

Gender and Taxation: Some Issues

Pinaki Chakraborty

National Institute of Public Finance & Policy

Email: pinaki@nipfp.org.in

Why the concern with gender and tax?

- ◆ Focus to date has been only on expenditure, e.g. gender budgets
- ◆ But this only a part of the public finance picture
- ◆ Taxes are necessary for public expenditure
- ◆ Major reforms in tax policy – are these sensitive to gender issues?
- ◆ Taxation is a key component of equity and redistribution

Gender & Taxation Project

- ◆ 8-country project: Argentina, Mexico, South Africa, Ghana, Uganda, Morocco, India, UK
- ◆ Three goals:
 - to advance understanding of gender impacts of tax policies and tax reforms in countries at various levels of development
 - to engender and improve current tools and techniques for analyzing tax policies and reforms
 - to influence tax policymakers in the focus countries and internationally
- ◆ Outputs:
 - An edited book
 - Country studies in local language
 - Recommendations to local and international policymakers to make tax policies/tax reforms more gender-aware

Overall Approach

- ◆ Analysis of the personal income tax code from a gender equality perspective
- ◆ Incidence analysis of indirect taxes (VAT and excise taxes) using national-level household income & expenditure surveys
- ◆ Policy simulations
- ◆ Analysis of gender issues in tax reforms

Personal Income Tax

◆ Explicit bias

- allocation of joint income

◆ Implicit Bias

- privileges one-earner couples

◆ BUT more:

- How might the tax system be *reinforcing* women's 'traditional' roles in society
 - ◆ Male headship assumption; structure of deductions
- How can the tax system help *transform* society to reduce gender inequality
 - ◆ E.g. Indian land tax

Engendering Incidence Analysis

◆ Methodological challenge

- Data on expenditure is at *household* level
- But our ultimate interest is individuals within households
- Challenge: Intra-household expenditure (next stage)
 - ◆ Anthropological approach
 - ◆ Econometric approach

Engendering Incidence Analysis, cont.

◆ How can we engender household level data?

- Use “gendered” household classifications
 - ◆ By headship (male v. female)
 - ◆ Employment status (6 categories)
 - ◆ Household gender composition (6 categories)

Incidence Approach, cont.

Analyzed incidence of each type of tax

- VAT, excise
- Specific commodities (food, fuel)
- For each household type, disaggregated by
 - ◆ expenditure quintile
 - ◆ rural/urban residence
 - ◆ in some countries, race

Incidence Approach

- ◆ Standardized household expenditure classifications across countries
- ◆ Assigned household expenditure to each individual in the household, dividing total household expenditure with household size
- ◆ Developed expenditure quintiles based on individual expenditure
- ◆ Applied scheduled or estimated tax rates to reported expenses and estimated tax paid on each expenditure item as

$$taxpaid_i = rate_i * (expend_i / (1 + \sum_j rate_j))$$

Policy Simulations

◆ PIT

- Hypothetical scenarios to illustrate vertical and horizontal equity impacts of PIT on different household types (one male earner with dependents, one female earner with dependents, dual earner – male high, female low)

◆ Incidence

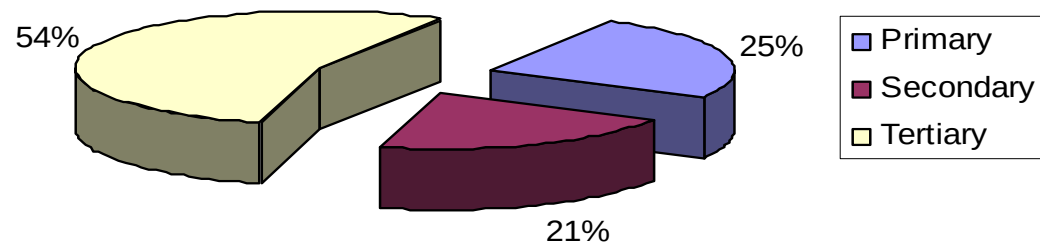
- Zero rating particular food items
- Increasing rates on tobacco or other identified male “leisure” good

Focused State and its tax structure

◆ Focused state is West Bengal

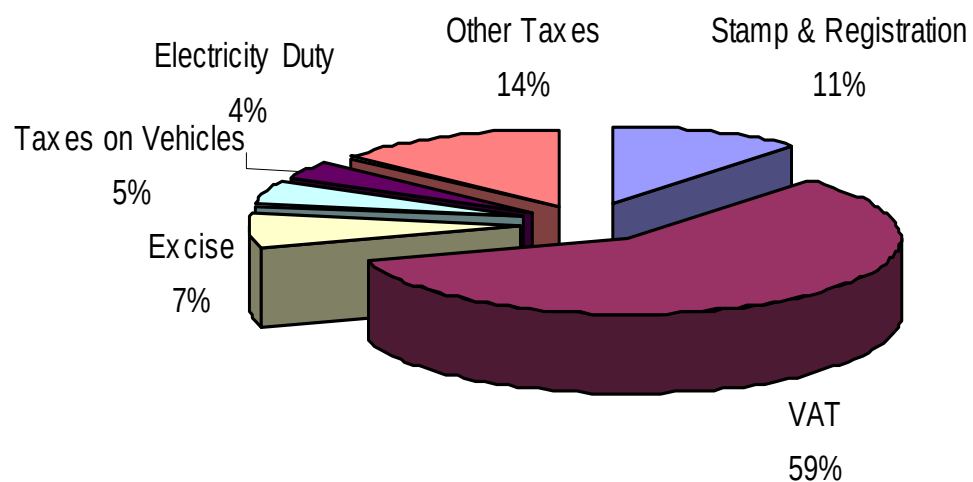
- It is a middle income state with low Industrial base
- Stark rural urban differences in consumption pattern
- In the level of socio-economic development also the state ranks in the middle as per state HDI ranking done by Planning Commission. Value of HDI is (0.472) and the Rank is 8 among Indian States

Composition of GSDP by Sector (West Bengal)



Structure of Taxes: West Bengal

Figure 3: The Structure of West Bengal Tax Revenues: 2005-06



Tax Base and Time Frame for Incidence Analysis

◆ Tax Base

- Household level consumption expenditure data obtained from the 61st round National Sample Survey of consumer expenditure

◆ Time Period

- We use yearly data (365 days reference period), adjusted for those expenditures where 30 days reference period has positive value, but no yearly expenditure or whichever is higher

Data Issues

◆ What Data is available from the Survey?

- data on household characteristics and headship
- demographic details of the households
- household expenditure on almost 600 items.
- For some items of expenditure reference period is 30 days
- For non-so-frequently purchased items (particularly durables) reference period is both 30 days and 365 days
- For our analysis, we have considered the value of market purchase as well as home production.
- We do not have employment status from the household consumption expenditure survey

◆ A Note of Caution:

- The household consumption expenditure data have their limits for tax analysis, particularly for taxes on intermediate consumption (Rajemison and Younger: ---)
- Existing studies have restricted themselves to taxes on final demand or make strong assumption about the incidence of taxes on inputs (Younger et. al; 1999, Sahn and Younger 1998, Bird & Miller, 1999).
- In this study also we consider taxes on final demand.

◆ The starting point is the tax rate

The Commodity Group

- ◆ Divided the whole consumption expenditure data into twenty broad commodity groups.
- ◆ These are
 - ◆ Food, Meals Taken Out,
 - ◆ Non-Alcoholic Beverages,
 - ◆ Beer, Spirits, Tobacco,
 - ◆ Clothing and Footwear,
 - ◆ Housing, Water, Electricity & Gas,
 - ◆ Household Fuel,
 - ◆ Furniture,
 - ◆ Domestic Services,
 - ◆ Health and Medical,
 - ◆ Transport, Fuel for Transport, Communication,
 - ◆ Education,
 - ◆ Recreation & Culture,
 - ◆ Personal Care,
 - ◆ Miscellaneous, and School Transport.
- ◆ This categorization tries to follow the COICOP classification.

Household classification

- ◆ We think that *a priori* the consumption pattern of the rural and urban households will be different from each other and thus the incidence and that warrants a separate analysis for urban and rural India
- ◆ Incidence is calculated based on the household characteristics based on headship and other categories, viz., Male Headed (With and Without Children), Female Headed (With and Without Children), Male Headed (Urban and Rural), Female Headed (Urban and Rural)
- ◆ Family Composition:
 - Single Man, Single Woman, Single Man with Children
Single Woman with Children, Couple Only, Couple With Children, Couple with Children and Old, Couple with Old but no Children, Others
- ◆ Age Composition and tax incidence
 - Whether age of the household head has any influence on consumption pattern and thereby incidence. May be a better idea would be to examine the age structure of the household and tax incidence
- ◆ Other categories we examined are education level and Caste composition.
 - Caste is an instrument of social discrimination and deprivation and thereby it will be interesting to note the pattern of tax incidence based on caste.

Estimation of Base and Incidence

- ◆ Final consumption expenditure, which represents the sum total of value added of domestic consumption
- ◆ However, it depends to a large extent on the scope and the nature of exemptions of the VAT under consideration
- ◆ As it is the final consumption expenditure and there is no cascading, the base is the same as final consumption, except for alcoholic products with excise duties.
- ◆ Use equal sharing principles (major limitation)

Table 1: Nature of Commodities and the Applicable VAT Rate

Tax Rate	Number of Goods under VAT	Nature of Goods
Exempted	170	Basic Food Items like Cereals and Vegetables, Basic Clothing, Domestic Services, Basic Stationary and Books,
1%	3	Jewellery and Ornaments
4%	79	Food Items other than basic, Household Goods, Medicine etc.
12.50%	81	Some Beverages, Some Electronic Goods, Some Medical Equipments and Expenses, Household Goods which can be classified as luxuries

Source: Commercial Taxes Department
(Government of West Bengal)

Table 4: Overall Incidence by Household Types

	Total Tax	VAT	liquor	Fuel Tax	Number of Households
<i>Headship</i>					
Male headed	2.079 (1.312)	1.901 (1.174)	0.045 (0.209)	0.059 (0.312)	7066
Female headed	2.12 (1.071)	2.021 (1.02)	0.027 (0.106)	0.024 (0.169)	821
<i>Household Sex Composition</i>					
Male-dominated	2.237 (1.612)	2.035 (1.473)	0.054 (0.279)	0.067 (0.349)	3282
Female-dominated	1.945 (0.949)	1.808 (0.847)	0.034 (0.121)	0.045 (0.239)	2552
Equal # females & males	2.011 (1.036)	1.851 (0.888)	0.037 (0.141)	0.052 (0.287)	2043

Table 5: Overall Incidence by Household Types by Rural Urban

	URBAN					RURAL				
	Total Tax	VAT	Tax on Liquor	Fuel Tax	# of Household s	Total Tax	VAT	Tax on liquor	Fuel Tax	# of Househol ds
Headship										
Male headed	2.975 (1.778)	2.69 (1.641)	0.117 (0.373)	0.112 (0.415)	2540	1.743 (0.876)	1.605 (0.751)	0.017 (0.074)	0.040 (0.261)	4516
Female headed	2.759 (1.181)	2.645 (1.146)	0.049 (0.158)	0.056 (0.251)	349	1.816 (0.863)	1.724 (0.798)	0.017 (0.066)	0.009 (0.108)	472
Household Sex Composition										
	Urban					Rural				
Male-dominated	3.333 (2.171)	3.02 (2.062)	0.138 (0.477)	0.113 (0.433)	1277	1.777 (0.998)	1.621 (0.848)	0.019 (0.077)	0.048 (0.305)	2006
Female-dominated	2.547 (1.135)	2.362 (1.026)	0.080 (0.192)	0.074 (0.292)	907	1.731 (0.768)	1.612 (0.673)	0.017 (0.075)	0.035 (0.217)	1645
Equal #	2.767 (1.215)	2.493 (1.004)	0.095 (0.239)	0.128 (0.442)	706	1.731 (0.797)	1.613 (0.707)	0.016 (0.066)	0.024 (0.195)	1337

Table 6: Incidence by sex composition, presence of children, and quintile.

Quintile	Total Tax	VAT	Tax on Liquor	Fuel Tax	# of HHs	Quintile	Total Tax	VAT	Tax on Liquor	Fuel Tax	# of HHs
Male dominated WITH children						Male dominated WITHOUT children					
1	1.785 (0.101)	1.681 (0.101)	0.009 (0.002)	0.001 (0.001)	222	1	4.32 (0.191)	4.002 (0.184)	0.145 (0.046)	0.001 (0.001)	292
2	1.542 (0.028)	1.441 (0.025)	0.012 (0.002)	0.001 (0.004)	389	2	2.353 (0.172)	2.23 (0.154)	0.022 (0.007)	0.022 (0.027)	149
3	1.692 (0.033)	1.546 (0.027)	0.014 (0.003)	0.007 (0.004)	484	3	2.00 (0.103)	1.827 (0.092)	0.027 (0.01)	0.054 (0.037)	161
4	1.92 (0.038)	1.801 (0.034)	0.039 (0.006)	0.031 (0.011)	525	4	2.301 (0.078)	2.15 (0.073)	0.058 (0.01)	0.023 (0.013)	212
5	2.593 (0.052)	2.208 (0.042)	0.102 (0.011)	0.251 (0.026)	571	5	3.118 (0.08)	2.639 (0.063)	0.158 (0.019)	0.298 (0.039)	277
Total	1.904 (0.022)	1.733 (0.02)	0.036 (0.003)	0.058 (0.007)	2191	Total	2.97 (0.069)	2.7 (0.064)	0.093 (0.013)	0.086 (0.013)	1091
Female dominated WITH children						Female dominated WITHOUT children					
1	1.525 (0.036)	1.465 (0.034)	0.007 (0.001)	0.0003 (0.0003)	248	1	1.92 (0.081)	1.835 (0.08)	0.034 (0.007)	0.0004 (0.0004)	214
2	1.617 (0.032)	1.524 (0.029)	0.008 (0.002)	0.0005 (0.0007)	365	2	2.028 (0.135)	1.936 (0.133)	0.004 (0.002)	0.0008 (0.0008)	71
3	1.619 (0.03)	1.539 (0.028)	0.009 (0.002)	0.005 (0.0035)	393	3	2.192 (0.1)	2.156 (0.101)	0.009 (0.004)	0.00 (0.00)	68
4	1.911 (0.04)	1.777 (0.034)	0.031 (0.005)	0.048 (0.012)	456	4	2.407 (0.124)	2.222 (0.112)	0.009 (0.005)	0.121 (0.052)	77
5	2.569 (0.047)	2.268 (0.04)	0.101 (0.009)	0.165 (0.018)	530	5	3.171 (0.097)	2.865 (0.082)	0.124 (0.024)	0.148 (0.034)	130
Total	1.857 (0.019)	1.721 (0.017)	0.032 (0.003)	0.045 (0.005)	1992	Total	2.294 (0.051)	2.154 (0.047)	0.041 (0.006)	0.048 (0.011)	560
Equal # Females Males WITH children						Equal # Females Males WITHOUT children					
1	1.488 (0.061)	1.308 (0.032)	0.015 (0.005)	0.001 (0.001)	138	1	1.71 (0.037)	1.589 (0.031)	0.009 (0.002)	0.00 (0.00)	280
2	1.529 (0.036)	1.461 (0.034)	0.008 (0.001)	0.003 (0.003)	241	2	1.939 (0.067)	1.761 (0.065)	0.031 (0.009)	0.003 (0.001)	137
3	1.696 (0.041)	1.603 (0.04)	0.012 (0.002)	0.001 (0.001)	269	3	2.099 (0.097)	1.955 (0.078)	0.056 (0.016)	0.073 (0.032)	112
4	1.895 (0.047)	1.811 (0.043)	0.025 (0.006)	0.022 (0.01)	274	4	2.789 (0.104)	2.574 (0.093)	0.096 (0.026)	0.0868 (0.029)	137
5	2.593 (0.073)	2.293 (0.056)	0.081 (0.012)	0.202 (0.031)	269	5	3.423 (0.102)	3.035 (0.092)	0.128 (0.019)	0.2393 (0.047)	186
	1.922	1.684	0.036	0.042			2.292	2.092	0.054	0.069	

Table 7- Tax incidence for each consumption category by sex composition and quintile
(Standard Errors in parentheses)

Category	Male Dominated					
	1	2	3	4	5	Total
<i>Food subtotal</i>	0.368 (0.009)	0.366 (0.005)	0.358 (0.004)	0.33 (0.004)	0.296 (0.004)	0.342 (0.002)
Spirits	0.13 (0.032)	0.085 (0.013)	0.117 (0.018)	0.055 (0.008)	0.027 (0.004)	0.081 (0.007)
Tobacco	0.072 (0.024)	0.015 (0.003)	0.017 (0.003)	0.044 (0.005)	0.121 (0.009)	0.054 (0.005)
<i>Clothing and footwear subtotal</i>	0.24 (0.006)	0.225 (0.004)	0.222 (0.004)	0.228 (0.004)	0.24 (0.004)	0.231 (0.002)
Medical expenditure	0.133 (0.014)	0.199 (0.014)	0.298 (0.019)	0.438 (0.026)	0.517 (0.032)	0.326 (0.011)
<i>Transportation Subtotal</i>	0.011 (0.002)	0.016 (0.004)	0.013 (0.002)	0.016 (0.002)	0.024 (0.003)	0.016 (0.001)
TOTAL	2.956 (0.123)	1.755 (0.053)	1.768 (0.036)	2.019 (0.035)	2.777 (0.044)	2.237 (0.028)
Number of HHs in quintile	514	538	645	737	848	3282

Table 7- Tax incidence for each consumption category by sex composition and quintile
(Standard Errors in parentheses)

Category	Female dominated					Total
	1	2	3	4	5	
<i>Food subtotal</i>	0.398 (0.006)	0.361 (0.005)	0.363 (0.005)	0.328 (0.004)	0.309 (0.004)	0.352 (0.002)
Spirits	0.052 (0.009)	0.085 (0.014)	0.061 (0.011)	0.055 (0.011)	0.035 (0.008)	0.058 (0.005)
Tobacco	0.017 (0.003)	0.008 (0.014)	0.009 (0.002)	0.028 (0.005)	0.106 (0.009)	0.034 (0.002)
<i>Clothing and footwear subtotal</i>	0.244 (0.008)	0.231 (0.005)	0.23 (0.005)	0.238 (0.004)	0.237 (0.004)	0.236 (0.002)
Medical expenditure	0.211 (0.018)	0.284 (0.025)	0.323 (0.023)	0.399 (0.025)	0.516 (0.03)	0.346 (0.011)
<i>Transportation Subtotal</i>	0.001 (0.001)	0.008 (0.002)	0.012 (0.002)	0.014 (0.002)	0.018 (0.002)	0.011 (0.001)
TOTAL	1.673 (0.041)	1.682 (0.035)	1.688 (0.03)	1.984 (0.039)	2.692 (0.043)	1.945 (0.019)
Number of HHs in quintile	462	436	461	533	660	2552

Table 7- Tax incidence for each consumption category by sex composition and quintile: Equal # Females Males Households

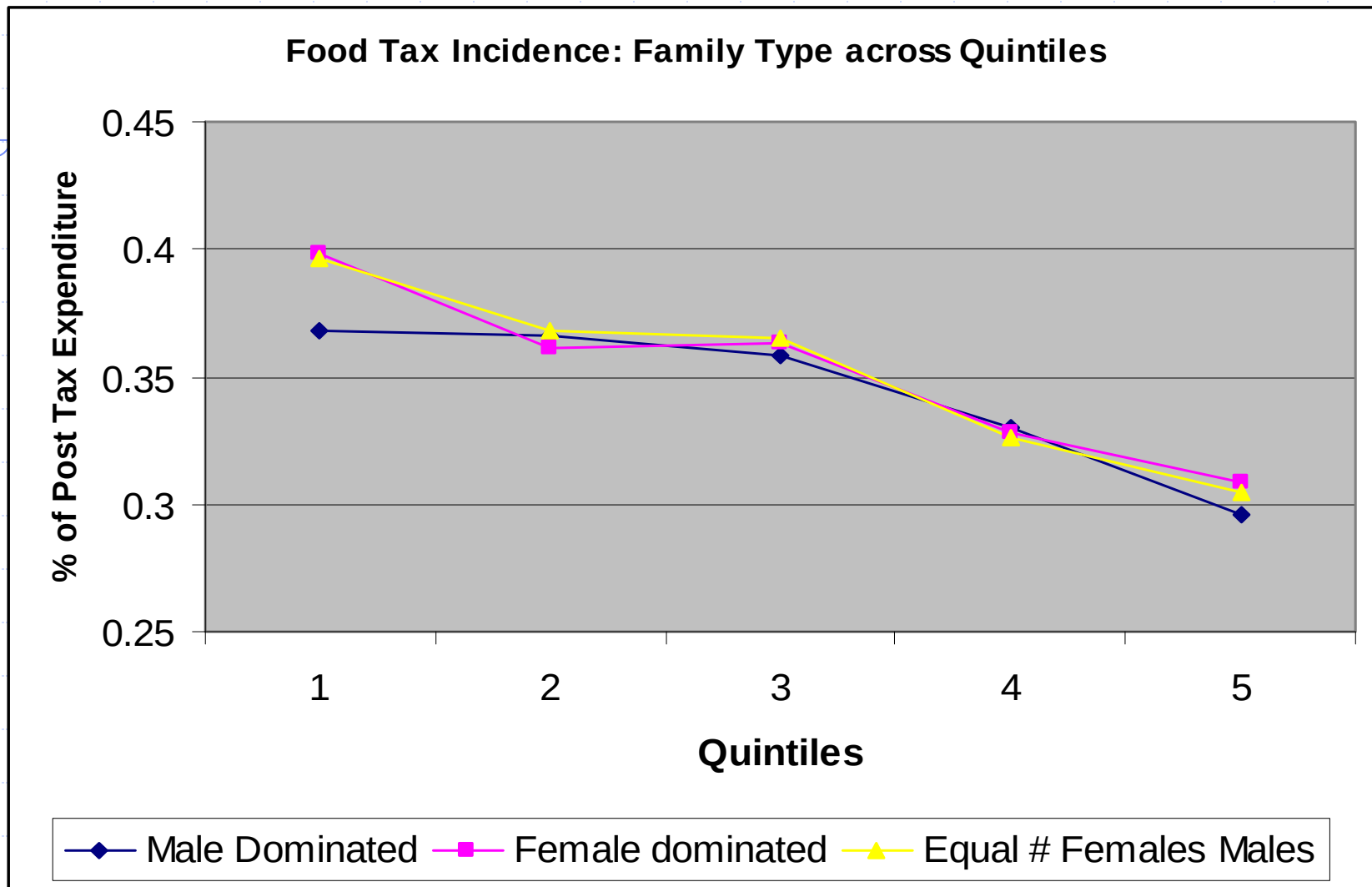
Category	Equal # Females Males					Total
	1	2	3	4	5	
<i>Food subtotal</i>	0.396 (0.116)	0.368 (0.101)	0.365 (0.105)	0.326 (0.104)	0.305 (0.115)	0.355 (0.113)
<i>Spirits</i>	0.129 (0.52)	0.084 (0.288)	0.066 (0.256)	0.036 (0.137)	0.017 (0.129)	0.07 (0.318)
<i>Tobacco</i>	0.011 (0.042)	0.015 (0.063)	0.022 (0.087)	0.048 (0.194)	0.101 (0.225)	0.037 (0.141)
<i>Clothing and footwear subtotal</i>	0.206 (0.116)	0.222 (0.101)	0.225 (0.099)	0.239 (0.103)	0.228 (0.108)	0.223 (0.107)
<i>Medical expenditure</i>	0.213 (0.305)	0.291 (0.494)	0.294 (0.434)	0.454 (0.725)	0.659 (1.071)	0.371 (0.664)
<i>Transportation Subtotal</i>	0.007 (0.049)	0.006 (0.029)	0.011 (0.043)	0.017 (0.067)	0.022 (0.048)	0.012 (0.049)
TOTAL	1.634 (0.032)	1.662 (0.035)	1.79 (0.04)	2.184 (0.051)	2.944 (0.063)	2.011 (0.023)
Number of HHs in quintile	418	378	381	411	455	2043

Table 8: Policy Simulation 1: Tax on All Food == 0

	Total Tax	VAT	Excise Tax	Fuel Tax	Number of Households
Headship					
Male headed	1.5051 (0.0119)	1.3283 (0.0097)	0.0444 (0.0025)	0.0595 (0.0037)	7066
Female headed	1.6345 (0.0339)	1.5355 (0.032)	0.0272 (0.0037)	0.0239 (0.0059)	821
Total	1.518 (0.0113)	1.3489 (0.0093)	0.0427 (0.0023)	0.0559 (0.0034)	7877
Household Sex Composition					
Male-dominated	1.5158 (0.0181)	1.3151 (0.0139)	0.0533 (0.0047)	0.0668 (0.0061)	3282
Female-dominated	1.4922 (0.0181)	1.356 (0.0159)	0.0335 (0.0024)	0.0451 (0.0047)	2552
Equal # females & males	1.5515 (0.0231)	1.3919 (0.0197)	0.0371 (0.0031)	0.0521 (0.0063)	2043
Total	1.518 (0.0113)	1.3489 (0.0093)	0.0427 (0.0023)	0.0559 (0.0034)	7877

Table 9: Policy Simulation 2: Tax on Tobacco Doubled

	Total Tax	VAT	Excise Tax	Fuel Tax	Number of Households
Headship					
Male headed	2.1658 (0.0162)	1.9027 (0.014)	0.1298 (0.0046)	0.0598 (0.0037)	7066
Female headed	2.1595 (0.0379)	2.0219 (0.0356)	0.0654 (0.0067)	0.0241 (0.0059)	821
Total	2.1652 (0.0151)	1.9145 (0.0131)	0.1234 (0.0042)	0.0562 (0.0034)	7877
Household Sex Composition					
Male-dominated	2.3295 (0.0293)	2.0364 (0.0257)	0.1447 (0.0088)	0.0671 (0.0061)	3282
Female-dominated	2.0146 (0.0192)	1.8094 (0.0168)	0.102 (0.0043)	0.0453 (0.0047)	2552
Equal # females & males	2.091 (0.0236)	1.852 (0.0197)	0.1159 (0.0055)	0.0524 (0.0064)	2043
Total	2.1652 (0.0151)	1.9145 (0.0131)	0.1234 (0.0042)	0.0562 (0.0034)	7877



Conclusions and Policy Implications

- ◆ Incidence of taxation vary more with household characteristics although in aggregate we find that the tax system is regressive across expenditure quintile, especially for items of basic necessities.
- ◆ Higher tax incidence for the lowest expenditure quintile arises primarily due to the high incidence of taxes on the items of basic necessities and on intoxicants, viz., food, clothing and footwear, fuel, tobacco and alcoholic and non-alcoholic beverages, while the highest expenditure quintile bears the highest incidence of tax when it comes to housing, water, electricity and gas and also health care and medicine and fuel and transport.
- ◆ The reason for low incidence for poorer households in rural areas in health could just be that poor do not have access to the formal modern health care system, and that exclusion cannot be construed as lower incidence. Similar is the case with housing, electricity and Gas.
- ◆ If the burden of indirect taxes is a concern, it requires much closer investigation by looking into the tax components in the items of basic necessities, especially on the inputs, even when the final commodity is exempted from taxes.
- ◆ We also need to look into the issue of net fiscal benefit to the poor and across gender for the purpose of pro-poor and pro-gender fiscal policy, to see the net effect of government expenditure programme at household level and the incidence of tax simultaneously, a task that is not easy, requires much more detailed research involving both revenue and expenditure side.