-97; Islamabad

