STAGE_t Model: Analysing Results

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Outline

- Principles
- Trees
  - Prices
  - Quantities
- Analyses
  - Elasticities
  - Closure and Market Clearing

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ANALYSES

$$\neq$$

TABLES OF SUMMARY RESULTS

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Analyses

- Results derive from
  - Model – behaviours
  - Data – shares, elasticities, etc.
  - Shocks
- Know your
  - Data
  - Shocks

Follow the behaviours and prices in the model

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Price and Quantity 'Trees'

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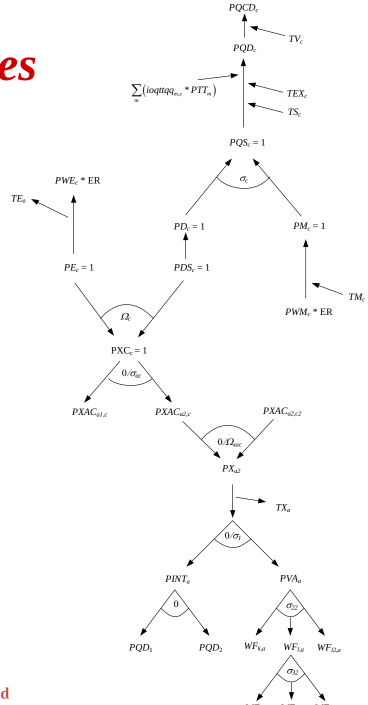
Prices



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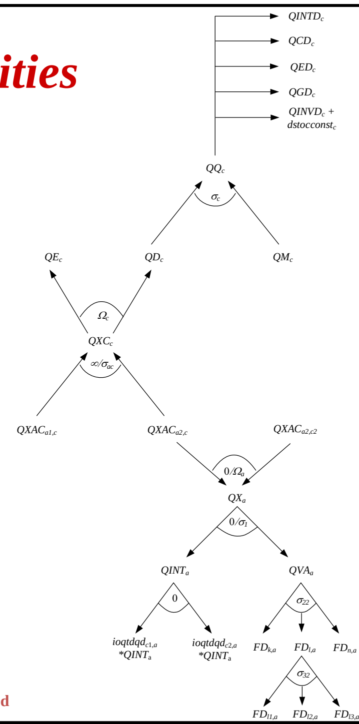
Quantities



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Analyses

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Stages

1. Check the shock
2. Check the macroeconomic closure conditions
3. Check the market clearing conditions
4. Check first round changes match expectations
   1. Are price changes as expected?
   2. Do quantity changes match price changes?
5. Review summary statistics
6. Explore the impacts expected to follow from the policy changes

Macroeconomic (Real % Changes)

	50% TM	25% TM
private consumption	0.08	0.12
government consumption	-0.33	-0.51
investment consumption	0.37	0.54
absorption	0.05	0.07
import demand	2.33	3.58
export supply	2.00	3.06
GDP from expenditure	0.00	-0.01
total domestic production	0.53	0.81
total intermediate inputs	0.92	1.40

what causes this? → government consumption

is this consistent? → investment consumption

welfare gain? → absorption

√ import demand

is this odd? → GDP from expenditure

The Problem

Factor Prices (% changes)

Why has the price of capital gone up by so much?

	50% TM	25% TM
Capital	**0.819**	**1.253**
Land	-0.481	-0.738
African unskilled	0.656	1.000
African skilled	0.761	1.156
Other unskilled	-0.120	-0.190
Other skilled	0.368	0.553
White unskilled	0.710	1.087
White skilled	0.635	0.967

The Analyses (a start!!)

Demand for Capital (% change & level)

Looks as if minerals activity may be important

But 'Trade and comms' and 'services' biggest users of capital

	% Change		Level	
	50% TM	25% TM	50% TM	25% TM
Agriculture	-1.03	-1.58	17.28	17.19
Minerals	**2.13**	**3.27**	36.06	36.46
Food	-1.62	-2.47	13.74	13.62
Textiles	-5.40	-8.30	2.10	2.03
Petrol & chemical	-0.60	-0.91	18.99	18.94
Metal & minerals	0.31	0.49	20.14	20.18
Machinery	-0.58	-0.85	1.74	1.73
Vehicles	-0.62	-0.90	5.87	5.86
Other manufacturing	-1.25	-1.87	12.67	12.59
Utilities	0.25	0.37	17.08	17.10
Construction	-0.38	-0.60	7.99	7.97
Trade and comms	0.28	0.42	**91.53**	**91.66**
Services	-0.19	-0.29	**124.86**	**124.72**

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Capital/Labour Ratios (base)

K/L ratio in Minerals at upper end but not an outlier

	Ratio K/F	Ratio K/L
Agriculture	0.474	0.524
Minerals	0.581	0.581
Food	0.556	0.556
Textiles	0.199	0.199
Petrol & chemical	0.642	0.642
Metal & minerals	0.587	0.587
Machinery	0.314	0.314
Vehicles	0.533	0.533
Other manufacturing	0.514	0.514
Utilities	0.751	0.751
Construction	0.298	0.298
Trade and comms	0.525	0.525
Services	0.361	0.361

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Activities (% changes)

	Output		Value added		Intermediates	
	50% TM	25% TM	50% TM	25% TM	50% TM	25% TM
Agriculture	-0.32	-0.50	-0.86	-1.31	0.29	0.43
Minerals	**2.76**	**4.24**	**2.19**	**3.36**	**3.30**	**5.06**
Food	-0.65	-1.01	-1.53	-2.33	-0.38	-0.60
Textiles	-3.73	-5.78	-5.14	-7.90	-3.09	-4.81
Petrol & chemical	0.33	0.51	-0.53	-0.80	0.53	0.81
Metal & minerals	1.15	1.77	0.39	0.61	1.42	2.18
Machinery	0.68	1.06	-0.44	-0.63	0.92	1.41
Vehicles	1.60	2.48	-0.51	-0.73	1.84	2.86
Other manufacturing	0.06	0.10	-1.12	-1.67	0.43	0.66
Utilities	0.80	1.22	0.28	0.43	1.31	2.00
Construction	0.49	0.73	-0.23	-0.36	0.80	1.20
Trade and comms	0.87	1.32	0.36	0.55	1.32	2.01
Services	0.27	0.40	-0.09	-0.14	0.81	1.21

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Commodities (% changes)

	Supply		Imports		Domestic		Exports	
	50% TM	25% TM	50% TM	25% TM	50% TM	25% TM	50% TM	25% TM
Agriculture	-0.32	-0.50	5.34	8.16	-0.42	-0.65	0.40	0.60
Minerals	**2.76**	**4.24**	0.18	0.28	1.66	2.54	**3.16**	**4.85**
Food	-0.65	-1.00	8.00	12.36	-0.75	-1.15	0.30	0.44
Textiles	-3.56	-5.53	13.84	21.91	-3.93	-6.09	-1.40	-2.23
Petrol & chemical	0.31	0.48	2.81	4.26	0.13	0.20	1.10	1.68
Metal & minerals	1.15	1.76	2.89	4.40	0.81	1.24	1.80	2.76
Machinery	0.72	1.12	1.27	1.92	-0.01	0.00	2.05	3.14
Vehicles	1.57	2.43	1.60	2.41	0.89	1.38	3.82	5.90
Other manufacturing	0.08	0.13	2.81	4.26	-0.37	-0.55	1.41	2.15
Utilities	0.80	1.22	0.47	0.71	0.80	1.22	1.14	1.73
Construction	0.58	0.87	-0.32	-0.50	0.58	0.86	1.49	2.25
Trade and comms	0.85	1.30	0.36	0.54	0.83	1.26	1.30	1.99
Services	0.27	0.40	-0.09	-0.15	0.26	0.39	0.61	0.92

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Export Prices (% change)

BUT small country closure!!!! (Was this set right?√)

So what is causing this?

	50% TM	25% TM
Agriculture	**0.69**	**1.05**
Minerals	**0.69**	**1.05**
Food	**0.69**	**1.05**
Textiles	**0.69**	**1.05**
Petrol & chemical	**0.69**	**1.05**
Metal & minerals	**0.69**	**1.05**
Machinery	**0.69**	**1.05**
Vehicles	**0.69**	**1.05**
Other manufacturing	**0.69**	**1.05**
Utilities	**0.69**	**1.05**
Construction	**0.69**	**1.05**
Trade and comms	**0.69**	**1.05**
Services	**0.69**	**1.05**

```
PE(c)  =E=  PWE(c)  *  ER  *  (1  -  TE(c))
         -  SUM(m,ioqttqe(m,c)  *  PTT(m))  ;
```


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Export Value Shares

$\Omega = 2.00 \qquad \forall a$

Hence CET elasticities may be important

	base	50% TM	25% TM
Agriculture	0.030	0.029	0.029
Minerals	0.319	0.323	0.325
Food	0.034	0.034	0.033
Textiles	0.019	0.018	0.018
Petrol & chemical	0.103	0.102	0.102
Metal & minerals	0.155	0.155	0.155
Machinery	0.042	0.042	0.042
Vehicles	0.066	0.067	0.068
Other manufacturing	0.093	0.092	0.092
Utilities	0.000	0.000	0.000
Construction	0.001	0.001	0.001
Trade and comms	0.069	0.068	0.068
Services	0.069	0.068	0.068

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Scalars Summaries (% changes)

	50% TM	25% TM
Import tariff revenue	-46.99	-72.66
Sales tax revenue	0.27	0.42
Direct Income tax revenue	0.32	0.48
Government Savings	**18.29**	**28.30**
Value of final domestic demand	**0.19**	**0.28**
Value of Government consumption expenditure	**0.19**	**0.28**
PPI	**0.27**	**0.41**
Exchange rate	**0.69**	**1.05**

Exchange rate is driving the export price changes

But closure issues? (Govt savings & consumption)

Also, domestic costs of production have risen: why?

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The End

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