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ANARRES

ANARRES_t: Competitiveness Shocks

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Interpreting Model Results II

Setup

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Shocks

2.5% TFP in crops in Australia & New Zealand

```
ADXSIM("acrop","anz","sim01") =
      adx0("acrop","anz") * 1.025 ;
```

2.5% TFP in crops in USA and Canada

```
ADXSIM("acrop","namer","sim02") =
      adx0("acrop","namer") * 1.025 ;
```

Using

```
SAVE ('s=save')
```

```
RESTART ('r=save')
```

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Questions

1. What happens to production in each activity in the region in which there is an efficiency/productivity shock?
2. What happens to factor returns?
3. Why does an efficiency/productivity shock in Australia/New Zealand have effects that are different from an efficiency/productivity shock (of the same magnitude) in North America??

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Interpreting Model Results

Summary



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What happens to:

- Output (QX) for crops and livestock in
 - Australia/New Zealand
 - North America?
- Commodity supply prices (PXC) for crops and livestock in
 - Australia/New Zealand
 - North America?

SUMMARY



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Reported Results: QX

	ANZ	N America	ANZ	N America
	2.5% TFP	2.5% TFP	2.5% TFP	2.5% TFP
	Crops ANZ	Crops ANZ	Crops NAM	Crops NAM
Crops	1.34	-0.01	-0.15	1.70
L'stock	0.36	0.00	-0.02	0.39
Minerals	-0.02	0.00	0.01	0.00
Food	0.36	0.00	-0.02	0.29
Manuf'ing	0.02	0.00	0.01	0.01
Services	0.03	0.00	0.00	0.01

No other region has output changes as greater as 0.1%

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Reported Results: QX

Category	ANZ 2.5% TFP Crops ANZ	N America 2.5% TFP Crops ANZ	ANZ 2.5% TFP Crops NAM	N America 2.5% TFP Crops NAM
Crops	1.34	-0.01	-0.15	1.70
L'stock	0.36	0.00	-0.02	0.39
Minerals	-0.02	0.00	0.01	0.00
Food	0.36	0.00	-0.02	0.29
Manuf'ing	0.02	0.00	0.01	0.01
Services	0.03	0.00	0.00	0.01

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PXC (% change)

Same as PX

	ANZ	N America	ANZ	N America
	2.5% TFP	2.5% TFP	2.5% TFP	2.5% TFP
	Crops ANZ	Crops ANZ	Crops NAm	Crops NAm
Crops	-2.78	0.00	0.00	-2.55
L'stock	-0.18	0.00	-0.01	-0.58
Minerals	0.07	0.00	0.00	0.04
Food	-0.27	0.00	0.00	-0.27
Manuf'ing	0.04	0.00	0.00	0.02
Services	0.06	0.00	0.00	0.03

Crops: Expect 2.5% cost/price. Why >2.5%? Intermediate input costs?

Other sectors: Why might PXC decline with no efficiency gains?

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Reported Results: PXC

Sector	ANZ 2.5% TFP Crops ANZ	N America 2.5% TFP Crops ANZ	ANZ 2.5% TFP Crops NAm	N America 2.5% TFP Crops NAm
Crops	-2.78	-2.55	0.00	0.00
L'stock	-0.18	-0.58	-0.01	0.00
Minerals	0.07	0.04	0.00	0.00
Food	-0.27	-0.27	0.00	0.00
Manuf'ing	0.04	0.02	0.00	0.00
Services	0.06	0.03	0.00	0.00

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WF (% change)

	ANZ	N America	ANZ	N America
	2.5% TFP	2.5% TFP	2.5% TFP	2.5% TFP
	Crops ANZ	Crops ANZ	Crops NAm	Crops NAm
Land	-0.26	-0.01	-0.06	-0.47
Unskilled	0.07	0.00	0.00	0.05
Skilled	0.09	0.00	0.00	0.05
Capital	0.08	0.00	0.00	0.04
Natural Res	0.04	0.00	0.00	0.02

Would you expect the price of land to fall?

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Reported Results: WF

Category	perc_WF ANZ 2.5% TFP Crops ANZ	perc_WF N America 2.5% TFP Crops ANZ	perc_WF ANZ 2.5% TFP Crops NAm	perc_WF N America 2.5% TFP Crops NAm
Land	-0.26	-0.01	-0.06	-0.47
Unskilled	0.07	0.00	0.00	0.05
Skilled	0.09	0.00	0.00	0.05
Capital	0.08	0.00	0.00	0.04
Natural Res	0.04	0.00	0.00	0.02

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Interpreting Model Results

Analyses

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What happens to:

- Commodity prices ($PXC/PD/PE/PM/PQD$) for crops and livestock in
 - Australia/New Zealand
 - North America?
- Demand for land (FD) in
 - Australia/New Zealand
 - North America?
- Costs of Production (PX) in
 - Australia/New Zealand
 - North America?

EXPLAIN

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Analyses

- Follow the prices
 - Which price should the shock **change directly**?

Then which prices should it impact on

***PX* to *PXC* to *PE* and *PD* etc**

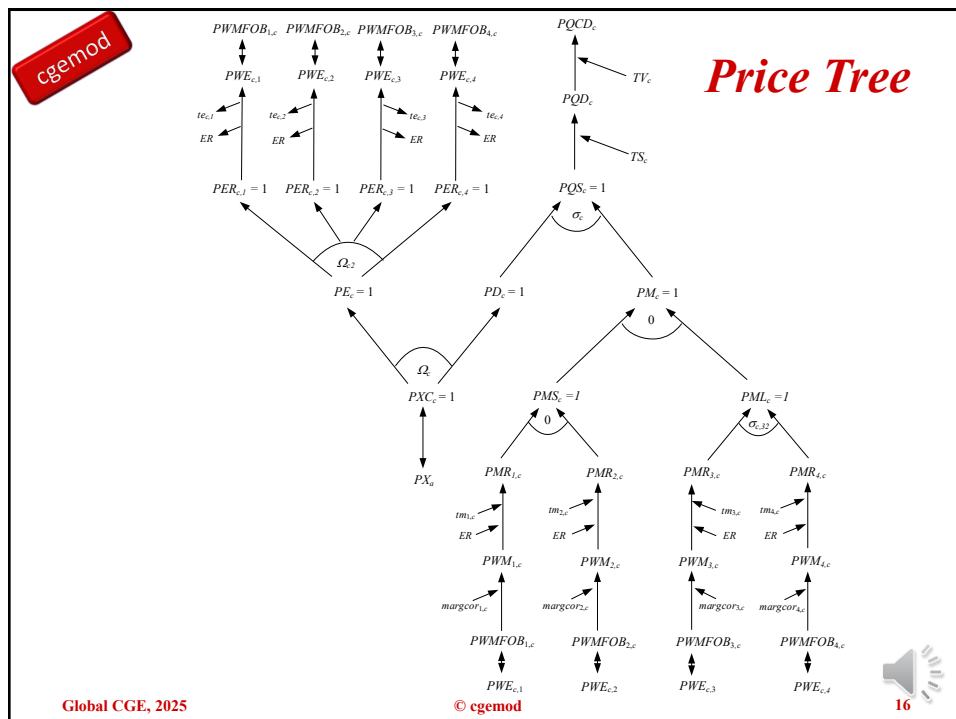


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PD (% change)

	ANZ	N America	ANZ	N America
	2.5% TFP Crops	2.5% TFP Crops	2.5% TFP Crops	2.5% TFP Crops
	ANZ	ANZ	NAm	NAm
Crops	-3.08	0.00	0.05	-2.81
L'stock	-0.17	0.00	0.00	-0.58
Minerals	0.09	0.00	0.00	0.04
Food	-0.29	0.00	0.00	-0.27
Manuf'ing	0.05	0.00	0.00	0.03
Services	0.06	0.00	0.00	0.04

Why might PD decrease more than PXC?

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PE (% change)

	ANZ	N America	ANZ	N America
	2.5% TFP	2.5% TFP	2.5% TFP	2.5% TFP
	Crops ANZ	Crops ANZ	Crops NAm	Crops NAm
Crops	-1.56	-0.02	-0.21	-1.79
L'stock	-0.20	-0.01	-0.03	-0.49
Minerals	0.03	0.00	0.01	0.02
Food	-0.20	-0.01	-0.01	-0.21
Manuf'ing	0.02	0.00	0.01	0.01
Services	0.02	0.00	0.01	0.01

Why might PE decrease relative to PXC and by much less than PD?

Why are the reductions in PE greater for NAm than ANZ?

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Global Export Shares (%)

	ANZ	N America	Europe	South Asia	East Asia	Rest	GLOBE
Crops	1.9	22.4	27.6	7.4	3.5	37.2	0.0
L'stock	8.2	16.9	46.0	5.1	8.3	15.5	0.0
Minerals	3.4	5.2	11.2	5.2	0.8	74.1	0.0
Food	4.4	9.6	50.2	10.5	5.3	19.9	0.0
Manuf'ing	0.7	12.1	43.1	7.7	24.9	11.4	0.0
Services	1.4	13.8	49.9	7.9	14.8	12.2	17.7

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Bilateral Export Shares (%)

	Aust & NZ						
	Aust & NZ	N America	Europe	South Asia	East Asia	Rest	GLOBE
Crops	3.5	4.8	11.2	25.6	46.2	8.6	0.0
L'stock	3.5	3.5	12.2	12.3	57.9	10.6	0.0
Minerals	0.8	1.1	9.1	10.3	75.5	3.1	0.0
Food	7.7	17.8	14.5	15.5	28.1	16.4	0.0
Manuf'ring	11.1	10.8	14.3	18.3	29.8	15.6	0.0
Services	0.6	13.5	31.5	14.7	21.5	13.2	5.0
	N America						
	Aust & NZ	N America	Europe	South Asia	East Asia	Rest	GLOBE
Crops	0.4	12.3	11.5	9.1	32.4	34.3	0.0
L'stock	0.5	45.0	11.3	2.9	27.9	12.5	0.0
Minerals	0.4	72.7	10.5	1.2	8.7	6.6	0.0
Food	1.7	35.2	9.1	4.2	21.6	28.2	0.0
Manuf'ring	1.7	32.8	21.5	5.6	15.2	23.3	0.0
Services	2.1	12.7	34.3	7.4	17.4	18.0	8.1

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PM (% change)

	ANZ	N America	ANZ	N America
	2.5% TFP	2.5% TFP	2.5% TFP	2.5% TFP
	Crops ANZ	Crops ANZ	Crops NAm	Crops NAm
Crops	-0.92	-0.02	-0.41	-0.91
L'stock	-0.07	-0.01	-0.07	-0.33
Minerals	0.04	0.00	0.00	0.01
Food	-0.07	-0.02	-0.03	-0.09
Manuf'ing	0.03	0.00	0.01	0.01
Services	0.03	0.00	0.01	0.01

What do you expect to happen to import demand in ANZ and Nam?

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PQD (% change)

	ANZ	N America	ANZ	N America
	2.5% TFP	2.5% TFP	2.5% TFP	2.5% TFP
	Crops ANZ	Crops ANZ	Crops NAm	Crops NAm
Crops	-2.94	0.00	0.02	-2.51
L'stock	-0.17	0.00	0.00	-0.57
Minerals	0.08	0.00	0.00	0.03
Food	-0.26	0.00	0.00	-0.25
Manuf'ing	0.04	0.00	0.00	0.02
Services	0.06	0.00	0.00	0.03

Same as PQS

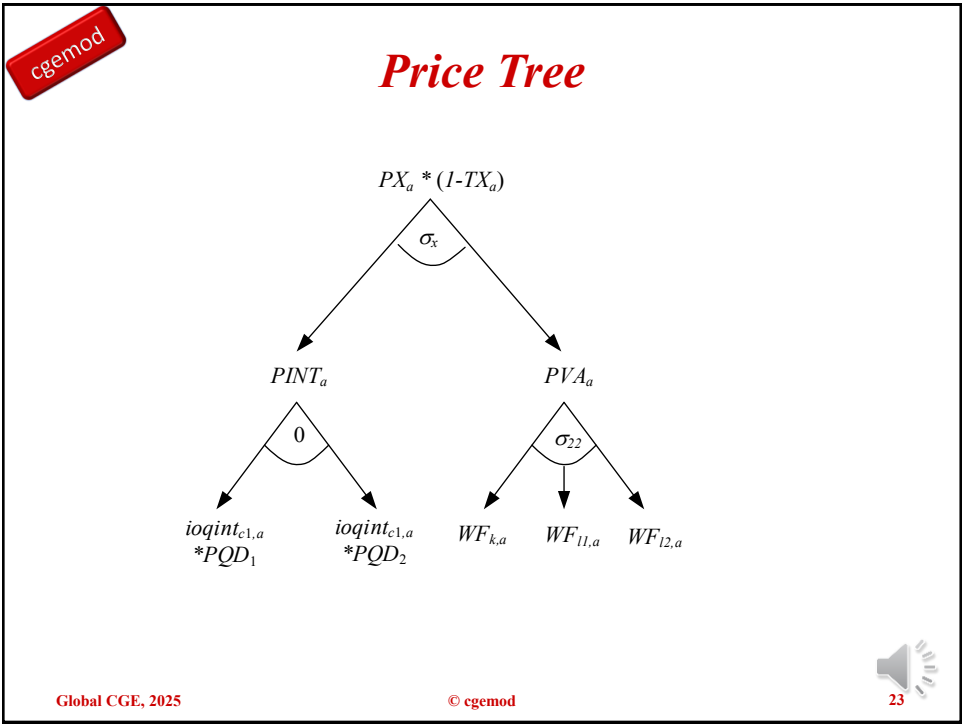
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PINT (% change)

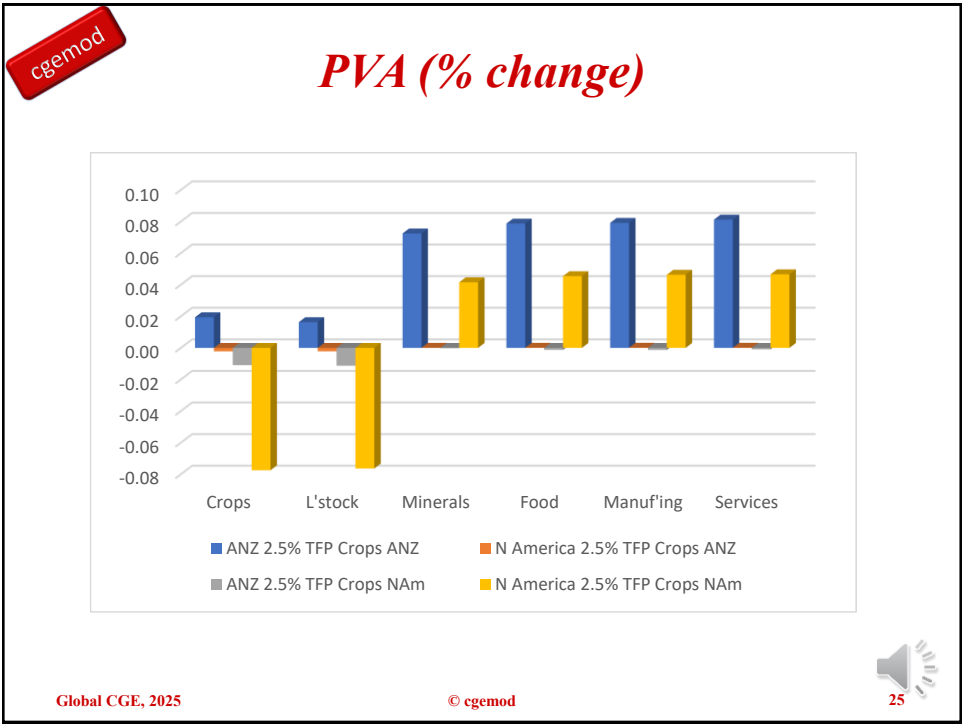
	ANZ	N America	ANZ	N America
	2.5% TFP	2.5% TFP	2.5% TFP	2.5% TFP
	Crops ANZ	Crops ANZ	Crops NAM	Crops NAM
Crops	-0.80	0.00	0.01	-0.16
L'stock	-0.43	0.00	0.00	-0.75
Minerals	0.06	0.00	0.00	0.03
Food	-0.37	0.00	0.00	-0.41
Manuf'ing	0.03	0.00	0.00	0.01
Services	0.03	0.00	0.00	0.02

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Input Cost Shares

	ANZ Crops	ANZ L'stock	N America Crops	N America L'stock
Crops	12.5	6.3	3.4	19.7
L'stock	0.8	3.1	0.2	3.2
Minerals	1.3	1.4	1.0	0.6
Food	1.3	4.0	0.3	21.9
Manuf'ing	10.8	11.1	19.9	8.4
Services	17.8	17.3	23.1	21.0
Land	9.1	9.8	12.1	5.8
Unskilled	26.5	28.3	18.4	8.7
Skilled	1.4	1.4	1.4	0.7
Capital	16.9	14.9	18.7	8.8
Natural Res	1.2	2.2	1.0	1.2
Production Tax	0.2	0.2	0.5	0.0

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Demand Shares (%)

	ANZ			N America		
	Intermed	Export	Final Demand	Intermed	Export	Final Demand
Crops	63.5	18.7	17.8	54.6	22.1	23.3
L'stock	77.8	13.4	8.8	85.1	6.0	8.7
Minerals	56.4	33.9	9.7	77.0	5.7	17.0
Food	28.9	25.1	46.1	35.2	5.7	59.0
Manuf'ing	46.9	10.3	42.8	47.0	11.5	41.0
Services	44.2	3.6	52.3	34.3	2.4	63.0

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FD (% change)

		ANZ 2.5% TFP Crops ANZ	N America 2.5% TFP Crops ANZ	ANZ 2.5% TFP Crops NAM	N America 2.5% TFP Crops NAM
Land	Crops	-0.90	-0.002	-0.07	-0.20
Unskilled	Crops	-1.40	-0.02	-0.16	-0.98
Skilled	Crops	-1.42	-0.02	-0.16	-0.99
Capital	Crops	-1.40	-0.02	-0.16	-0.98
Natural Res	Crops	-1.35	-0.02	-0.16	-0.95
Land	L'stock	0.68	0.01	0.05	0.74
Unskilled	L'stock	0.17	-0.01	-0.03	-0.05
Skilled	L'stock	0.15	-0.01	-0.04	-0.05
Capital	L'stock	0.17	-0.01	-0.03	-0.04
Natural Res	L'stock	0.22	-0.01	-0.04	-0.01

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Value Added Cost Shares

	ANZ	ANZ	N America	N America
	Crops	L'stock	Crops	L'stock
Land	16.6	17.3	23.4	23.0
Unskilled	48.1	50.0	35.7	34.5
Skilled	2.5	2.4	2.8	2.7
Capital	30.7	26.3	36.3	34.9
Natural Res	2.2	3.9	1.9	4.9



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Land Use Shares

	Crops	L'stock
Aust & NZ	42.9	57.1
N America	77.5	22.5



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Moving on: The Project

- New data
 - Your the aggregation
 - Your elasticities
- New policy issue
 - Your scenarios
 - Your Macroeconomic closures
 - Your factor market clearing

You have to setup the model



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The End



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