MECHANISMS OF NATIONAL INCOME DISTRIBUTION - A COMPARATIVE SAM ANALYSIS OF CANADA, GERMANY, AND PORTUGAL

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Aim of the paper

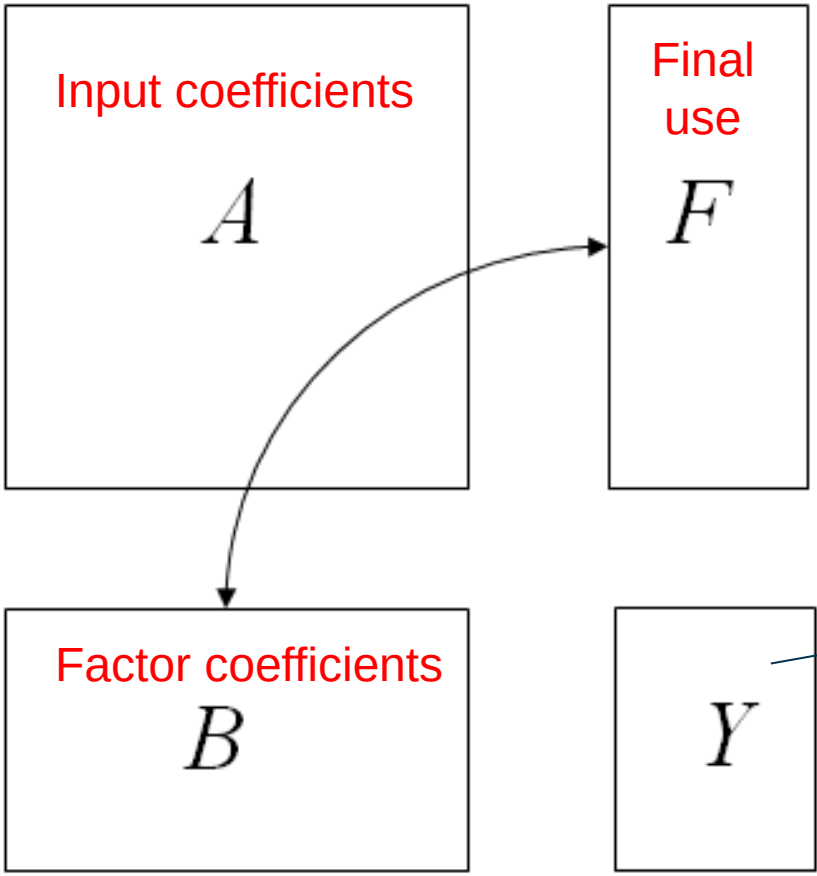
- Underline the importance of adding a macro-economic perspective to the micro approach in understanding trends in income distribution.
- Explain how *Social Accounting Matrices* (SAMs) may be used to provide this insight.
- Look at the effect of different ways of (re)distribution on the basis of assumption of constant expenditure coefficients.
- Compare results for Canada, Germany and Portugal.

Importance of macro-economic perspective

- Disposable income is an important item in the economic process and not just a means for buying goods and services, as seen from the perspective of individual households.
- Various events may affect household disposable income and its distribution in various ways.
- Necessary inputs can be found in ‘social accounting matrices’.
- The paper proposes a deviation from the traditional definition of *exogenous sectors* to better analyse the circuit of income flows and the impact of certain events.

Constructing a Social Accounting Matrix

Elementary scheme of input-output analysis:



Fourth quadrant:
Flow of income distribution and redistribution

Proposal – Traditional definition

	NFC	FC	GG	VA	HH1	HH2	GG	Disp Inc/Fin. Use
NFC	81	21	41					60
FC	22	12	12					10
GG	60	3	0					30
VA	40	20	40					
HH1 (wage)				35			18	
HH2 (profit)				50				
GG				15	28			
Disp inc/Final use					53	22	25	
Total	203	56	93	100	53	50	43	100

Distribution of value added

HH1 receives wages

HH2 receives profits

Disposable income/Final use

Traditional input-output model

In this traditional model, distribution of income is fully endogenised

Proposal – New definition

Separate the circuit of distribution of income

VA as exogenous variable

	NFC	FC	GG	HH1	HH2	GG	VA	Disp Inc/Fin. Use
NFC	81	21	41					60
FC	22	12	12					10
GG	60	3	0					30
HH1 (wage)						18	35	
HH2 (profit)							50	
GG					28		15	
VA	40	20	40					
Disp inc/Final use				53	22	25		
Total	203	56	93	53	50	43	100	100

Result: Distribution may vary independently of production

Results – The case of Canada

		Allocation of primary income			Secondary distribution of income			Generation of income					Sum
		S11+S12	S13	S14+S15	S11+S12	S13	S14+S15	B2	B3	D1	D2-D3	S2	
Allocation of primary income	S11+S12	51	52	38				262	0	0	0	25	428
	S13	37	5	0				20	0	0	128	1	191
	S14+S15	106	5	0				54	66	545	0	4	780
Secondary distribution of income	S11+S12	192			0	0	0					0	192
	S13		114		48	0	201					4	367
	S14+S15			742	2	110	0					2	856
Disposable income	S11+S12				142								142
	S13					254							254
	S14+S15						653						653
	S2	42	15	0	0	3	2						62
Sum		428	191	780	192	367	856	336	66	545	128	36	1111

Results – The case of Canada

		Allocation of primary income			Secondary distribution of income			Generation of income					Sum
		S11+ S12	S13	S14+ S15	S11+ S12	S13	S14+ S15	B2	B3	D1	D2-D3	S2	
Allocation of primary income	S11+S12	.119	.272	.049	0	0	0						
	S13	.086	.026	0	0	0	0						
	S14+S15	.248	.026	0	0	0	0						
Secondary distribution of income	S11+S12	.449	0	0	0	0	0						
	S13	0	.951	0	.250	0	.235						
	S14+S15	0	0	.951	0	.300	0						
Disposable income	S11+S12	0	0	0	.740	0	0						
	S13	0	0	0	0	.692	0						
	S14+S15	0	0	0	0	0	.763						
	S2	.089	.079	0	0	.008	.002						
Sum													

F

$$Y = B(Y - A)^{-1}$$

Results – The case of Canada

$$Y = B(1-A)^{-1}$$

From operating surplus originally earned by corporations only 106 remains

		Generation of income					Sum
		B2	B3	D1	D2-D3	S2	
Disposable income	S11+S12	106	1	10	14	10	142
	S13	71	12	96	66	9	254
	S14+S15	122	52	433	32	13	653
	S2	36	1	6	16	3	62
Sum		336	66	545	128	36	1111

The amount of *Compensation of Employees* that remains with households, after distribution and redistribution

Comparison of Germany and Canada

Canada		Generation of income					Sum
		B2	B3	D1	D2-D3	S2	
Disposable income	S11+S12	96	1	9	13	9	128
	S13	64	10	86	59	8	229
	S14+S15	110	47	390	29	12	588
	S2	33	1	5	14	3	56
Sum		302	59	491	115	32	1000

Germany		Generation of income					Sum
		B2	B3	D1	D2-D3	S2	
Disposable income	S11	53	1	7	2	5	67
	S12	4	1	8	2	2	17
	S13	41	14	88	46	7	196
	S14+S15	132	65	396	37	25	655
	S2	20	3	16	16	10	64
Sum		250	85	515	102	49	1000

Example of Portugal

More detail:

- Disaggregation of labour input by sex and education.
- Separating NPISH from the household sector.
- Further disaggregation of household sector by main source of income.

	3a-1	3a-2	3a-3	3a-4	3a-5	3a-6	3b-1	3b-2	3b-3	3b-4	3b-5	3b-6	3c	3d	10	FISIM	Disp. income
6a	-241	-46	-64	-98	-30	-56	-9	-1	-2	-7	-1	-1	-1071	-40	-192	13	-1847
6b	541	105	143	223	70	127	24	4	6	18	1	1	877	148	509	-225	2571
6c	4649	892	1243	1895	586	1092	202	31	48	142	11	12	2975	7026	1487	-71	22218
6d-1	17271	3292	4651	6910	2131	4025	318	69	133	350	29	23	2531	859	1794	-47	44339
6d-2	743	194	156	635	201	325	1742	189	193	659	47	82	7735	641	947	142	14631
6d-3	2934	581	686	1404	438	635	180	32	24	181	6	11	3260	3155	1462	-59	14930
6d-4	481	126	96	270	106	127	38	3	6	56	1	1	708	341	1803	-118	4044
6e	531	102	142	218	67	125	28	4	6	18	1	2	536	442	210	-23	2410
10	677	131	180	280	87	160	43	6	8	26	2	2	4590	2273	1428	-634	9260
FISIM	-474	-92	-125	-199	-62	-112	-35	-5	-6	-21	-1	-2	-229	126	484	-430	-1183
Gener. income	27113	5283	7109	11537	3594	6448	2530	331	416	1423	96	132	21913	14972	9931	-1453	111374

- Labour income and entrepreneurial income do not undergo the same distribution process.

The effect of different (re)distributions: Two simulations

Simulations on possible effects of specific changes:

- Wage increase at the expense of operating surplus
- Increased income tax which results in a corresponding reduction of disposable income of employees.

Simulations show that the distribution of these changes may depend on the source of the income change, possibly affecting disposable income of all sectors.

Discussion

- The paper shows that SAM-techniques may provide very useful insights in the broader functioning of the economy.
- Furthermore, these matrices may add to plausibility checks of various aggregated NA results.
- The use will depend on the availability of underlying results and their quality.

In this regard, I think it would be good to further explore possibilities to:

- Extend the accounts (are there possibilities to incorporate capital accounts, consumption and savings, and financial accounts?)
- Extend the breakdowns in terms of items and sectors.

Discussion

Some questions:

- Input/output-tables can be used for impact analysis because of the assumed stability of the factors. How stable are the factors in the 'income matrix'? Is it suited for impact analyses?
- The paper presents possibilities for analysing distribution independently from production. Would applying the proposed changes at the most detailed level lead to more accurate results?
- Which subgroups within the household sector would be useful, from the viewpoint of homogeneity, data availability and policy relevance?

Thank you for your attention!