

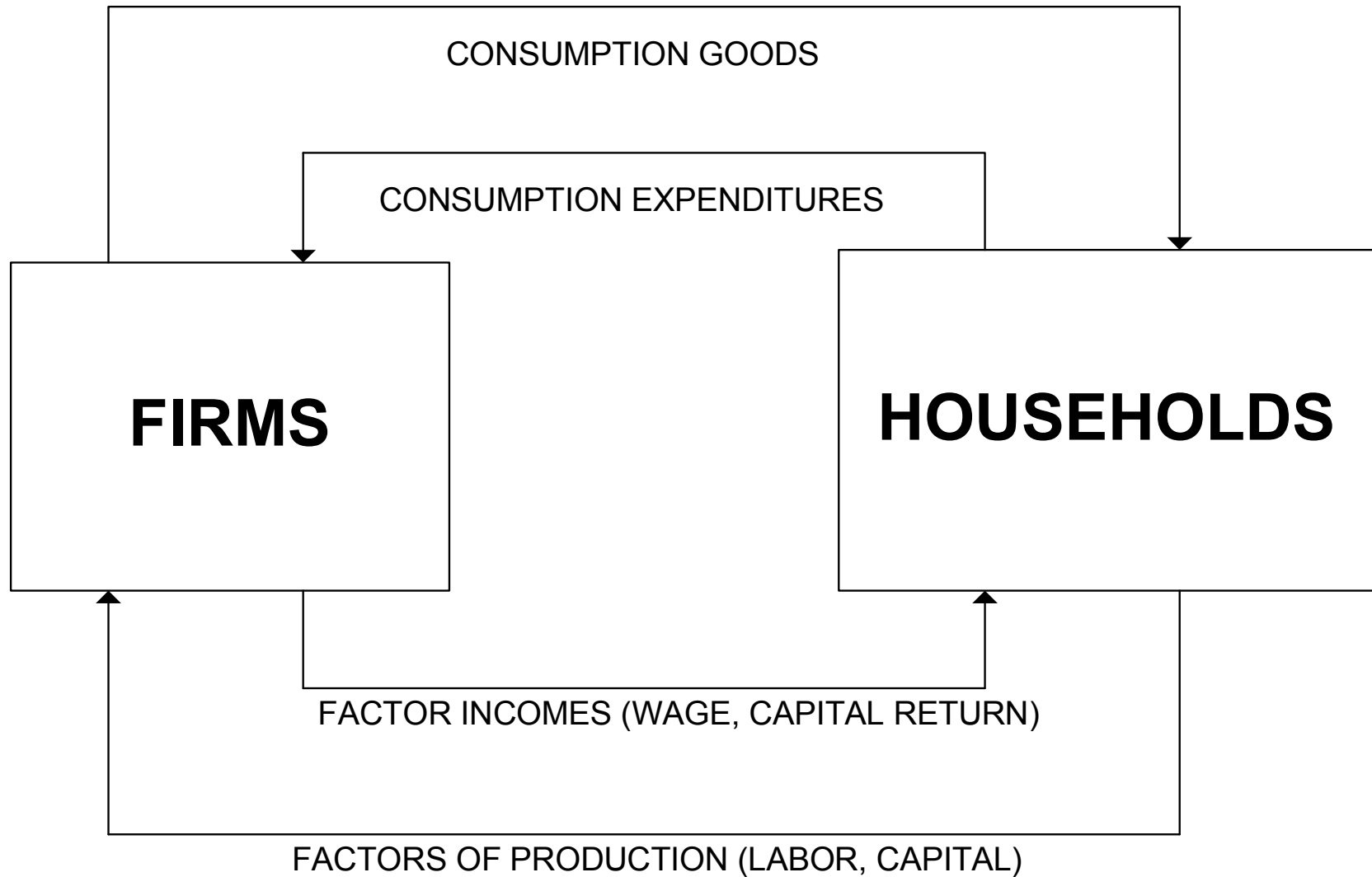
National Account in Matrix Formats

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(for EE 459)

Classification of Matrix Accounting

- (1) Social Accounting Matrix (SAM)**
- (2) Supply and Use Table**
- (3) Input – Output Table (IO Table)**

Circulation within the economy



Structure of SAM Table

	AGR-A	NAGR-A	AGR-C	NAGR-C	LAB	CAP	U-HHD	R-HHD	TOTAL
AGR-A			Production Outputs						225
NAGR-A									250
AGR-C	Input – Output Table						Consumption Expenditures		225
NAGR-C						250			
LAB	Value Added								117
CAP								158	
U-HHD					Factor Incomes				150
R-HHD								125	
TOTAL	225	250	225	250	117	158	150	125	

SAM Exercise : Income and Expenditure Tables

PRODUCTION (FIRMS)

EXPENDITURE

	AGRI activity (AGR-A)	NON-AGRI activity (NAGR-A)
AGR-C	60	40
NAGR-C	40	60
LABOR	62	55
CAPITAL	63	95
TOTAL	225	250

INCOME

	AGR-A	NAGR-A
AGRI Commodity (AGR-C)	225	
NON- AGRI Commodity (NAGR-C)		250
TOTAL	225	250

CONSUMPTION (HOUSEHOLDS)

EXPENDITURE

	URBAN-HHD (U-HHD)	RURAL-HHD (R-HHD)
AGRI Commodity (AGR-C)	50	75
Sales of NON- AGRI Commodity (NAGR-C)	100	50
TOTAL	150	125

INCOME

	URBAN-HHD (U-HHD)	RURAL-HHD (R-HHD)
LABOR	60	57
CAPITAL	90	68
TOTAL	150	125

Computing GDP from Exercise 2

	AGR-A	NAGR-A	AGR-C	NAGR-C	LAB	CAP	U-HHD	R-HHD	TOTAL
AGR-A			225						225
NAGR-A				250					250
AGR-C	80	40					50	75	225
NAGR-C	40	80					100	50	250
LAB	82	55							117
CAP	83	95							158
U-HHD					60	90			150
R-HHD					57	68			125
TOTAL	225	250	225	250	117	158	150	125	

GDP from VA	Value-Added	275
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GDP from Net Output	Net Output	Total Output	- Input	= Net Output
	Net Output	475	-200	275

GDP from Income	Income	275
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GDP from Expenditure	Expenditure	275
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Gross Domestic Product

- Main measure of economic activity and growth
- Can be measured in three ways:

Output = Expenditure = Income *or* $GDP(O) = GDP(E) = GDP(O)$

Supply = Demand:

Domestic Production + Imports = Household Expenditure +
Intermediate Consumption + Capital Formation + Exports + Change in
Stocks

$GDP(O) = GDP(E)$

Domestic Production – Intermediate Consumption = Household
Expenditure + Capital Formation + Change in Stocks + Exports -
Imports

$GDP(I) = \text{wages and salaries} + \text{profits}$

Compilation and Balancing in Matrix Format

- Each component can be measured separately, annually, quarterly or monthly
- Results in three different estimates of GDP
- Data confrontation exercise, known as 'GDP balancing' to reconcile these estimates
- Results in one 'best' estimate of GDP

2. Supply and Use Tables

- Enables data reconciliation at a more disaggregated level:
 - GDP(O) and GDP(E) by product
 - GDP(O) and GDP(I) by industry

2. Format of Supply and Use Table

	Supply <i>Product</i>	Intermediate use <i>Industry</i>	Final use		Total
<i>Product</i>		Intermediate use (I)	Domestic final use (F)	Exports (E)	Total use by product (U)
<i>Industry</i>	Domestic supply (S^D)				Total output by industry (GO)
Rest of World	Imports (M)				
		Value added (VA)			
	Total supply by product (S)	Total input by industry			

3.Format of Input – Output Table

One country format

	Industry	Final use		Total
Industry	Intermediate use	Domestic Final use	Exports	Total Output
	Imports			
	Value added			
	Total Output			

3.Format of Input – Output Table

Format of 3-country IO Table

		Country A	Country B	Rest of World	Country A	Country B	Rest of World	
		Intermediate	Intermediate	Intermediate	Final	Final	Final	
		<i>Industry</i>	<i>Industry</i>	<i>Industry</i>	domestic	domestic	domestic	Total
Country A	<i>Industry</i>	Intermediate use of domestic output	Intermediate use by B of exports from A	Intermediate use by RoW of exports from A	Final use of domestic output	Final use by B of exports from A	Final use by RoW of exports from A	Output in A
Country B	<i>Industry</i>	Intermediate use by A of exports from B	Intermediate use of domestic output	Intermediate use by RoW of exports from B	Final use by A of exports from B	Final use of domestic output	Final use by RoW of exports from B	Output in B
Rest of World (RoW)	<i>Industry</i>	Intermediate use by A of exports from RoW	Intermediate use by B of exports from RoW	Intermediate use of domestic output	Final use by A of exports from RoW	Final use by B of exports from RoW	Final use of domestic output	Output in RoW
		Value added	Value added	Value added				
		Output in A	Output in B	Output in RoW				

ASEAN+3 - Year 2000 IO Table – Intraregional analysis

Matrix and sub-matrices of multiregional Input-Output table

		China	Indonesia	Japan	Korea	Malaysia	Taiwan	Philippines	Singapore	Thailand	USA
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China	sec 1 ... sec 8										
Indonesia	sec 1 ... sec 8										
Japan	sec 1 ... sec 8										
Korea	sec 1 ... sec 8										
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Thailand	sec 1 ... sec 8										
USA	sec 1 ... sec 8										



Multipliers of bilateral influence



Multipliers of domestic influence