THE VAT ON SERVICES

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CHAPTER ONE
INTRODUCTION

The prevalence of an extremely low FBR tax to GDP ratio in Pakistan of below nine percent has compelled the government to undertake major tax reforms which can raise this ratio and reduce the magnitude of fiscal imbalance. Perhaps the linchpin of this reform effort is the introduction of a comprehensive and integrated value added tax on goods and services in the economy. This is expected not only to raise substantial additional revenues but also distribute the tax burden more evenly across sectors and contribute towards greater progressivity of the tax system of Pakistan.

The focus of this report is on the implications of a full-scale extension of VAT on services. We first review the history of General Sales Tax in Pakistan which, at least initially, had VAT-like features but has been levied mostly on goods only. Salient features of the proposed federal and provincial VAT bills are then described. Finally, in this introductory chapter, we describe the contents of the report.

1.1 History of the GST/ Excise Duty on Services

The Constitution of Pakistan restricts the federal government to levy of a sales tax only on *"the sale and purchase of goods imported, exported, produced, manufactured or consumed".* This implies that sales taxation of services lies within the fiscal powers of provincial governments. In view of this limitation, the federal government has found it expedient to levy an excise duty on services, effectively in the GST mode.

The FED on services can be traced back to 1971-72 when it was levied mainly on hotels. As described by Mir Ahmed Khan [2008] the services in the excise duty net include advertisement on TV/ cable, insurance, non-fund services, air travel tax and property developers. Beyond this, sales taxable services (in FED VAT mode) include telecommunications, facilities for travel, inland carriage of goods by air and shipping agents.

In 2000, Provincial ordinances were promulgated authorizing the federal government to collect sales tax on services at the standard rate on hotels, marriage halls, lawns/ clubs/ caterers, advertisements on radio/ TV, customs agents, ship chandlers, stevedores, shipping agents, courier services, beauty parlours, beauty clinics, slimming clinics, laundries and dry cleaners, caterers and travel agents.

According to Khan [2008] the contribution of services to excise duty and GST revenues combined in 2007-08 was about 14 percent. The remainder 86 percent was from goods. Apparently significant potential still exists for raising more revenue from services.

1.2 Federal Value Added Tax Act, 2010

The Federal Value Added Tax, 2010, when passed by the Parliament, will replace the GST Act, 1990. The coverage is only of goods, with the exception of 'federal list of services' which covers the carriage of goods or passengers by railway, sea or air. From the viewpoint of services in general, the Act defines "services" as follows:

"anything that is not goods, immovable property, or money"

while "goods" are defined as follows:

"include all materials, commodities, and articles, other than actionable claims, money, stocks, shares and securities".

This effectively specifies the demarcation between goods and services in the economy for taxation purposes.

1.3 The [Province] Value Added Tax Bill, 2010

This legislation is to be passed by the Provincial Assemblies. It supercedes the earlier ordinance of 2000. The objective of this bill is to introduce and implement a broad-based tax on sales and purchases of goods; with each tax to be cross- credited against the other to form a broad-based tax on consumption throughout Pakistan. In order to ensure integration of the collection process, it is proposed that the tax imposed under this Act shall be collected by Federal Board of Revenue in the same manner and mode and at the same time as if it were a tax imposed under the new Federal Value Added Tax Act.

The Province VAT Bill, 2010, has five chapters and two schedules. The first schedule relates to exempt supplies and the second schedule to zero rated supplies.

It is expected that the simultaneous passage of the Federal VAT Act and the Province VAT Bill by July 1, 2010 will enable the levy of a comprehensive VAT on services in the economy. Revenues from the former will be transferred to the divisible pool while revenues from the latter will accrue entirely to the provinces (net of costs of collection).

1.4 Contents of Report

This report on the VAT on services has nine chapters after this introductory chapter with the following titles:

Chapter Two: International Comparisons of VAT

Chapter Three: Sizing the Tax Base

Chapter Four: Size Distribution of Service Units

Chapter Five: Input Tax Invoicing of Services

Chapter Six: Methodology for Estimating Revenue Potential

Chapter Seven: Estimates of Revenue Potential

Chapter Eight: Provincial Distribution of Tax Bases

Chapter Nine: Incidence of VAT on Services

Chapter Ten: Conclusions

The primary objective of the report is to quantify the revenue potential, both short term and medium term, of a comprehensive VAT on services.

CHAPTER TWO
INTERNATIONAL COMPARISONS OF VAT

A VAT is operating in over 130 countries today. Its popularity is due to its non-distortionary character and high revenue productivity. In virtually all countries the VAT covers both goods and services. We describe below the standard rates, exemptions, reduced rates and revenue yield in selected countries.

2.1. VAT in Developing Countries

Table 2.1 gives the standard rate and reduced rate (if any) of VAT in a sample of 20 developing countries. The standard rate varies from a low of 7percent in Thailand to a high of 21percent in Argentina. Pakistan will be in the intermediate range, with a proposed VAT rate of 15percent.

TABLE 2.1
VAT* IN A SAMPLE OF DEVELOPING COUNTRIES
(%)

	Standard Rate	Reduced Rate (if any)
Argentina	21	-
Bolivia	15	-
Chile	19	-
Columbia	16	-
China	17	3, 6
Egypt	10	-
India **	12 ½	1, 4
Indonesia	10	5
(South) Korea	10	-
Jordan	6	-
Malaysia	10	-
Mexico	15	-
Pakistan	16	-
Peru	19	-
Philippines	12	-
South Africa	14	-
Sri Lanka	12	-
Thailand	7	-
Turkey	18	1, 8
Vietnam	10	5

* On goods and services
** On goods only

Only about one fourths of the countries have reduced rates on specific items. Exemptions given to particular services in some countries include the following: postal services, medical care, lending, insurance, public transportation of private persons, social welfare services and educational services. The proposed legislation for VAT on services in Pakistan provides for fewer exceptions.

The revenue productivity of taxes (VAT plus any excise

duties) on goods and services in a selected group of countries is given in Table 2.2. These taxes account for a minimum of 21 percent of total revenues in Malaysia to a maximum of 79 percent in China. The magnitude of the tax burden, measured as the tax revenue in relation to the value added in the manufacturing and service sectors, ranges from a low of 4 percent in Bangladesh to over 18 percent in Turkey. The tax to GDP ratio of such taxes varies widely from below 3 percent of the GDP in Bangladesh to a high of almost 16 percent in Turkey.

TABLE 2.2
REVENUE YIELD OF TAXES ON GOODS AND SERVICES

	Year	Total Revenues as percent of GDP	Tax on Goods and Services as percent of Revenue	Tax on Goods and Services as percent of Value Added in Manufacturing and Services	Tax on Good & Services as percent of GDP
China	2005	9.6	79.0	9.0	7.6
India	2006	12.7	30.1	5.1	3.8
Indonesia	2004	18.4	32.0	6.8	5.9
Malaysia	2003	23.7	21.4	5.6	5.1
Nepal	2006	10.9	34.4	7.0	3.7
Pakistan	2006	13.5	32.8	6.0	4.4
Philippines	2006	16.2	25.1	4.7	4.1
Sri Lanka	2006	17.0	51.1	12.5	8.7
Thailand	2006	20.2	40.1	9.1	8.1
Turkey	2006	32.9	48.5	18.5	15.9
Bangladesh	2004	10.0	28.9	4.0	2.9

=> Out of the above 11 countries, Pakistan is ranked 7th

Source: World Development Indicators, World Bank

The revenue productivity of existing taxes (GST plus excise duty) on goods and services appears to be relatively low in Pakistan. They account for about one thirds of total revenues; represent only 6 percent of the value added in the manufacturing and service sectors and contribute about 4 ½ percent of the GDP. As highlighted earlier, this is due primarily to undertaxation of services in the economy.

2.2. VAT in South Asia

VAT in Sri Lanka

VAT was introduced in 2002 as replacement to the Goods and Services Tax (GST). Currently the standard rate is 12 percent. Prior to 2009 it was 15 percent. A higher rate of 20 percent is applicable on motor vehicles, luxury goods and liquor. The registration limit applicable to VAT has been raised from Rs 1.8 million to Rs 2.5 million. Education, some financial services, public passenger transport services, health and life and crop insurance are exempted from VAT.

VAT in Bangladesh

VAT is imposed on goods and services at import stage, manufacturing, wholesale and retail levels. A uniform VAT rate of 15 percent is applicable for both goods and services. 15percent VAT is applicable for all business or industrial units with an annual turnover of Taka 2 million and above. Turnover tax at the rate of 4 percent is leviable where annual turnover is less than Taka 2 million. VAT is applicable to all domestic products and services with some exemption. It is payable at the time of supply of goods and services. Tax paid on inputs is creditable/adjustable against output tax. Export is exempt. Cottage industries (defined as a unit with an annual turnover of less than 2 Taka million and with a capital machinery valued up to Taka 300000) are exempt from VAT. Tax revenue are to be submitted on monthly or quarterly or half yearly basis as notified by the Government. Supplementary Duty is imposed at local and import stage under the VAT Act, 1991. Existing statutory Supplementary Duty rates are as follows:

a) on goods: 20percent 35percent, 65 percent, 100percent, 250percent and 350 percent
b) on services: 10percent, 15percent, 35percent

VAT in India

In India, constitutional provisions are opposite that of Pakistan. The power to levy a sales tax on goods lies with the states while services can be taxed only by the Union government. As such, vide the new article 268 of the Constitution, a service tax was introduced at the federal level with effect from 1st of July 1994.

The strategy followed has been one of gradual extension of the tax net to cover more services and periodic enhancement in the standard rate. Starting from only three services in 1994-95, today over 100 services are subject to the Service Tax in India (list of taxed services is given in Box 2.1). The initial rate was 5 percent, which was raised to 10 percent in 2004-05 and to 12 percent in 2006-07. More recently, in an effort to provide a fiscal stimulus the rate has been brought down to 10 percent once again. Today, the number of assessees under the Service Tax is over one million.

The contribution of the Service Tax in India has increased from 0.1 percent of the GDP in 1994-95 to 1.1 percent in 2007-08. About 63 percent of the collection is from ten services (see below), with telecommunication services emerging as the largest source of revenue. The major revenue spinners include the following:

Sector	**percent Share in Revenue from Service Tax**
Telecommunications	17.8
Banking and Other Financial Services	8.5
Business Auxiliary Service	6.4
Goods Transport Agency (by Road)	6.1
General Insurance	5.4
Insurance Auxiliary Service	5.3
Maintenance or Repair Service	3.7
Stock Broker	3.6
Consulting Engineers	3.0
Commercial or Industrial Construction	2.9
Total	**62.7**

BOX 2.1 LIST OF SERVICES TAXED UNDER THE SERVICE TAX IN INDIA			
Advertising Agency	Consulting Eng.	Life Insurance	Authorized Service Station
Advt. Space or Time	Containers by Rail	Mailing List Compil. & mailing	Share Transfer Agent
Air Travel Agent	Conventions	Maintenance or Repair	Ship Management
Air Travel for International Journey	Cost Accountants	Management Consultants	Site Prepar. & Clearance
Airport	Courier	Mandap Keeper	Sound Recording
Architect	Credit Card Related	Manpower Recruit. Supply	Sponsorship
Asset management	Credit Rating Agency	Market Research	Steamer Agent
ATM operations	Custom House Agent	Mining of Mineral, oil or gas	Stock Broking
Auction	Design	Online info. & data	Storage and Warehouse
Banking & other financial services	Develop. & supply of content	Opinion Poll	Survey and explor. Of mineral
Beauty treatment	Dredging	Outdoor Catering	Survey and Map Making
Broadcasting (Radio & TV)	Dry Cleaning	Packaging	Telecommunication
Business Auxiliary	Erection, commi. & install	Pager	Telegraph
Business Exhibition	Event Management	Pandal or Shamiana	Telex
Business Support	Fashion Designer	Photography	Test, Insp., Certification
Cable Operator	Fax	Port Services by mjr Ports	Tour Operator
Cargo Handling	Forward Contract	Public Relation	Tansp. of Goods by Air
Chartered Accountants	Franchise	Rail Travel Agent	Tansp. of Goods by Pipeline
Cleaning	Genl ins. Business	Real Estate Agent	Tansp. of Goods by Road
Clearing & Forwd Agents	Health Club & Fitness	Recovery Agent	Travel Agents (oth. than air/rail)
Club's Membership	Ins. Auxiliary	Registrar to an issue service	Travel by Cruise Ships
Commer. Training or Coaching	Intellectual Property	Rent a Cab Operator	TV or Radio Prog. Prod
Company Secretary	Interior Decorator	Renting of Immovable Prop.	Underwriter
Const. of Resi. Complex	Internet Café	Scientific and Tech. Consult.	Video Tape Prod.
Const. of Commercial, Indl Buildings	Internet Telephony	Security Agency	Works Contract

CHAPTER THREE
SIZING OF THE TAX BASE

We proceed now to make a first attempt at sizing the potential tax base for the VAT on services. Two approaches are adopted. The first approach quantifies the value added in the production of services, while the second approach attempts to measure the value of final consumption by households of services. The difference indicates the extent to which services are inputs into production which are likely to be input invoiced away. As such, the second approach represents the proper estimates of the tax base of the VAT on services, given the nature of the tax.

3.1. Production of Services in the National Economy

Services play an important role in the national economy. Sectors which are likely to be covered by the VAT on services in the national income accounts include transport, storage and communications; wholesale and retail trade; finance and insurance and social, personal and community services. As shown in Table 3.1, collectively the value added in the production of these services accounts for over 47 percent of the GDP. The largest sector is wholesale and retail trade, followed by transport, storage and communications; social, community and personal services and finance and insurance.

TABLE 3.1
SIZE OF TAX BASE OF VAT ON SERVICES

(Rs in Billion)

Service Sector *	**2003-04**	**2008-09**	**Annual Growth Rate (percent)**
Wholesale and Retail Trade	896.4	2359.2	21.3
Transport, Storage and Communications	675.6	1609.9	19.0
Finance and Insurance	165.2	667.7	32.2
Social, Community and Personal Services	473.2	1236.3	21.1
Total	**2210.4**	**5873.1**	**21.6**
GDP	5250.5	12459.5	18.9
Gross Tax Base as percent of GDP	**42.1**	**47.1**	

* excluding public administration and defence, and ownership of dwellings which are not subject to VAT

Not only are the service sectors relatively large but they also represent the more dynamic part of the economy. Between 2003-04 and 2008-09, while the average annual growth rate of the GDP at current prices was 19 percent, the corresponding growth rate of the above mentioned service sectors combined was significantly higher at almost 22 percent. Consequently, the share of these sectors in the GDP has increased from 42 percent in 2003-04 to over 47 percent by 2008-09. The implication is that if the tax net is extended to more effectively cover services then this is likely to increase the elasticity of the tax system of Pakistan.

3.2. Final Consumption of Services

Data on household expenditure on services is given in the HIES, which is undertaken periodically. The last such survey was in 2007-08. Estimates of the national final (household) consumption expenditure on different services are given in Table 3.2. The total expenditure, after allowing for underreporting in the HIES, is estimated at Rs. 2178 billion in 2007-08. This is in comparison to the estimated value added in taxable services of Rs. 4511 billion in 2007-08.

TABLE 3.2
FINAL CONSUMPTION EXPENDITURE ON SERVICES (FROM HIES, 2007-08)

	Household Expenditure* (2007-08)	**percent Share**
Transport and Communication	488.5	22.4
Cleaning, Laundry and Personal Appearance	281.6	12.9
Recreation and Entertainment	55.6	2.6
Education	308.6	14.2
Miscellaneous (Health, etc)	1043.4	47.9
Total	**2177.7**	**100.0**

* Adjusted for underreporting of consumption expenditure in HIES in relation to national income accounts,

The final consumption of services is equivalent to 22 percent of the GDP. This is closer to the real estimate of the potential tax base of the VAT on services. Based on this size, the maximum yield of the VAT on services is about 3.3 percent of the GDP (with a standard tax rate of 15 percent). But a more realistic estimate will need to allow for the fact that part of

this consumption is met by units below the threshold level of turnover of the VAT and are, therefore, exempt from the tax.

3.3. Sub-Sectoral Value Added

Various sources have been used to derive the distribution of value added among the sub-sectors within a particular service sector. The sources include the updated Input-Output Table by FBR/ World Bank and estimates provided by FBS for 2006-07. These estimates have been reconciled to the context possible and projected to 2010-11, the first year of the VAT. The sub-sectoral value added estimates are presented in Table 3.3.

TABLE 3.3
SUB-SECTORAL VALUE ADDED IN SERVICES ESTIMATES FOR 2010-11
(Rs. In Billion)

Sector/ Sub-Sector	Value Added
Wholesale and Retail Trade	**3057.6**
Trade: Wholesale	471.0
Trade: Retail	2338.6
Hotels & Restaurants	248.0
Transport, Storage and Communications	**2012.3**
Railways	128.0
Road	1415.3
Water	5.0
Air	131.0
Others & Storage	28.0
Communications	305.0
Banking & Insurance	**934.1**
Central Monetary Authority	103.0
Scheduled and Cooperative Banks	435.0
Other Credit Institutions	89.0
Insurance	94.0
Real Estate Services	213.1
Social, Community and Personal Services	**1607.2**
Business and Computer Services	382.1
Education	267.0
Health Care	160.0
Social and Cultural Services	260.0
Personal Services	538.1

CHAPTER 4
SIZE DISTRIBUTION OF SERVICE UNITS

As estimated in the previous chapter, the effective tax base of the VAT on services also depends upon the size distribution of units catering to the demand for services. This requires an estimation of the share of value added by units which are above the threshold level, which in the Provincial VAT Bills of 2010 has been fixed at a turnover of Rs. 7.5 million.

4.1. Economic Census

The only source of data on the size distribution of units by turnover within a particular sector is the Economic Census undertaken by the FBS. Results of the census were published in 2005 although the survey of units was undertaken during the period, 2001 to 2003. In the analysis adjustments have had to be made for non-response by units and for underreporting of turnover.

4.2. The Pareto Distribution

The Pareto distribution has been used to approximate the reported distribution by size in a particular sector, because of the open ended nature of the distribution at the upper tail. This distribution has the property of capturing well the size distribution of establishments in a typical economic activity. The methodology of analysis is described in Box 4.1.

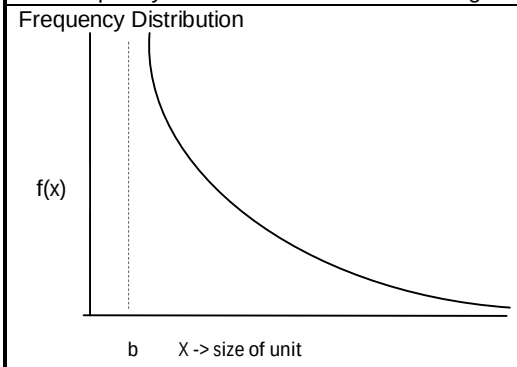
BOX 4.1
THE PARETO DISTRIBUTION

The generalized form of Pareto distribution is given by

$f(x) = \dfrac{ab^a}{x^{a+1}}$, where b≥0 is the maximum value of *x* and a>1.

The frequency distribution is shown in the diagram below.

Frequency Distribution



The average value, $\bar{x}$, is given by

$$\bar{x} = \frac{ab}{a-1}$$

If the average value is estimated then a can be derived, given b.

If x^* is the threshold value then the average size of units, x_s, above the threshold level can be derived as follows:

$$x_s = \int_{x^*}^{\infty} xf(x)\,dx$$

The proportion, S, of the turnover of the sector by units above the threshold level is given by $S = \dfrac{x_S}{\bar{x}}$

4.3. Share of Turnover above Threshold Level

Application of the above mentioned methodology leads to the estimates of share of turnover in different sectors above the threshold level shown in Table 4.1.

TABLE 4.1
SHARE OF TURNOVER ABOVE THRESHOLD LEVEL
(%)

Sector	
Wholesale and Retail Trade	29.3
Transport, Storage and Communications	49.6
Banking & Insurance	79.7
Social, Community and Personal Services	30.8
Overall	**41.0**

As expected, corporate presence of large-scale units is most pronounced in banking and insurance followed by transport and communications. The informal sector, with mostly small units, dominates in wholesale and retail trade and in social, community and personal services.

In the previous chapter, the potential of VAT on services was derived as approximately 3.3percent of the GDP. If adjustment is made for the threshold level effect then the potential yield falls to about 1.3percent of the GDP, given that 41 percent of the overall turnover is above the threshold level. However, the yield could be somewhat higher if allowance is made for the fact that some of the intermediate consumption of services is by exempt units and, therefore, this revenue is not tax invoiced away. As opposed to this, if some of the supplies are of exempt or zero-rated services, then the potential revenue may be smaller. We allow for these adjustments at the sub-sectoral level in subsequent chapters.

CHAPTER FIVE
INPUT-TAX INVOICING OF SERVICES

As explained earlier, input tax has to be invoiced from services and goods. To determine this, we need to know the component of input of services in both goods and services. Such an information is available through the input-output matrix.

5.1. Sources of Data

The input-output (I-O) tables contextualize the flow of goods and services for the entire economy in a coherent empirical framework. This serves the purpose of quantification of the interrelationships among different sectors of the economy. In Pakistan, it was constructed on the basis of detailed data set generated through surveys including those of Integrated Survey of Services and Manufacturing Industries (ISSMI Large and Small), Agricultural Input-Output Survey (AIOS), Household Integrated Economic Survey (HIES) and an augmented study on Non-Profit Institutions (NPIs) in the preview of ISSMI (Small).

The I-O Tables for 1990-91 are the latest ones available. These are the third in series prepared by the Federal Board of Statistics (FBS). The first I-O Table of 1984-85 was published in 1993 while the second one of 1989-90 was published in 1996. Unfortunately, the exercise has not been continued. Based on the behavioral relationships revealed by the 1990-91 data base, the table was updated in 2004-2005 and now in 2010-11 by FBR in collaboration with the World Bank. But clearly, with the lapse of almost twenty years since the comprehensive survey which determine the flows of goods and services, the current nature of relationships is out-dated and not truly representative of the current behavior in the economy. This is very clearly an area for FBS to focus on with a sense of priority.

5.2. Estimates from Input-Output Table

In the interim, for the purpose of this study we principally rely on the tables updated in 2004-05 and 2010-11 by FBR and World Bank using the matrix of 81x81 sectors. The relationships are altered somewhat if they appear starkly out of tune with the current structure of the economy. Restricting to the services sector, which is the subject of this study, Table 5.1 presents the distribution by use of output of services for nineteen sectors as reported by FBS in 2001. Sectors which are primarily in the nature of intermediate inputs include wholesale trade, railways, other transport and storage and banking while sectors which principally constitute final consumption are healthcare, other social and cultural services, personal and household services and communications. International trade in services is limited in Pakistan and is, more or less, restricted to water and air transport.

TABLE 5.1
DISTRIBUTION BY USE OF OUTPUT OF SERVICES

(%)

Service	Intermediate Use	Final Consumption*	Exports	Total
Trade: Wholesale	100	0	0	100
Trade: Retail[a]	10	90	0	100
Hotel and Restaurants	17	83	0	100
Transport: Railway	85	15	0	100
Transport: Road	76	24	0	100
Transport: Water[a]	0	3	97	100
Transport: Air[a]	8	20	72	100
Transport: Storage	91	9	0	100
Communications[a]	20	80	0	100
Banking: Central Authority	100	0	0	100
Banking: Other Monetary Inst[a]	80	20	0	100
Banking: Other Credit Inst	80	20	0	100
Insurance	55	45	0	100
Real Estate Services	47	53	0	100
Business Services	79	21	0	100
Education	0	100	0	100
Health Care	3	97	0	100
Other Social and Cultural Services	18	82	0	100
Personal and Household Services	27	73	0	100

a adjusted in light of trends
Source: I-O Table, FBS, 2001

CHAPTER SIX
METHODOLOGY FOR ESTIMATING REVENUE POTENTIAL

Following the estimation of the value added in the service-sub sectors, size distribution of inputs and the use pattern of services we are in a position to define the methodology for estimating the revenue potential of the VAT on services.

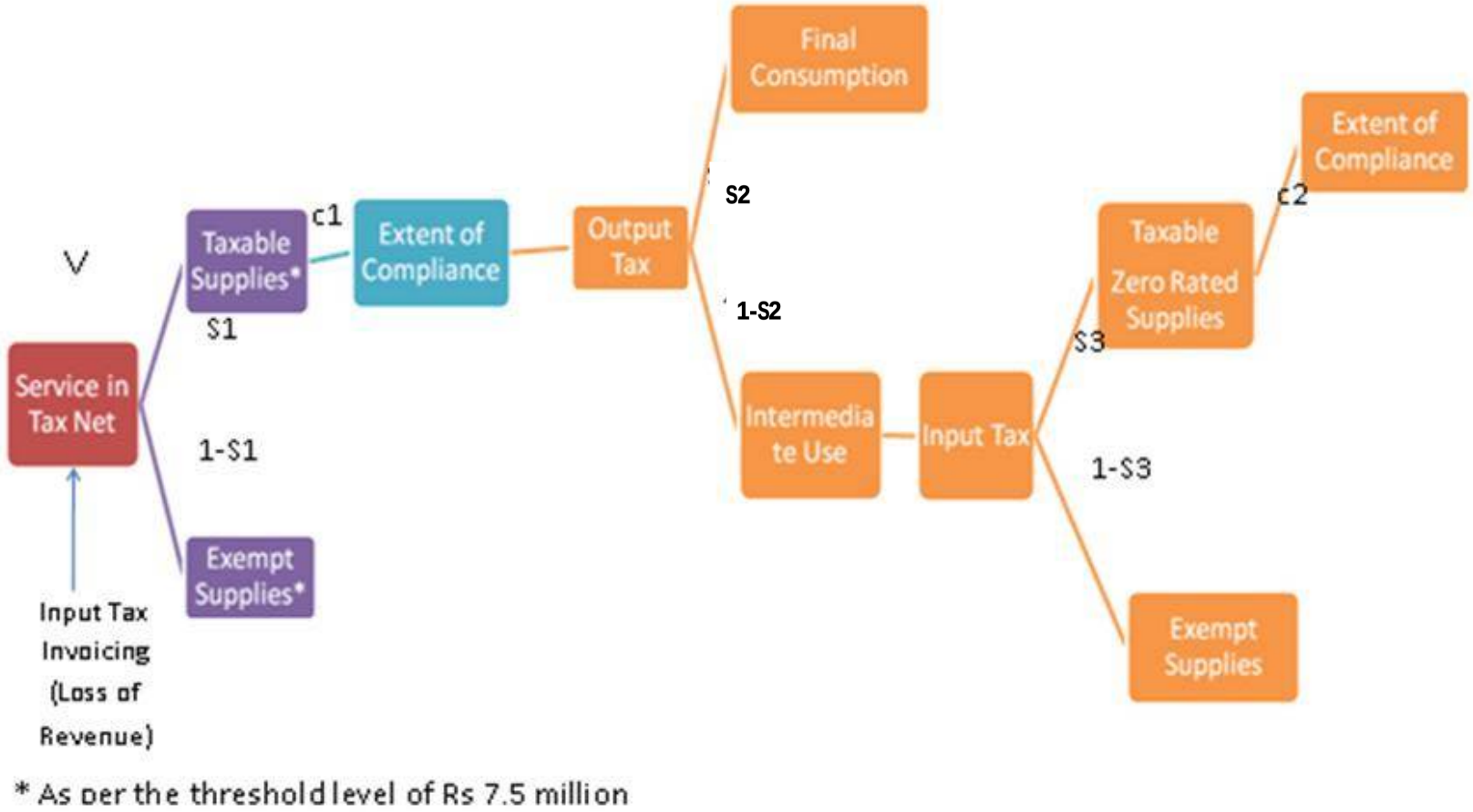
6.1. Description of Methodology

The schematic diagram for estimating the revenue potential of VAT on a service is presented in Chart 6.1. Generically, the value of the service brought into the tax net constitutes the tax base following the adjustment of input tax invoiced away from intermediate services. This is designated as V in the Chart. However, all of the output by the service sector is not subject to taxation, given the exemption threshold, whereby outlets with a turnover of less than Rs. 7.5 million per annum stand exempt. Therefore, only part of the output, labeled as S_1 is subject to taxation. Also, some of the taxable supplies (denoted as c_1) may not comply with the tax and may choose to evade. The extent of compliance is a function of the extent to which the service is in the formal and corporate sector.

From taxable supplies which choose to pay VAT, part of the supplies will be for final consumption (S_2) and revenues from them will accrue to the federal exchequer. However, the other part which constitutes intermediate use will either be utilized by the zero-rated or taxable supplies (S_3) or by the exempt units ($1-S_3$). If it is used by the exempt units, revenues paid on inputs will not be invoiced and therefore accrue to the federal government. But to the extent that these are routed to the taxable/ zero-rated sectors, given the compliance rate (C_2) the revenues may be invoiced away and not accrue to the federal exchequer.

The above are static effects. Given that VAT affects the prices and demand for services is responsive to price changes, the value of services will change in the economy. To capture these dynamic effects of VAT, we estimate the price elasticity of demand for services (ε) and adjust revenues in line with these long run effects.

CHART 6.1
THE SCHEME OF ESTIMATING THE REVENUE POTENTIAL OF A SERVICE



* As per the threshold level of Rs 7.5 million

Therefore, put differently, additional revenues from a service 'i', R_i, is equal to

$$R_i = t_i V_i (C_1 S_1)[S_2 + (1 - S_2)(1 - S_3) + (1 - C_2)(1 - S_2) S_3](1 + \varepsilon t)$$

Where

R_i = Revenue from the "ith" Service

V_i = Value Added of the "ith" Service

S1 = Share of Taxable Supplies (above threshold level)

C1 =Rate of Compliance

S2 = Share of Final Consumption in Output

S3 = Share of Taxable Supplies in Output using Service as Input

C2 = Compliance Rate of Units using Service as Input

ε =Price Elasticity of Demand for the Service

t = VAT Tax Rate

6.2. The Key Parameters

From the above methodology, there are eight key parameters for the estimation of revenues from various services. Data sources, for the key parameters, some of which have been described in detail earlier are summarized in Box 6.1 and the magnitude of the parameter is presented in Table 6.1.

High value added sub-sectors are retail trade followed by road transport, wholesale trade, scheduled and cooperative banks, business and computer services and communications. The share of the taxable component ranges from a low of 25 percent in the case of a largely informal sectors of social and cultural services, other transport and storage and retail trade to a high of 100 percent in railways, communication and insurance sectors which largely operate in public and formal corporate sectors. Following the same argument, the rate of compliance ranges from a low of one-fourths for retail trade, road transport and storage to more or less, full compliance for communication, railways and banking sectors.

BOX 6.1 SOURCES OF DATA ON KEY PARAMETERS	
VARIABLE	**SOURCE**
• Value of Output (Vi)	• Input-Output Table 2004-05, 2010-11
	• FBS estimates by Sub-Sector for 2006-07
	• Extrapolation of National Income Accounts Data to 2010-11 • See Chapter 3
• Share of Value of Taxable Supplies (above Threshold Level) (S4)	• Extrapolation of Economic Census Data on Size Distribution of Units in 2001-03 to 2008-09 (by fitting Pareto Distributions) • See Chapter 4
• Share of Final Consumption in Output, (S2)	• FBS, I-O Table 2004-05 • See Chapter 5
• Price Elasticity of Demand *(ε*	• Econometric Analysis of Demand from National Income Accounts
• Compliance Rate (C1, C2)	• Based of Judgment

The share of final consumption in output ranges from zero for wholesale trade to full final consumption in the case of education. Lastly, the dynamic effect of price changes on output is estimated to be about positive one percent to negative six percent, given the proposed tax rate of 15 percent. The only case where the price effect on output is likely to be positive is in the case of communication where the tax rate is to decline from the current, of 19.5 percent, to the proposed standard VAT rate of 15percent. The price effect is relatively high in financial and insurance services and low for inelastic services like transport.

TABLE 6.1 MAGNITUDE OF PARAMETERS (2010-11)						
	Value of Output	**Input-Output Ratio**	**Share of Taxable Supplies**	**Rate of Compliance**	**Share of Final Consumption in Output**	**Price Effect on Output**
Service	**(Billion Rs)**		**(percent)**	**(percent)**	**(percent)**	**(percent)**
Trade: Wholesale	471.0	0.000	40	33	0	-3
Trade: Retail	2338.6	0.000	25	25	90	-3
Hotels & Restaurants	248.0	0.000	50	66	80	-5
Railways	128.0	0.000	100	100	15	-2
Road	1415.3	0.000	30	25	25	-2
Water	5.0	0.000	40	80	5	-2
Air	131.0	0.000	30	100	80	-2
Others & Storage	28.0	0.000	25	25	10	-2
Communications	305.0	0.000	100	100	80	-1
Scheduled and Cooperative Banks	435.0	0.000	33	100	20	-6
Other Credit Institutions	89.0	0.000	33	80	20	-6
Insurance	94.0	0.000	100	100	45	-6
Real Estate Services	213.1	0.000	25	33	50	-6
Business & Computer Services	382.0	0.000	60	66	20	-4
Education*	267.0	0.000	30	60	100	-4
Health Care*	160.0	0.000	30	60	95	-4
Social & Cultural Services	260.0	0.000	25	50	80	-4
* Candidates for Exemption, both public and private, as per RAC recommendation.						

CHAPTER SEVEN
ESTIMATES OF REVENUE POTENTIAL

7.1. Projected Revenues in 2010-11

Based on the methodology and parameter values discussed in Chapter 6, we estimate the net revenues (net of input invoicing of output in intermediate use), from VAT for the year 2010-11. Total net revenue yield is estimated to be Rs. 158.0 billion (See Table 7.1). The highest contribution is likely from communications (Rs. 42 billion), followed by retail trade (Rs. 20.5 billion), and scheduled and cooperative banks (Rs. 14.4 billion). Their respective contribution to total revenues is 27 percent, 13 percent, and 9 percent respectively. This implies that over half of the total potential is from these three sectors while the remaining fourteen sectors contribute the other half. These total revenues do not cover education and health care sectors, which as per the recommendations of the Revenue Advisory Council (RAC) may be exempted from taxation.

Table 7.1
ESTIMATED NET REVENUE FROM SERVICES IN 2010-11

(Rs. In Billion)

Sector/Sub-Sector*	**Revenue**
Wholesale and Retail Trade	**39.7**
Trade: wholesale	8.4
Trade: retail	20.5
Hotels and Restaurants	10.8
Transport, Storage and Communication	**73.1**
Railways	13.1
Road	11.4
Water	0.1
Air	5.4
Other and Storage	0.2
Communication	42.9
Finance and Insurance	**29.4**
Scheduled and Co-operative Banks	14.4
Other Credit Institutions	2.4
Insurance	10.6
Real Estate Service	2.0
Social Community and Personal Services	**15.7**
Business and Computer Services	11.3
Social and Cultured Services	4.4
Total	**158.0**

* The following services are exempt: central monetary authority, health and education

The above estimates give net total revenues from VAT on services. However, services are currently contributing Rs. 64.5 billion to the exchequer. These revenues are projected to be Rs. 76 billion in 2010-11, at a growth rate of 18 percent from the 2008-09 tax base. As such, additional revenues from replacement of GST and an expansion of VAT to sectors not covered under the GST regime could yield an additional Rs. 82 billion, in 2010-11, equivalent of 0.5 percent of the GDP.

7.2. Full Revenue Potential

In a medium term framework when FBR administration/ procedures are streamlined and systems are set and functioning smoothly, the compliance rate can be increased substantially. We estimate that with full compliance, total net revenues can increase to Rs. 255 billion at 2010-11 tax base (see Table 7.2). Therefore, VAT on services could eventually generate 1.5 percent of the GDP. The corresponding yield from the Service Tax in India is one percent of the GDP.

Table 7.2
ESTIMATED FULL POTENTIAL OF NET REVENUE FROM SERVICES IN 2010-11
(Rs. In Billion)

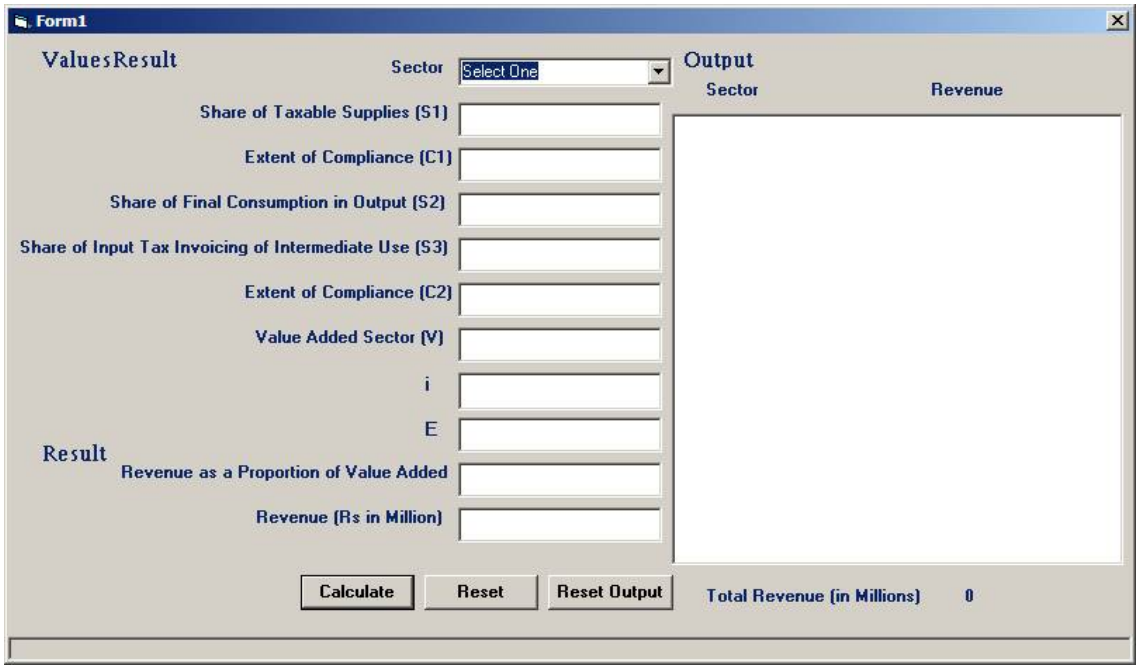
Sector/Sub-Sector*	**Revenue**
Wholesale and Retail Trade	**117.0**
Trade: wholesale	21.9
Trade: retail	80
Hotels and Restaurants	15.5
Transport, Storage and Communication	**90.4**
Railways	9.2
Road	34.3
Water	0.1
Air	5.1
Other and Storage	0.6
Communication	40.7
Finance and Insurance	**26.7**
Scheduled and Co-operative Banks	10.5
Other Credit Institutions	2.1
Insurance	8.9
Real Estate Service	5.2
Social Community and Personal Services	**20.3**
Business and Computer Services	11.9
Social and Cultured Services	8.4
Total	**254.4**

* The following services are exempt: central monetary authority, health and education

7.3. Sensitivity Analysis

Our analysis reveals that there is a high premium on improving tax compliance. A five percentage point increase in compliance rate implies additional revenue of about Rs. 9 billion for the government. Therefore, improvement in tax administration like an automatic refunds of inputs and efficient resolution of the flying invoice problem alongwith proper enforcement and promotion of tax culture can go a long way in facilitating the realization of VAT potential.

We have generated software on Visual Basic (VB 6.0) which estimates revenues, by application of equation 1, with different parameter values. This software will be handed over to FBR at the end of the project.



CHAPTER EIGHT
PROVINCIAL DISTRIBUTION OF TAX BASE

8.1. Methodology

The analysis uptil now is based on national estimates. However, taxation of services is in provincial jurisdiction and revenues from services, even if collected federally by the FBR, are to be reverted to the provinces. Therefore, it is very important to examine the provincial distribution of tax bases. This can potentially be accomplished in two ways. One, using the "production approach" whereby the value of output is distributed across provinces through a decomposition of the national income accounts. This approach essentially analyses the origin of services and, therefore, distribution of revenues on this basis would imply acceptance of the principal of origin/ collection.

The other approach is to estimate the provincial distribution of tax bases using "final consumption approach". This is the destination approach, whereby household consumption of services is used as the basis of allocation of tax revenues across provinces. Though both approaches can possibly be used as a basis of distribution of tax revenues, the latter is more consistent with the principles of VAT. Theoretically speaking, VAT is a tax on consumption. As such the correct base is the consumption expenditure on services. Also, there is the 'head-office' problem, when head offices of businesses are located in one center which is the financial and corporate hub in the country even though the services/goods produced by these establishments are consumed throughout the country.

8.2 Source of Data

Therefore, we focus on the 'final consumption approach'. The principal source of data for this is the Household Integrated Economic Survey (HIES) carried out periodically by the FBS. Examination of the database reveals that information is available on household expenditure on the following services:

- transportation and communications (including travel)
- clearing, laundry and personal appearance
- education
- recreation and entertainment and
- miscellaneous expenditure including health care (including medicines), legal expenses

The survey data from the latest HIES of 2005-06 has been blown up for the country as a whole by using the sampling fractions and appropriate adjustments made for under reporting in the survey. The extent of underreporting is estimated by comparing the reported household consumption expenditure in HIES with that in the National Income Accounts.

8.3. Provincial Shares in Services Consumption

The average per household expenditure on services is estimated for each province in Table 8.1. Total average per household expenditure on services is estimated at Rs. 7512 per month for Punjab, Rs. 7340 for Sindh, Rs. 8128 for Khyber-Pakhtunkhwa and Rs. 4803 for Balochistan. Miscellaneous expenditures, which include medical care, religion, litigation and others account for the highest share in average expenditure in all provinces followed by transport and communication. This is followed by education in Punjab and Khyber-Pakhtunkhwa and cleaning, laundry and personal appearance in Sindh and Balochistan.

TABLE 8.1
AVERAGE PER HOUSEHOLD EXPENDITURE* ON SERVICES BY PROVINCES
(Rs per month)

	Transport and Communication	Cleaning, Laundry & Personal Appearance	Recreation and Entertainment	Education	Miscellaneous	Total
Punjab	1564	986	187	1122	3653	7512
Sindh	2068	1043	257	912	3060	7340
Khyber-Pakhtunkhwa	1420	827	89	1211	4581	8128
Balochistan	1468	720	119	404	2091	4803

*after adjusting for underreporting

We then estimate in Table 8.2 the total number of households by province given the population shares used for the distribution of federal revenues by the National Finance Commission (NFC). Table 8.3 presents the provincial share in consumption of services by households. Overall, annual expenditure on consumption of services is Rs. 2177.7 billion in 2007-08. The provincial shares in this are: 60.4 percent in Punjab; 23.7 percent in Sindh; 13.0 percent in Khyber-Pakhtunkhwa; and 2.8 percent in Balochistan. The share of Punjab is slightly higher than its share in population, while the share of Balochistan is lower than its population share. The consumption shares of Sindh and Khyber-Pakhtunkhwa are very close to their population share.

TABLE 8.2 NUMBER OF HOUSEHOLDS BY PROVINCE, 2007-08				
	Population Share	**Population***	**Average Household Size**	**Number of Households**
	(percent)	**(million)**	**(No)**	**(000)**
Punjab	57.36	92.35	6.33	14589
Sindh	23.71	38.17	6.50	5872
Khyber-Pakhtunkhwa	13.82	22.25	7.63	2916
Balochistan	5.11	8.23	7.75	1062
Total	**100.0**	**161.0**	**6.58**	**24439**
* According to national estimate in PES				

TABLE 8.3 PROVINCAL SHARE IN CONSUMPTION OF SERVICES BY HOUSEHOLDS, 2007-08			(%)
	Actual Expenditure (Rs in Billion)	**Provincial Share in Expenditure on Services**	**Population Share**
Punjab	1315.2	60.39	57.36
Sindh	517.1	23.74	23.71
Khyber-Pakhtunkhwa	284.3	13.05	13.82
Balochistan	61.1	2.82	5.11
Total	**2177.7**	**100.00**	**100.00**

CHAPTER NINE
INCIDENCE OF VAT ON SERVICES

9.1 Methodology

In general perception, particularly in the media, of VAT is that it will disproportionally burden the lower income groups who are already under stress given the high level of inflation over the last two years. The deliberations of the RAC have clearly highlighted that bulk of the additional revenue generation is expected from the expansion of the VAT to the service sector. As such, the incidence of the additional revenues generated through VAT are likely to be largely determined by the distribution of the tax burden on services. We undertake an analysis of the consumption expenditure on services by the households in different quintiles of income. Table 9.1 reveals that expenditure on services is about 20 percent of the total consumption expenditure for households in the lowest income quintile. This proportion increases to over 33 percent for the highest income quintile. This pattern holds for all service categories with the exception of cleaning, laundry and personal appearance. Therefore the consumption of services clearly increases with income.

TABLE 9.1
TOTAL CONSUMPTION EXPENDITURE ON SERVICES BY HOUSEHOLDS IN DIFFERENT INCOME QUINTILES

	Income Quintile				
	Lowest				**Highest**
	1	2	3	4	5
	percent of Total Consumption Expenditure				
Transport and Communications	3.89	4.59	5.07	5.71	7.82
Cleaning, Laundry and Personal Appearance	4.06	3.81	3.65	3.63	3.41
Recreation and Entertainment	0.20	0.34	0.45	0.65	1.04
Education	1.38	1.92	2.59	3.44	5.82
Miscellaneous	10.58	10.93	11.90	12.55	15.35
Total	**20.11**	**21.59**	**23.66**	**25.98**	**33.44**
Expenditure on Services as percent of Income	**19.27**	**20.06**	**22.12**	**24.03**	**26.94**

9.2. Incidence by Income Groups

As a proportion of income, expenditure on service increases from about 19 percent for the lowest income quintile households to about 27 percent in the case of the highest income quintile. There is no break in this pattern for households in the middle income quintiles also. Therefore, it can be concluded from the analysis that the incidence of VAT on services is likely to be mildly progressive. To the extent that bulk of the incremental burden of VAT is due to the extension to the services sectors, the additional incidence of the tax is not likely to be regressive. This observation is further strengthened by the design of the VAT on goods proposed by the RAC, whereby basic food items remain exempt.

CHAPTER TEN
CONCLUSIONS

The key conclusions emanating from the study are summarized below:

(i) The contribution of services to excise duty and GST revenues combined in 2007-08 was about 14 percent. The remainder 86 percent was from goods. Apparently significant potential still exists for raising more revenue from services.

(ii) The standard VAT rate varies from a low of 7 percent in Thailand to a high of 21 percent in Argentina. Pakistan will be in the intermediate range, with a proposed VAT rate of 15 percent.

(iii) The revenue productivity of existing taxes (GST plus excise duty) on goods and services appears to be relatively low in Pakistan. They account for about one thirds of total revenues; represent only 6 percent of the value added in the manufacturing and service sectors and contribute about 4 ½ percent of the GDP.

(iv) The contribution of the Service Tax in India has increased from 0.1 percent of the GDP in 1994-95 to 1.1 percent in 2007-08. About 63 percent of the collection is from ten services, with telecommunication services emerging as the largest square of revenue.

(v) Services play an important role in the national economy. Sectors which are likely to be covered by the VAT on services in the national income accounts include transport, storage and communications; wholesale and retail trade; finance and insurance and social, personal and community services. Collectively the value added in the production of these services accounts for over 47 percent of the GDP.

(vi) Not only are the service sectors relatively large but they also represent the more dynamic part of the economy. The implication is that if the tax net is extended to more effectively cover services then this is likely to increase the elasticity of the tax system of Pakistan.

(vii) The final consumption of services is equivalent to 22 percent of the GDP. This is closer to the real estimate of the potential tax base of the VAT on services.

(viii) Corporate presence of large-scale units is most pronounced in banking and insurance followed by transport and communications. The informal sector, with mostly small units, dominates in wholesale and retail trade and in social, community and personal services.

(ix) Additional net revenues from replacement of GST and an expansion of VAT to services not covered under the GST regime could yield an additional Rs. 82 billion, in 2010-11, equivalent of 0.5 percent of the GDP.

(x) VAT on services could eventually generate 1.5 percent of the GDP.

(xi) A five percentage point increase in compliance rate implies additional revenue of about Rs. 9 billion for the government.

(xii) The annual household expenditure on consumption of services is Rs. 2177.7 billion in 2007-08. The provincial shares in this are as follows: 60.4 percent in Punjab; 23.7 percent in Sindh; 13.0 percent in Khyber-Pakhtunkhwa; and 2.8 percent in Balochistan. The share of Punjab is slightly higher than its share in population, while the share of Balochistan is lower than its population share. The consumption shares of Sindh and Khyber-Pakhtunkhwa are very close to their population share.

(xiii) The incidence of VAT on services is likely to be mildly progressive.

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