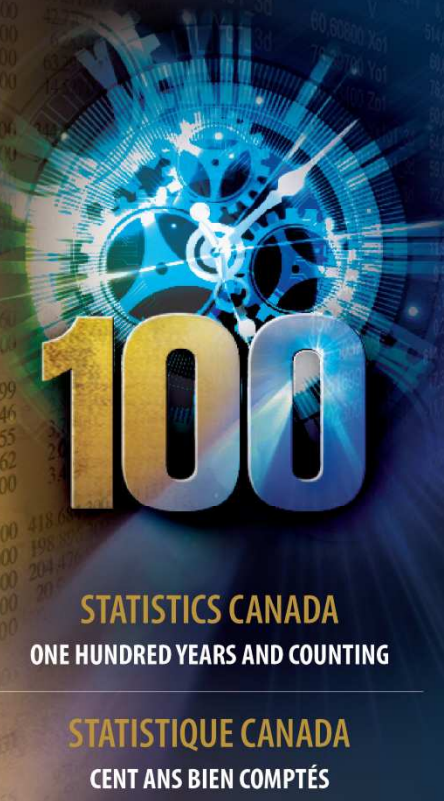
Compiling the valuation matrices

Issam Alsammak,
Statistics Canada



Seminar on the Supply and Use Tables
11-13 September 2018
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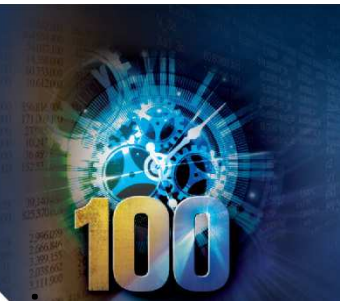
Agenda

- What are the valuation matrices
- Relationship between basic prices and purchasers' prices
- Transformation of the use table from purchasers' prices to basic prices
- Estimating valuation matrices in the Canadian SUTs

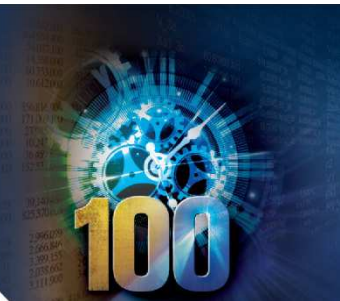
WHAT IS THE VALUATION MATRIX

Introduction



- When SUTs are compiled, the output of industries are valued at basic prices, whereas the intermediate and final use tables are valued at purchasers' prices
- This is also how the data is reported
  - Producers are generally able to report output at basic prices because this is essentially the revenue they retain
  - Purchasers report their expense details at purchasers' prices because this is what they pay for goods and services
- But in the SUTs, each product has to respect the fundamental identity: Supply = Demand
- How is that identity respected given the difference in valuation between the supply and demand?

The valuation matrix



- The valuation matrix bridges the difference in valuation between the supply table at basic prices and the use tables at purchasers' prices
- When compiling SUTs at purchasers' prices, the valuation matrix appears in the supply table
- Its rows show products whereas the columns show the different margins (e.g. trade, transport) as well as the taxes and subsidies on products that make up the difference between what the producer of a good or services receives, and what the purchaser pays

Supply and use tables @ purchasers' prices

Industries / Final Uses / Products	Supply: Output of industries: Agriculture, forestry, and fishing	Mining, quarrying and construction	Manufacturing	Trade and transport	Services	General government	NPISH	Total industry outputs	Imports	Supply @ basic prices	Valuation: Margins: Retail	Margins: Transport	Margins: Wholesale	Taxes on products	Subsidies on products	Valuation total	Supply @ purchasers' prices	Use: Inputs of industries: Agriculture, forestry, and fishing	Mining, quarrying and construction	Manufacturing	Trade and transport	Services	General government	NPISH	Total industry inputs	Final uses: Household expenditure (C)	General government expenditure (G)	NPISH expenditure	Gross capital formation (I)	Exports (X)	Total final use	Use @ purchasers' prices
Agriculture, forestry, and fishing product	64	0	1	0	0	0	0	**65**	10	74	5	4	4	0	-3	**9**	**84**	14	1	32	0	2	1	0	**50**	15	0	0	-1	20	**34**	**84**
Mining, quarrying and construction prod	0	406	2	0	0	7	0	**415**	32	447	0	16	1	12	-1	**28**	**476**	3	32	75	7	26	14	2	**160**	27	0	0	207	82	**316**	**476**
Manufactured products	0	0	498	3	1	1	0	**502**	342	845	109	24	107	63	-0	**304**	**1,149**	15	89	208	23	96	25	1	**458**	341	0	0	80	270	**690**	**1,148**
Trade and transport services	1	0	1	120	1	1	0	**123**	15	138	3	0	1	3	-5	**3**	**141**	1	4	9	31	47	6	0	**98**	32	0	0	-4	15	**43**	**141**
Other services	0	7	20	28	1,018	59	12	**1,146**	69	1215	3	0	2	32	-8	**29**	**1,244**	10	66	50	96	322	112	12	**667**	458	0	0	60	59	**577**	**1,244**
General government services	0	0	0	0	0	352	0	**352**	0	352	0	0	0	0	0	**0**	**352**	0	0	0	0	0	0	0	**0**	0	352	0	0	0	**352**	**352**
NPISH	0	0	0	0	0	0	23	**23**	0	23	0	0	0	0	0	**0**	**23**	0	0	0	0	0	0	0	**0**	0	0	23	0	0	**23**	**23**
Retail trade services	0	2	0	111	6	0	1	**120**	0	120	-120	0	0	0	0	**-120**	**0**															
Transport services	0	5	0	8	30	0	0	**43**	0	44	0	-44	0	0	0	**-44**	**0**															
Wholesale services	0	0	9	104	2	0	0	**115**	0	115	0	0	-115	0	0	**-115**	**0**															
Total	**65**	**420**	**531**	**373**	**1,058**	**421**	**36**	**2,905**	**469**	**3374**	**0**	**0**	**0**	**111**	**-17**	**94**	**3,468**	**43**	**192**	**373**	**157**	**492**	**158**	**16**	**1,432**	**873**	**352**	**23**	**342**	**446**	**2,036**	
Subsidies on Production																		-0	-0	-0	-0	-1	0	0	**-2**							
Taxes on Production																		2	8	4	9	45	4	0	**72**							
Compensation of employees (W&S)																		7	87	81	122	218	174	17	**705**							
Compensation of employees (ESC)																		1	12	19	17	23	34	2	**108**							
Gross Mixed Income																		7	18	1	7	153	0	0	**186**							
Gross Operating Surplus																		6	103	54	60	129	51	1	**404**							
Total Gross Value Added																		**22**	**228**	**158**	**216**	**566**	**263**	**20**	**1,473**							
Total Inputs																		**65**	**420**	**531**	**373**	**1,058**	**421**	**36**	**2,905**							

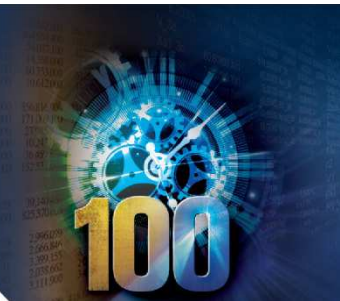
USE

Products \ Industries / Final Uses	Use: Inputs of industries: Agriculture	Mining, construction	Manufacturing	Trade and transport	Services	Government	NPISH	Total industry inputs	Final uses: HHFCe	GFCe	NPISHCe	GCF	Exports	Total final use	Use @ purchasers' prices
Agriculture, forestry, and fish	14	1	32	0	2	1	0	**50**	15	0	0	-1	20	**34**	**84**
Mining, quarrying and constr	3	32	75	7	26	14	2	**160**	27	0	0	207	82	**316**	**476**
Manufactured products	15	89	208	23	96	25	1	**458**	341	0	0	80	270	**690**	**1,148**
Trade and transport services	1	4	9	31	47	6	0	**98**	32	0	0	-4	15	**43**	**141**
Other services	10	66	50	96	322	112	12	**667**	458	0	0	60	59	**577**	**1,244**
General government services	0	0	0	0	0	0	0	**0**	0	352	0	0	0	**352**	**352**
NPISH	0	0	0	0	0	0	0	**0**	0	0	23	0	0	**23**	**23**
Retail trade services															
Transport services															
Wholesale services															
Total	**43**	**192**	**373**	**157**	**492**	**158**	**16**	**1,432**	**873**	**352**	**23**	**342**	**446**	**2,036**	
Subsidies on Production	-0	-0	-0	-0	-1	0	0	**-2**							
Taxes on Production	2	8	4	9	45	4	0	**72**							
Compensation of employees	7	87	81	122	218	174	17	**705**							
Compensation of employees	1	12	19	17	23	34	2	**108**							
Gross Mixed Income	7	18	1	7	153	0	0	**186**							
Gross Operating Surplus	6	103	54	60	129	51	1	**404**							
GVA	**22**	**228**	**158**	**216**	**566**	**263**	**20**	**1,473**							
Total Inputs	**65**	**420**	**531**	**373**	**1,058**	**421**	**36**	**2,905**							

SUPPLY

Products \ Industries / Final Uses	Supply: Output of industries: Agriculture, forest	Mining, quarrying	Manufacturing	Trade and transpo	Services	General governme	NPISH	Total output	Imports	Supply @ basic prices	Valuation: Retail margins	Transport margins	Wholesale margin	Taxes on products	Subsides on produ	Valuation total	Supply @ purchasers' prices
Agriculture, forestry, and fishing produ	64	0	1	0	0	0	0	**65**	10	**74**	5	4	4	0	-3	**9**	**84**
Mining, quarrying and construction pr	0	406	2	0	0	7	0	**415**	32	**447**	0	16	1	12	-1	**28**	**476**
Manufactured products	0	0	498	3	1	1	0	**502**	342	**845**	109	24	107	63	-0	**304**	**1,148**
Trade and transport services	1	0	1	120	1	1	0	**123**	15	**138**	3	0	1	3	-5	**3**	**141**
Other services	0	7	20	28	1,018	59	12	**1,146**	69	**1,215**	3	0	2	32	-8	**29**	**1,244**
General government services	0	0	0	0	0	352	0	**352**	0	**352**	0	0	0	0	0	**0**	**352**
NPISH	0	0	0	0	0	0	23	**23**	0	**23**	0	0	0	0	0	**0**	**23**
Retail trade services	0	2	0	111	6	0	1	**120**	0	**120**	-120	0	0	0	0	**-120**	**0**
Transport services	0	5	0	8	30	0	0	**43**	0	**44**	0	-44	0	0	0	**-44**	**0**
Wholesale services	0	0	9	104	2	0	0	**115**	0	**115**	0	0	-115	0	0	**-115**	**0**
Total	**65**	**420**	**531**	**373**	**1,058**	**421**	**36**	**2,905**	**469**	**3,374**	**0**	**0**	**0**	**111**	**-17**	**94**	**3,468**

Key observations



- For each product:
  - Supply @ basic prices + ∑Margins + TLSP = Use @ purchasers' prices
- The "margin products" (retail services, wholesale services, transportation services) have zero values in the use table
  - Note that this is not strictly necessary, especially for transportation services, which may be purchased directly
- The "margin products" are balanced (supply=demand), the balancing item being a negative entry in the valuation matrix that equals the total margin available

RELATIONSHIP BETWEEN BASIC PRICE AND PURCHASER PRICE

Purchasers' prices vs Basic Prices

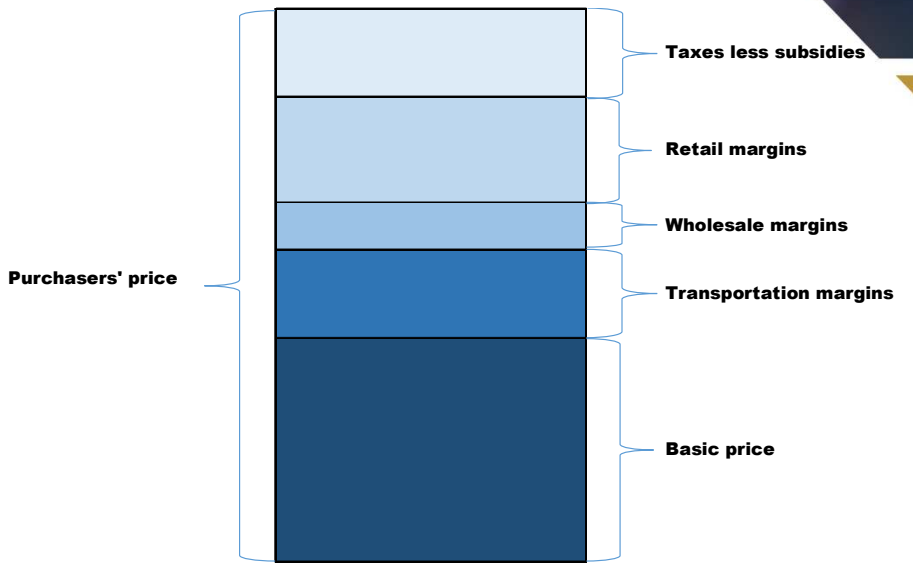
- An overview of the essential differences between basic, producers' and purchasers' prices from section 6.69 of the SNA 2008 manual

Basic prices
+
Taxes on products excluding invoiced VAT
-
Subsidies on products

+
VAT not deductible by the purchaser
+
Separately invoiced transport charges
+
Wholesalers' and retailers' margins
=
Purchasers' prices

Purchasers' prices vs Basic Prices

- The purchasers' price can be broken down into
  - Taxes less subsidies
  - Trade margins
  - Transportation margins
  - Basic prices
- Each cell in the Intermediate inputs and in the Final uses tables can be decomposed in this way



FROM PURCHASERS' PRICES TO BASIC PRICES

From aggregate margin to detailed estimate

- In the purchasers' prices SUTs, the margins are shown as the aggregate sum of the margins on all use categories
- These totals are measurable to some extent from source data e.g. retail margins from the Retail Commodity Survey
- For certain analytical purposes, the SUTs (specifically, the use tables) need to be converted into basic prices
- To create the basic prices SUTs, the constituent margins and taxes less subsidies of each cell in the use tables must be calculated
- It is difficult to get solid data on these components by cell; there is a bit of judgement and modelling that takes place in this exercise
- General method: Use a static "blueprint" of margin rates to calculate initial margins, then prorate to match observable aggregate by product

Creating basic price estimates, illustration

	Purchaser	Margins		Basic
		Trade	Transportation	
Commodity 1	1,000	50	100	850
Commodity 2	2,000	100	200	1,700
Commodity 3	3,000	150	300	2,550
Commodity 4	4,000	200	400	3,400
Commodity 5	5,000	250	500	4,250
Commodity 6 (Trade)	0	0	0	750
Commodity 7 (Transportation)	0	0	0	1,500
	15,000	**750**	**1,500**	**15,000**

- For a non-margin product:
  - Basic = Purchaser – Sum of Margins on that cell
- For a margin product:
  - Basic = Sum of Margins corresponding to that margin product

Supply and use tables @ basic prices

	Supply											Use															
	Output of industries								Total industry outputs	Imports	Supply @ basic prices	Inputs of industries								Total industry inputs	Final uses					Total final use	Use @ basic prices
	Agriculture, forestry, and fishing	Mining, quarrying and construction	Manufacturing	Trade and transport	Services	Fictives	General government	NPISH		Imports		Agriculture, forestry, and fishing	Mining, quarrying and construction	Manufacturing	Trade and transport	Services	Fictives	General government	NPISH		Household expenditure (C)	General government expenditure (G)	NPISH expenditure	Gross capital formation (I)	Exports (X)		
Agriculture, forestry, and fishing products	64	0	1	0	0	0	0	0	**65**	10	**74**	12	1	29	0	1	0	1	0	**44**	13	0	0	-1	18	**30**	**74**
Mining, quarrying and construction products	0	406	2	0	0	0	7	0	**415**	32	**447**	2	30	71	7	24	0	13	2	**150**	25	0	0	195	77	**297**	**447**
Manufactured products	0	0	498	3	1	0	1	0	**502**	342	**845**	11	66	153	17	28	42	19	1	**337**	251	0	0	59	198	**508**	**845**
Trade and transport services	1	0	1	120	1	0	1	0	**123**	15	**138**	1	4	8	30	8	38	6	0	**96**	32	0	0	-4	14	**42**	**138**
Other services	0	7	20	28	896	0	59	12	**1,024**	69	**1,093**	6	58	31	75	207	54	91	7	**529**	447	0	0	59	58	**564**	**1,093**
Fictives	0	0	0	0	0	122	0	0	**122**	0	**122**	4	6	18	19	53	0	18	5	**122**	0	0	0	0	0	**0**	**122**
General government	0	0	0	0	0	0	352	0	**352**	0	**352**	0	0	0	0	0	0	0	0	**0**	0	352	0	0	0	**352**	**352**
NPISH	0	0	0	0	0	0	0	23	**23**	0	**23**	0	0	0	0	0	0	0	0	**0**	0	0	23	0	0	**23**	**23**
Retail trade services	0	2	0	111	6	0	0	1	**120**	0	**120**	2	9	22	3	4	7	3	0	**50**	35	0	0	8	27	**70**	**120**
Transport services	0	5	0	8	0	30	0	0	**43**	0	**44**	1	3	8	1	2	1	1	0	**17**	9	0	0	8	9	**27**	**44**
Wholesale services	0	0	9	104	2	0	0	0	**115**	0	**115**	2	9	21	2	4	6	3	0	**47**	34	0	0	8	26	**68**	**115**
Total intermediate consumption	**65**	**420**	**531**	**373**	**906**	**152**	**421**	**36**	**2,905**	**469**	**3,374**	**42**	**185**	**360**	**154**	**332**	**149**	**154**	**16**	**1,392**	**846**	**352**	**23**	**331**	**429**	**1,981**	
Subsidies on Products												-1	-1	-2	-2	-2	-2	-1	-0	**-10**	-5	0	0	-1	-2	**-8**	**-17**
Taxes on Products												1	8	15	5	10	6	5	0	**49**	32	0	0	11	19	**62**	**111**
												1	**7**	**13**	**3**	**8**	**4**	**4**	**0**	**40**	**27**	**0**	**0**	**10**	**17**	**54**	**94**
Subsidies on Production												-0	-0	-0	-0	-1	0	0	0	**-2**							
Taxes on Production												2	8	4	9	45	0	4	0	**72**							
Compensation of employees (W&S)												7	87	81	122	218	0	174	17	**705**							
Compensation of employees (ESC)												1	12	19	17	23	0	34	2	**108**							
Gross Mixed Income												7	18	1	7	153	0	0	0	**186**							
Gross Operating Surplus												6	103	54	60	129	0	51	1	**404**							
Total Gross Value Added												**22**	**228**	**158**	**216**	**566**	**0**	**263**	**20**	**1,473**							
Total Inputs												**65**	**420**	**531**	**373**	**906**	**152**	**421**	**36**	**2,905**							

- No valuation matrix in the supply table
- Margin services and taxes and subsidies on products appear explicitly in the use tables
- All products remain balanced (supply=use)
- Output, Imports, GVA matrices remain unchanged

ESTIMATING VALUATION MATRICES IN THE CANADIAN SUTS

Features of the Canadian SUTs

- The Canadian SUTs have the following dimensions:
  - 14 provinces and territories
  - 231 industries
  - 480 products
  - 2 import columns
  - 32 margins
  - 21 taxes on products
  - 276 final demand categories
- Benchmark SUTs are published annually at purchasers' prices as well as at basic prices

Margins in the Canada SUTs

- Wholesale (8)
  - farm products
  - petroleum and petroleum products
  - food, beverages and tobacco products
  - personal and household goods
  - motor vehicles, motor vehicle parts and accessories
  - building materials and supplies
  - machinery, equipment and supplies
  - miscellaneous products
- Retail (11)
  - motor vehicles and parts
  - furniture and home furnishings
  - electronics and appliances
  - building materials, garden equipment and supplies
  - food and beverages
  - health and personal care products
  - automotive fuels
  - clothing and clothing accessories
  - sporting and leisure products
  - miscellaneous products
  - household fuels
- Transportation and storage (13)
  - Natural gas distribution
  - Transportation of crude oil and other commodities by pipeline
  - Transportation of natural gas by pipeline margins
  - Grain storage
  - Air freight transportation
  - Rail freight transportation
  - Water freight transportation
  - Truck transportation services for general freight
  - Truck transportation services for specialized freight
  - Water transportation support
  - Road transportation support
  - Freight transportation arrangement
  - Other transportation

General steps to estimate margins

1. Generate estimates of outputs, inputs, imports, and final demand categories
   - Trade margins represent the difference between Sales of Goods Purchased for Resale, and the Costs of those same Goods Purchased for Resale
   - Trade margins are measured mainly using Statcan's Annual Wholesale Survey and Annual Retail Survey; other surveys also capture secondary trade-related activity
   - This step provides the supply and demand of the margin products (e.g. retail services, transportation services, etc.); the difference between supply and demand of these services is the total margin amount
2. Distribute total margin to obtain margin aggregates by product
   - Each margin is allocated to products using source data: the Retail Commodity Survey; the Wholesale origin and destination of goods survey
3. Allocate margin aggregates by product to obtain margin details (by use category) by applying "blueprint" margin rates and prorating to match the aggregates

Estimating margins – Illustrative example

STEP 1: Build Output, input, and final uses tables

	Margin	Use at purchasers' prices					
		Ind1	Ind2	Ind3	HHFCe	Exports	Other
Product1		12,079	1,003	28,552	73	1,239	318
Product2		2,410	30,446	70,744	7,038	24,201	121
Product3		11,246	65,766	152,826	16,843	28,141	42,406
Product4		1,329	3,607	8,351	30,251	7,768	38,219
Product5		5,978	58,071	30,754	74,861	207,376	53,935
Product6		3,705	6,004	17,655	18,899	52,951	0
Trade services	-200,000						

STEP 2: Distribute total margin to obtain margin aggregates by product

	Margin	Use at purchasers' prices					
		Ind1	Ind2	Ind3	HHFCe	Exports	Other
Product1	15,000	12,079	1,003	28,552	73	1,239	318
Product2	10,000	2,410	30,446	70,744	7,038	24,201	121
Product3	60,000	11,246	65,766	152,826	16,843	28,141	42,406
Product4	5,000	1,329	3,607	8,351	30,251	7,768	38,219
Product5	80,000	5,978	58,071	30,754	74,861	207,376	53,935
Product6	30,000	3,705	6,004	17,655	18,899	52,951	0
Trade services	-200,000						

STEP 3: Allocate margin aggregates by product to obtain margin details

Blueprint of margins

Ind1	Ind2	Ind3	HHFCe	Exports	Other
29%	27%	30%	29%	32%	29%
2%	4%	5%	7%	1%	8%
20%	20%	19%	24%	19%	17%
2%	4%	2%	4%	0%	3%
21%	18%	24%	19%	24%	17%
35%	35%	31%	32%	35%	28%

Blueprint * Use at purchasers' prices

Ind1	Ind2	Ind3	HHFCe	Exports	Other	Total
3,503	271	8,566	21	397	92	12,849
48	1,218	3,537	493	242	10	5,548
2,249	13,153	29,037	4,042	5,347	7,209	61,038
27	144	167	1,210	0	1,147	2,695
1,255	10,453	7,381	14,224	49,770	9,169	92,252
1,297	2,101	5,473	6,048	18,533	0	33,452

Prorate to equal margin aggregates

Ind1	Ind2	Ind3	HHFCe	Exports	Other	Total
4,089	316	9,999	25	463	108	15,000
87	2,195	6,376	888	436	17	10,000
2,211	12,930	28,543	3,973	5,256	7,087	60,000
49	268	310	2,245	0	2,128	5,000
1,089	9,065	6,401	12,335	43,160	7,951	80,000
1,163	1,885	4,908	5,424	16,621	0	30,000

Taxes on products in the Canada SUTs

- Federal (9)
  - Federal trading profits
  - Federal gas tax
  - Federal excise tax
  - Federal duty tax
  - Federal environment tax
  - Federal air transportation tax
  - Federal custom import duties
  - Federal sales tax (GST and HST)
  - Aboriginal trading profits
- Provincial (9)
  - Provincial environment tax
  - Provincial gallon tax
  - Provincial trading profits
  - Provincial gas tax
  - Provincial land transfer tax
  - Provincial amusement tax
  - Other provincial consumption taxes
  - Provincial sales tax
  - Provincial harmonized sales tax (HST)
- Municipal (3)
  - Municipal land transfer tax
  - Municipal amusement tax
  - Municipal sales tax

General steps to estimate taxes on products

- Taxes on products are mandatory fees or levies paid by consumers on the purchase of products
- Estimation of taxes on products can be broken down into 5 main steps:
  1. Estimate tax aggregates (“controls”) from Government Finance Statistics
  2. Adjust expenditure to remove certain non-taxable items (e.g. illegal tobacco purchases, tips paid for meals and alcoholic beverages)
  3. Calculate tax “blueprints” to determine taxable proportions of purchases
  4. Estimate taxes on products by use category using blueprints and adjusted expenditures
  5. Calibration of estimates to match controls

Blueprints

- In order to determine what portion of the purchase of a product by businesses and households is taxable, tax “blueprints” are created to determine the taxable proportions of the cells in the use table.
- The blueprints represent a translation from the legislation into the SUT framework
- They indicate what proportion of a purchase of a product is not taxable.
- Everything is initially assumed to be 100% taxable
- Tax blueprints are created for exemptions, rebates, and input tax credits for each combination of product and industry and final use category
- These amounts are then deducted from the 100% to arrive at a final taxable proportion.

Taxes on products Blueprint – illustrative example

Taxable Proportion (TP) formula:

TP =

$(1 - non\ taxable)$
$* (1 - exempt - zero\ rated - POS\ rebate)$
$* (1 - ITC)$
$* (1 - sector\ rebate)$
$* (1 - other\ rebate)$

- The table on the right shows the tax blueprint values for “Snack food products” for a0 HHFCe and b) Bakeries and tortilla manufacturing

		Snack food products	Snack food products
		HHFCe	Use by bakeries industry
Non-taxable	Excluded or discounted from any tax treatment.	0%	0%
Zero-rated	Taxable at a rate of 0%. (companies that produce zero-rated supplies can claim ITCs on inputs used to produce them)	11%	11%
Exempt	Good or service is exempt from tax	0%	0%
POS rebate	Tax rebate applied at the point-of-sale	0%	0%
Other rebate	Product-specific VAT rebates other than point-of-sale	0%	0%
Input tax credit (ITC)	Tax credit given to companies that pay VAT on goods/services used in production to produce taxable goods/services.	0%	100%
Sector rebate	VAT rebates that specific public/private sector institutions (e.g. municipalities) or categories of consumers (e.g. First Nation communities, diplomats) are entitled to regardless of the product purchased.	0.45%	0%
Taxable proportion	Proportion of expenditure (less sales taxes) that is subject to tax	88.60%	0%

Step 4: Estimation

- Non-sales taxes such as tobacco taxes, liquor taxes, and environment taxes, are allocated based on the expenditure weights after applying the taxable proportions
- Sales taxes (FVAT, PVAT, and PST), are determined as follows:
  - $TAX_i = Expenditure \times (\frac{LR_i \times TP_i}{\sum LR_i \times TP_i + 1}) + cf$, where
  - LR_i = Legal rate for government level *i*
  - TP_i = Taxable proportion for government level *i*
  - cf=$calibration\ factor$

Step 4: Estimation

Example: Using taxable proportion data from previous slide

$$TAX_i = Expenditure \times \left(\frac{LR_i \times TP_i}{LR_{FVAT} \times TP_{FVAT} + LR_{PVAT} \times TP_{PVAT} + LR_{PST} \times TP_{PST} + 1} \right) + cf$$

$$TAX_{FVAT} = 1{,}331{,}561 \times \left(\frac{0.05 \times 0.886}{0.05 \times 0.886 + 0.08 \times 0.886 + 0 + 1} \right) - 529 = 52{,}366$$

$$TAX_{PVAT} = 1{,}331{,}561 \times \left(\frac{0.08 \times 0.886}{0.05 \times 0.886 + 0.08 \times 0.886 + 0 + 1} \right) + 0 = 84{,}633$$

RefYear	Tax Type	Exp	legal rate	TP	Initial Tax	Calibration	Final Tax
2014	FVAT	1,331,561	0.05	0.886	52,895	- 529	52,366
2014	PVAT	1,331,561	0.08	0.886	84,633	-	84,633

Summary

- The valuation matrix bridges the valuation difference between the domestic and foreign supply in basic prices, and the consumption in purchasers' prices
- The use table can be transformed from purchasers' prices into basic prices by calculating margins, taxes on products, and subsidies on products for every cell in the use table
- The valuation matrices may be estimated using a combination of survey data and "blueprint" rates

THANK YOU!

For more information, please visit
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