



*A Basic 1*2*3 Open Economy Model: Pt 1*

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Outline

- Introduction
- Basic 123 Model
 - Economic Theory
 - Data as SAM
 - Behaviour and Labels
 - Model Overview
- Armington's 'Insight'
- Exogenous Changes and the Basic 123 Model in diagrams
- *Programming Problem*
- *'Trade' Functions*
- *A Basic 123 Model in GAMS*
 - *Equation Blocks*
 - *Macroeconomic Closure and Market Clearing*

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Basic 123 Model

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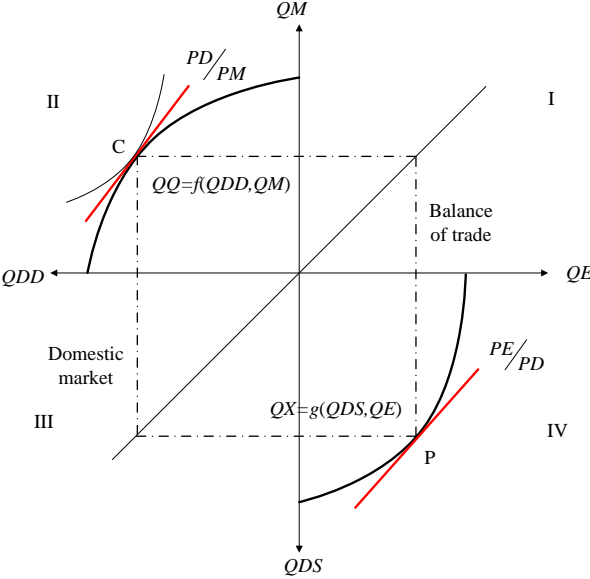


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A Basic 123 Model



Balance of trade

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Data: Social Accounting Matrix

	Commodity	Activity	Household	Rest of World	Total
Commodity	0	0	100	0	100
Activity	80	0	0	20	100
Household	0	100	0	0	100
Rest of World	20	0	0	0	20
Total	100	100	100	20	0

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Labels & Transactions

	Commodity	Activity	Household	Rest of World	Prices
Commodity	0	0	$PQ * QCD$	0	PQ
Activity	$PDD * QDD$ $PDS * QDS$	0	0	$pwe * QE * ER$	PX
Household	0	$PX * \overline{QX}$	0	$KAPWOR$	YH
Rest of World	$pwm * QM * ER$	0	0	0	-
Total	$PQ * QQS$	GDP	YH	-	

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Behaviour

	Commodity	Activity	Household	Rest of World	Total
Commodity	0	0	Consumption at consumer price	0	Commodity Demand
Activity	Domestic Production	0	0	Armington (CET) Function	Fixed Production Possibility Frontier
Household	0	Domestic Factor Income	0	Balance of Trade (exogenous)	Household Income
Rest of World	Armington (CES) Function	0	0	0	Import 'Expenditure'
Total	Commodity Supply	GDP	Household Expenditure	Export 'Revenue'	0

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Price System

$PQ = 1$

σ

$PM = 1$

$PDS = PDD = 1$

Ω

$PX = 1$


$PE = 1$

$pwm (=1) * ER$

$pwe (=1) * ER$

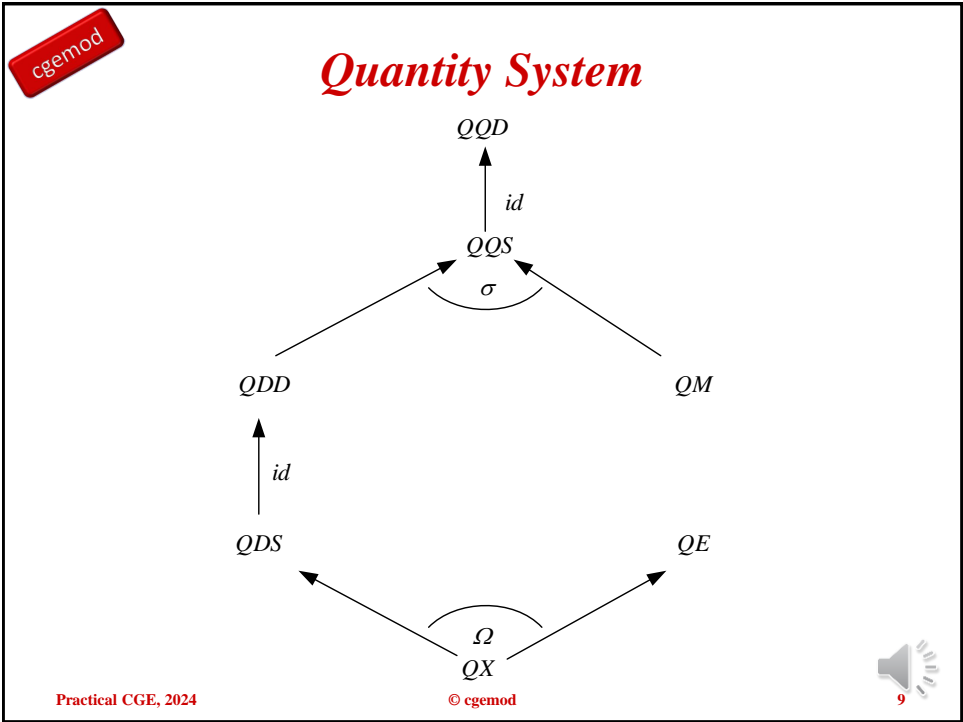
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Armington ‘Insight’: Context

- Theoretical trade models
 - Classic/standard model
 - Salter-Swan
- Trade data and the HS System
 - All prices set by world prices:
 - Minor policy shifts & extreme fluctuations;
 - Complete specialization;
 - No-cross hauling.
- Open Economy Leontief models
 - Constant trade shares
 - Modified trade shares
- Heterogeneity and Imperfect substitution
 - Aim 1: a theoretical reason for trade shares to change
 - Aim 2: a practical empirical tool

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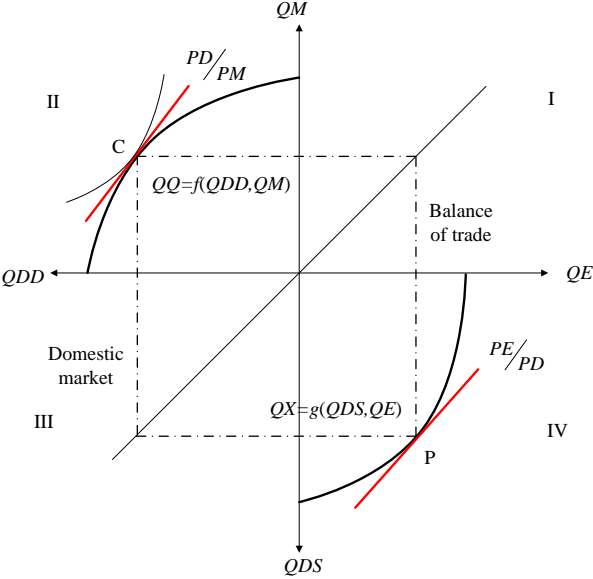


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A Basic 123 Model



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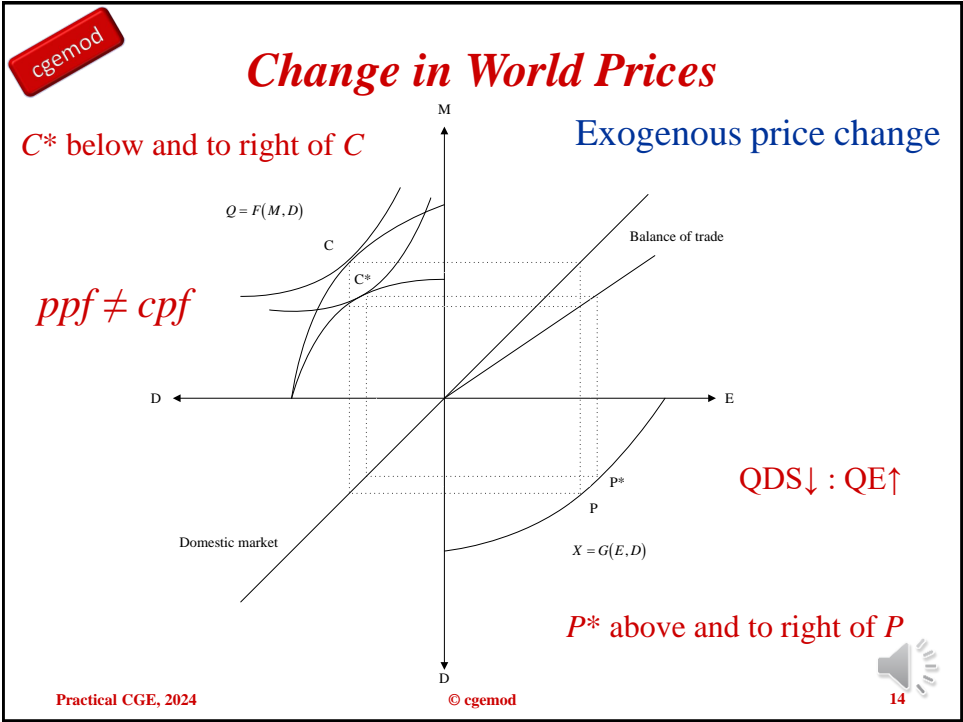
Exogenous Changes & the 123 Model

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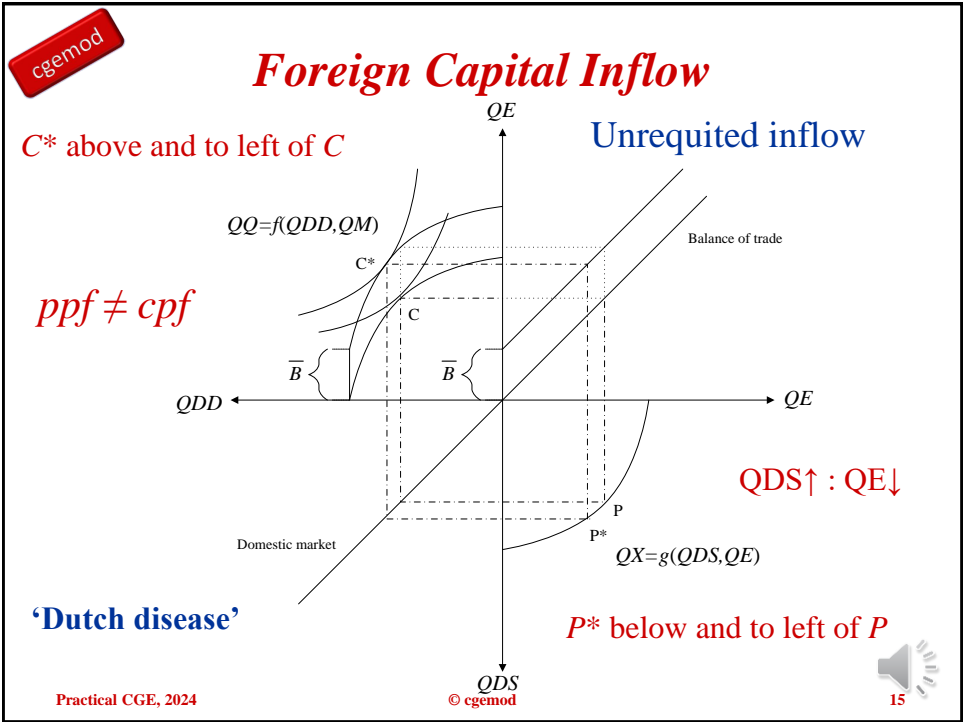
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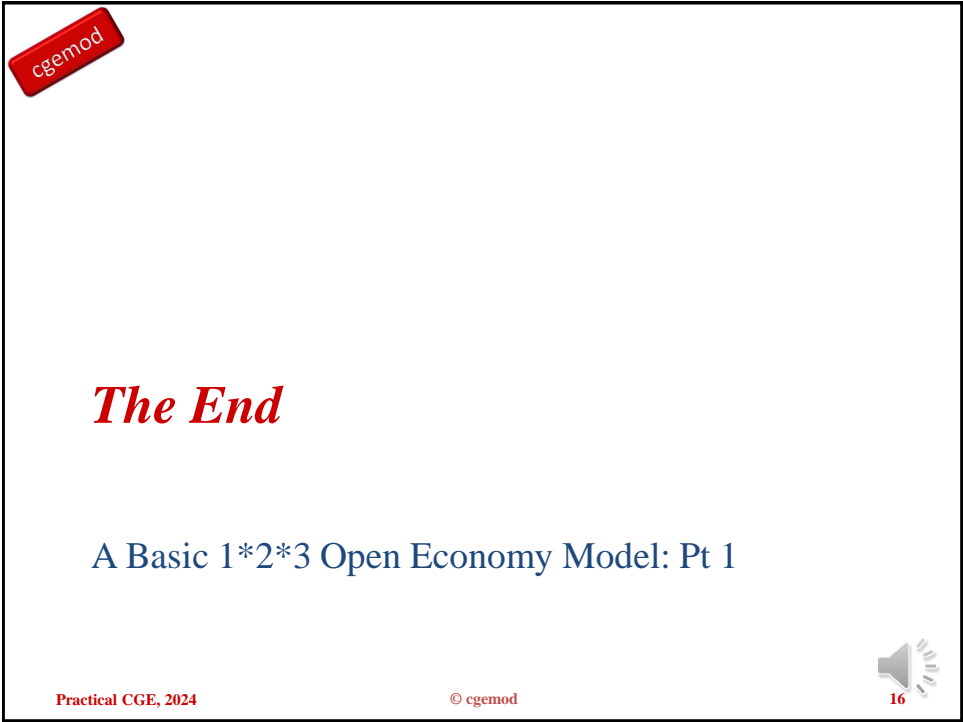


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