Decisions Needed for Development of Tax Burden Estimates

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- Some critical items:
    - What revenue items to include (how global)?
        - Central versus subnational?
        - Tax and non-tax revenue?
        - Detail on taxes by consumption/income type?
- Explicit use of CGE or application of GE incidence findings
    - What is the baseline of the analysis?
    - Would we find anything new by setting up a specific CGE model?
    - Still need the micro data detail

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- Micro/simulation-based analysis:
  - Allows very specific tax calculations if needed
  - "Cut" the distributional analysis many ways
  - Level of complexity can be quite complete:
    - I-O model supplements analysis of excise, customs, and other indirect taxes
    - Burden analysis done very completely leads to a nice microsimulation model that is useful for nuanced tax policy analysis

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More critical items

- What incidence assumptions to be used?
- Distribute actual revenues or simulate tax and non-tax revenue paid?
  - Depends on your data (hit the totals?)
- Underlying distribution of income:
  - What should be included in the definition of income?
    - Income reporting reliability? Expenditures better?
  - Which unit?
    - Households? Individuals?

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And more….

- What to do about non-compliance?
  - Take the case of income tax—if we distribute the actual tax revenue in proportion to wages (by income group), then we assume non-compliance is distributed the same as wage income is distributed. May or may not be true.
    - Alternative—for example cross walk between income tax data and HIES or LFS data
  - Non-residents? Are they an issue?

And more…

- Non-residents and forms of exporting
  - Hits for consumption taxes (obvious)
  - What about business taxes?
    - Foreign owned companies (public)
    - Dominant firms/natural monopolies
  - Other taxes on capital

Case of Pakistan

- Granted good access to data:
    - Tax returns (employer and employee)
    - Household expenditure
    - Labor force survey
- Specific issues:
    - Various base years of data
    - Need to look at central and provincial taxes
    - Comprehensive and incredibly detailed in parts

Taxes Analyzed

Federal Tax Administered by CBR	
Direct Taxes(1 to 4)	333,736
1. Income Tax	315,618
of which CIT	200,242
of which Salaried Individuals	16,663
of which Non-salaried individuals	98,713
2. CVT	6,239
3. WWF+WPPF	11,848
4. Wealth Tax	31
Indirect Taxes	513,499
5. Sales Tax Total	309,395
of which Sales Tax Domestic	133,487
of which Sales Tax Import	175,908
6. Federal Excise	71,805
7. Customs	132,299
(A) Total CBR Taxes	847,236
(B) Federal taxes administered by M/O Finance (1+2)	21,784
1 Federal Surcharges (i+ii)	18,071
(i) Gas	18,071
(ii) Petroleum	0
2. Foreign Travel Tax	3,713
Total Federal Taxes (A+B)	869,020
(C) Provincial Tax (a+b)	61,162
a) Direct Taxes	9,854
b) Indirect Taxes (I to iv)	51,308
(i) Excise	2,649
(ii) Stamp Duties	15,110
(iii) Motor Vehicle Tax	8,206
(iv) Others	25,343
Total Tax Revenue (federal + provincial)	930,182

Illustrative incidence and allocation assumptions

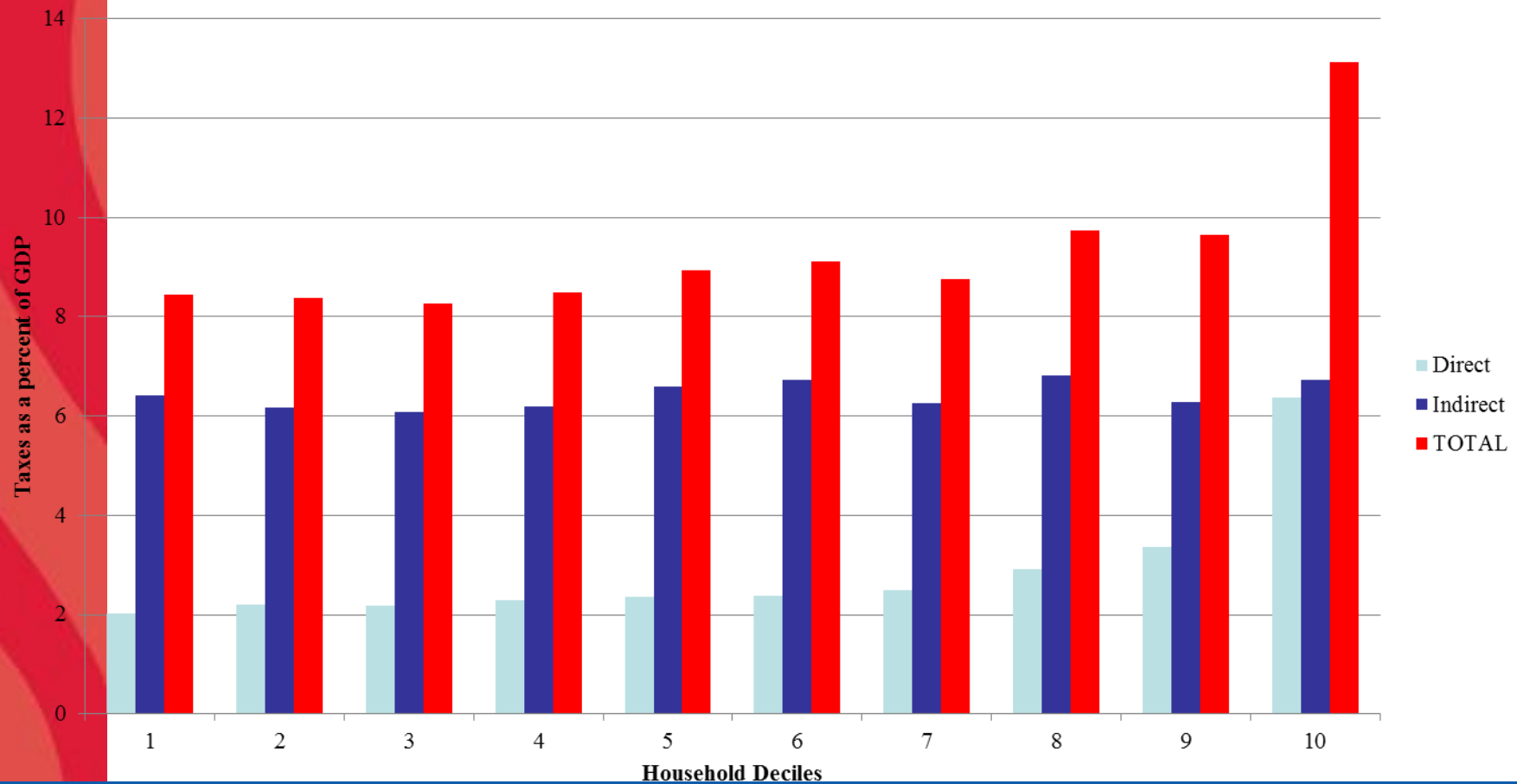| Revenue	Incidence Assumption	Allocation
Personal income tax	Born by labor	Wages
Corporate income tax	50% born by labor; 50% born by capital	Wages and capital income

Federal Consumption taxes:
  Sales
  Excise
  Customs
	Born by consumers	Based on share of consumption of major items (see additional table)

Provincial consumption taxes:	Born by consumers	Based on share of consumption of major items

- Data sources:
  - HIES: 14,708 HH observations
    - Detail on expenditures, income
    - Can break out family members
  - LFS: 219,969 observations
    - Detail on employment
    - Formal/informal sector
  - Tax return sample
    - 100,000 records
    - Analyze distribution of actual payments

Data Sources

Main Data Sources				
Data Source	Year	Major Components/uses	Observations	Main use in study
HIES	2004-05	Income, detailed expenditures by type	14,708 household records; weighted to population	Distribution of income, allocation of direct and indirect taxes by type.
Labour Force Survey	2004-05	Detailed information on employment and wage income	32,744 households; weighted to population	Evidence of non-compliance in wage and self-employed sectors.
FBR Tax Return Sample	2003-04, 2004-05, and 2005-06	Random sample (approximately 6.3 percent) of tax returns R1, R2, R3, R4	Varies by tax return type; weighted to population	Distributional consideration of non-compliance in wage and self-employed sectors

- Basic strategy:
  - Use HIES as "base" to develop potential taxpayer units
  - Work with data in deciles (or other)
  - Gross up income base as appropriate for tax incidence assumptions
  - Allocate indirect taxes via decile's share of consumption of X relative to all consumption (etc.)
  - Similar for direct taxes

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- Income tax evasion
  - Analyzed by running microsim labor tax model on LFS (ties directly to HIES)
  - Matched distribution of tax return data against LFS distribution
    - Looked for "holes" in the overlap
    - Distributional pattern of non-compliance not uniform (no surprise)

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Summary

- Complex, difficult task
- Critically important to the tax policy debate
- Quality data development very necessary
- Better understanding of theoretical incidence results in developing countries:
  - Sticky wages (government employment)
  - Role of evasion/non-compliance
  - Transference of taxes outside formal sector

- Some take-aways for further discussion:
  - Compliance
  - "Underground sector"
  - High/low income ends
  - Standardization of data (years)
  - Vertical versus horizontal equity
    - Adjustment for family size?
    - Access to education, etc.