

Revised GTAP data for Vietnam

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This document explains how the 2000 Vietnam IO table was adapted for use with the GTAP data base. The work was sponsored by the World Bank and carried out by Mark Horridge.

The chief raw material was a 112-sector 2000 Input-Output table prepared by the Vietnam General Statistical Office. The Table consisted of a single matrix showing usage at basic prices. That is, commodity (in this case, VAT) taxes were excluded from the table. Luckily, the Central Institute of Economic Management, Hanoi, prepared a supplementary table showing how much VAT was raised on each flow to final users (industries were deemed not to pay VAT). This tax table was located by Tran Hoang Nhi, who also provided very useful help in translating Vietnamese documentation.

The table was measured in millions of 2000 VND, which we converted to billions (/1000).

A single accumulation column combined errors, inventory changes and investment use. Positive flows of manufactured goods were treated as investment use. Others, including all negative entries, were treated as inventory changes.

The original 112 sectors were aggregated to a set of 47 sectors that best corresponded to elements of GTAP's standard 57 commodities. The mappings from 112 and 57 sectors to these 47 are shown in Table 2 overleaf.

At this point exports of the petroleum refinery sector "p_c" exceeded local production (both were small -- Vietnam had no refinery). We reduced both imports and exports of "p_c" to remove the problem.

To produce an imports matrix from the supplied vector we assumed that, for each commodity, all non-export users had the same import share. Commodity tax revenues (only for households, government, and investment), were split between domestic and imported in the same proportions as the basic flows.

There was no re-allocation of primary costs (this happens later in the GTAP data process). Labour shares in, for example, agriculture, were already quite high.

Shares of C I G X - M in GDP are shown in the tables below: the VNIO row is drawn from the Vietnam IO tables; the Purdue row from the macro and trade data collected by Purdue. According to the Purdue trade data, imports are 50% higher than exports; VNIO thinks trade is balanced. Hence the Vietnam data will require adjustment to be consistent with other world trade flows.

Table 1: Main GDP expenditure shares: comparison of sources

GDPE	1 Cons	2 Inv	3 Gov	4 Stk	5 Exp	6 NegImp	Total
VNIO	0.67	0.28	0.06	0.01	0.55	-0.57	1.00
Purdue	0.82	0.39	0.08	0.00	0.64	-0.92	1.00

Table 2: Mapping from 112 Vietnam IO sectors to 57 GTAP sectors

112 Vietnam IO sectors	47 sectors	57 GTAP sectors	Output (bill. VND)
1 Paddy	pdr	pdr	49892
2 RawRubber CoffeeBeans Tea	ocr	ocr	9316
3 Sugarcane	c_b	c_b	2779
4 OtherCrops	OthCrop	wht gro v_f osd pfb	33949
5 Pig Poultry NtrlFertilzr	oap	oap wol	19549
6 Cow OthLivestock	CatLMilk	ctl rmk	6182
7 ForestryPrds	for	for	7582
8 FisheryPrds FisheryGrow	fsh	fsh	25578
9 Coal	col	col	3882
10 MetallicOre Stones Sand OtherMining	omn	omn	3365
11 CrdOilNatGas	OilGas	oil gas	51500
12 ProcMeat	Meat	cmt omt	2726
13 EdibleOils	EdibleOils	vol	1272
14 DairyProds	mil	mil	4470
15 Wines Beer NonAlcDrinks CoffeeProces TeaProcessed Tobacco	b_t	b_t	17549
16 Sugar	sgr	sgr	6516
17 Rice	pcr	pcr	53461
18 CakeJamsCndy ProcFruitVeg ProcSeafoods OtherFood AnimalFeeds	ofd	ofd	41771
19 GlassProds CeramicProds BricksTiles Cement ConcrCement OthBldngMat	nmm	nmm	25727
20 OthManufact	omf	omf	8297
21 PaperPulpPrd Printing Publishing	ppp	ppp	11055
22 WoodProducts	lum	lum	10188
23 MedicEquip PrecInstrmnt HToolSparePt GPMachinery OthGPMachin OthSpecMachn Transformer ElectEquipmt	ome	ome	16189
24 NonAutoMVP Bicycles Automobiles	mvh	mvh	18533
25 OthTransEqp	otn	otn	3318
26 CommsEquipmt	ele	ele	5384
27 NFerrMetals	nfm	nfm	15382
28 FerrMetals	FerrMtlPrd	i_s fmp	3538
29 Fiber ThreadCloth Carpets Weaving	tex	tex	15604
30 ClothesSheet	wap	wap	28410
31 LeatherTan LeatherGoods	lea	lea	30787
32 HealthMedicin RubberEtc SoapsDeterg PerfumesEtc PlasticEtc PlasticProds Paints InksPaints OtherChemPrd	crp	crp	29185
33 PetrolLubric	p_c	p_c	464
34 PowerAndGas	ElecGas	ely gdt	17710
35 WaterDistrib	wtr	wtr	1296
36 CivilCnstruc OthConstruct	cns	cns	86501
37 Trade Repairs Hotels Restaurant Tourism	trd	trd	106377
38 LandTrans RailwayTrans	otp	otp	7025
39 WaterTrans	wtp	wtp	3947
40 AirTrans	atp	atp	6170
41 Communicaton	cmn	cmn	10811
42 Banking	ofi	ofi	6910
43 Lotto RecCultSport	ros	ros	7494
44 Insurance	isr	isr	1100
45 ScienceTech SecurDefense EducationTrn HealthCare CommunService	osg	osg	58477
46 AssetSales	dwe	dwe	11251
47 IrrigationSv OthConsultSv OtherService OtherAgricSv	obs	obs	37747

