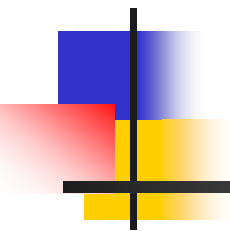


The Logic of General Equilibrium Modeling



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Module 2



Foreword

- “The first requirement posed by scarcity is not efficient choice but rather a method for allocating conflicting claims to desired scarce performances and objects so that people do not assault and kill each other in pursuit of them. The market system is such a method.
- ...It limits every person's claims to the sum of money obtainable by that person's offer of something of value on the market: a rule—look at it as a political rule—of quid pro quo”
- Lindblom (2001)



Outline

- What is a *General Equilibrium Model*?
- The Basic Walrasian Framework
- The Circular Flow of Economic Activity
- The Social Accounting Matrix



What is a General Equilibrium Model?

- A logical representation of a socioeconomic **system** wherein the behavior of all participants is compatible.
- Key modeling issues:
 - Identification of **participants**.
 - Specification of individual **behavior**.
 - Specification of mode of **interaction**.
 - Characterization and desirability of **compatibility**.



Basic Walrasian Framework

- Template for most applied CGE models.
- Two categories of agents or **participants**:
 - producers or **firms**
 - and consumers or **households**.



Basic Walrasian Framework

- **Optimizing behavior**
 - Entails specification of (1) **actions** an economic unit can take; (2) the **constraints** it faces; and (3) the **objective** function used to evaluate individual actions (Varian 1984).
 - **Supply** and **demand** behavior is thus an observable consequence of the optimization assumption.



Basic Walrasian Framework

- **Market interaction**: method of social coordination by mutual adjustment among participants based on “quid pro quo” (Lindblom 2001).
- **Compatibility**
 - All markets are in **equilibrium**: incentives configuration is such that the amount of effective demand equals the amount supplied. Alternatively: No feasible change in individual behavior is worthwhile.



Basic Walrasian Framework

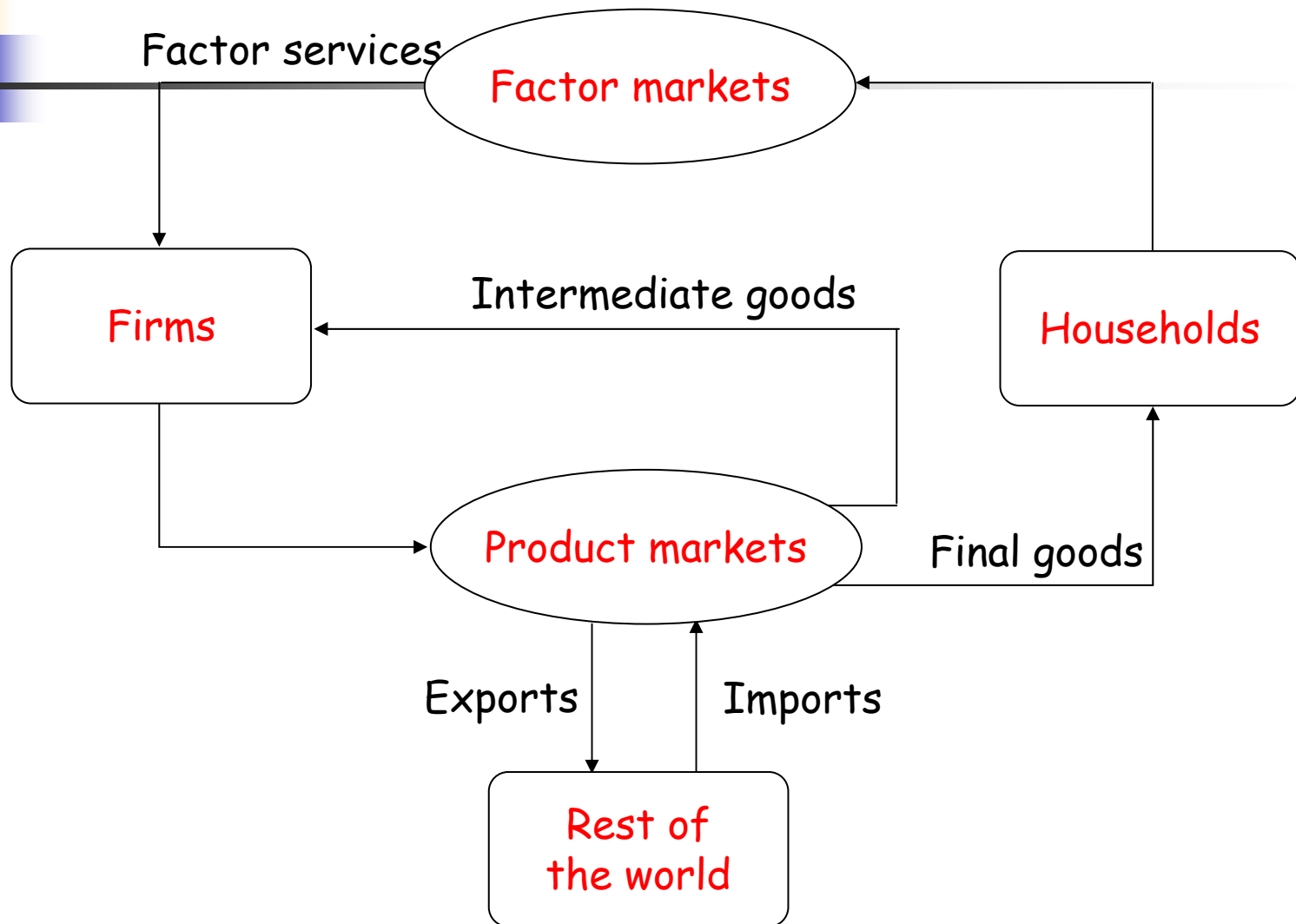
- Comparative Statics entails **comparison of equilibrium states** associated with changes in the socioeconomic environment.
 - Social desirability depends on chosen **criterion**
 - **Social peace** would be maintained if market system accepted (by law and popular acquiescence) as preferred allocation mechanism.



Basic Walrasian Framework

- **Pareto efficiency** focuses on how well the system promotes individual objectives. Compatibility implies no other situation is unanimously preferred by all participants.
- **Empowerment** perspective requires a **poverty-focused criterion**: less poverty is preferred to more.

Circular Flow Chart for an Open Economy



The Social Accounting Matrix

Structure of a Basic SAM for an Open Economy

	Activity	Commodity	Factor	Household	World	Total
Activity		Domestic Sales			Exports	Total Sales
Commodity	Intermediate Demand			Household Consumption		Total Demand
Factor	Factor Payments					Factor Payments
Household			Factor Payments		Balance of Trade	Total Household Income
World		Imports				Imports
Total	Total Cost	Total Supply	Factor Payments	Total Household Expenditure	Foreign Exchange	



The Social Accounting Matrix

- An accounting framework that reflects the circular flow of economic activity.
- A square matrix, the dimension of which is determined by the number of sectors and agents considered.
- Each entry represents a payment to a row-account by a column-account.
- Consistency implies that row total must equal corresponding column total.
- Also, if all but one accounts balance, the last one must balance as well (Walras' law).



The Social Accounting Matrix

Analytical Expression for a Basic SAM

	Activity	Commodity	Factor	Household	World	Total
Activity		$P_d X_d$			$P_e X_e$	$P_x X_s$
Commodity	$P_q Q_n$			$P_q Q_f$		$P_q Q_n + P_q Q_f$
Factor	WF_d					WF_d
Household			WF_d		RS_f	$WF_d + RS_f$
World		$P_m Q_m$				$P_m Q_m$
Total	$P_x X_s$	$P_q Q_s$	WF_d	$P_q Q_f$	$P_e X_e + RS_f$	

The Social Accounting Matrix

	1.FDA	2.NFA	3.FDC	4.NFC	5.LAB	6.CAP	7.HHD	8.GOV	9.TAX	10.ROW	11.TOT
1.FDA			$PDT_1^*XD_1$							$PE_1^*XE_1$	PX_1XS_1
2.NFA				$PDT_2^*XD_2$							PX_2XS_2
3.FDC	$iq_{11}XS_1PQ$	$iq_{12}XS_2PQ$					$PQXC_1$	$PQXC_1$			PQ^*XQ
4.NFC	$iq_{21}XS_1PQ$	$iq_{22}XS_2PQ$					$PQXC_2$	$PQXC_2$			PQ^*XQ
5.LAB	W^*LD_1	W^*LD_2									W^*LD
6.CAP	RK^*KD_1	RK^*KD_2									RK^*KD
7.HHD					W^*LD	RK^*KD		TR			$YHHI$
8.GOV									TAX		$YGOV$
9.TAX	$txd_1PD_1^*XD_1$	$txd_2PD_2^*XD_2$									TAX
10.ROW				$PM_2^*XM_2$							$PM_2^*XM_2$
11.TOT	PX_1XS_1	PX_2XS_2	PQ^*XQ	PQ^*XQ	W^*LD	RK^*KD	$XHHI$	$XGOV$	TAX	$PE_1^*XE_1$	



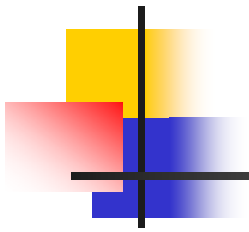
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■ The End.