



Virtual Event 15-18 June 2020

2020 Asia-Pacific Statistics Week

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Analysis of Input-Output Table : Integrated of Economic Development by Leading Sectors in Indonesia

Action Area C. Integrated statistics for integrated analysis (SC5)

It is worth investing in integrated statistics for integrated analysis

Presenter:

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BPS-Statistics Indonesia

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WELCOME...

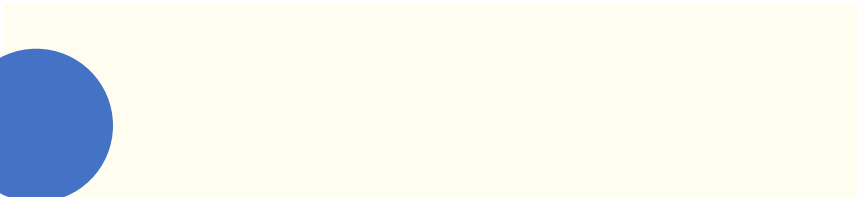
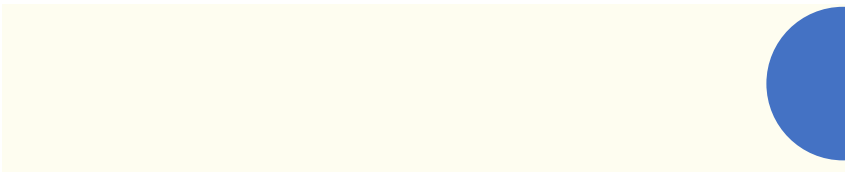
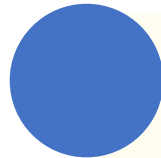
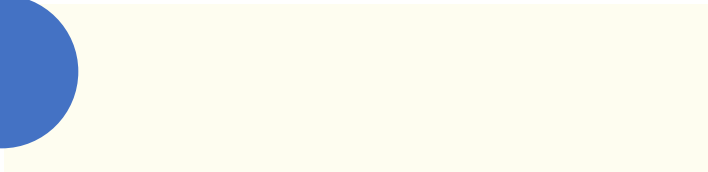
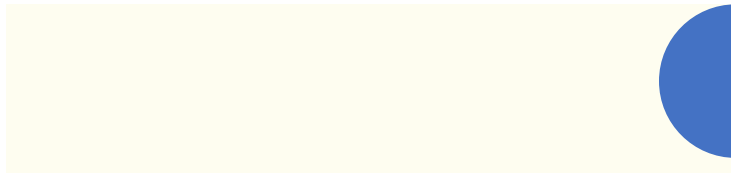


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OUTLINE



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INTRODUCTION: Background

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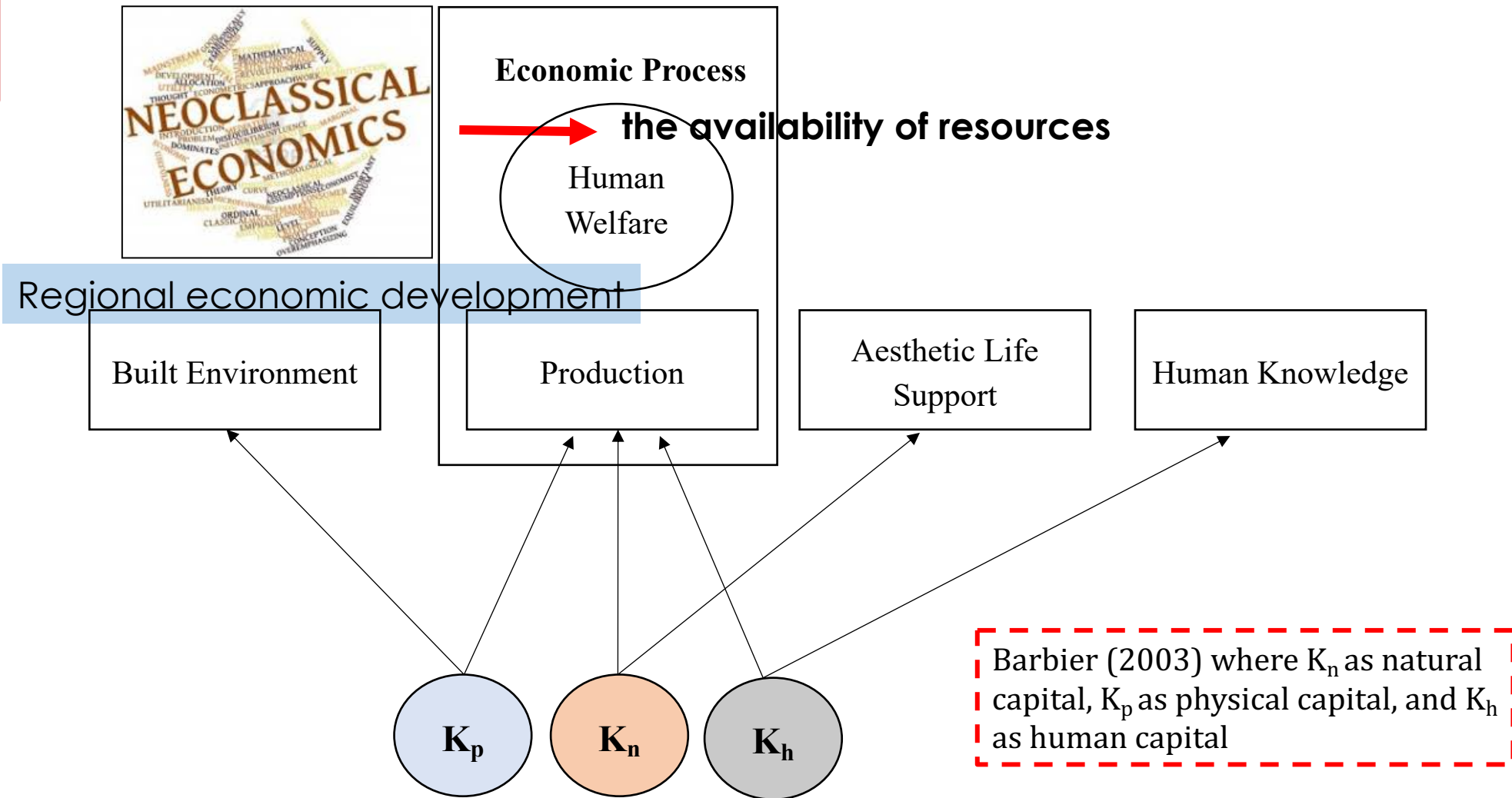


Figure 1. K_p , K_n and K_h in an economic system



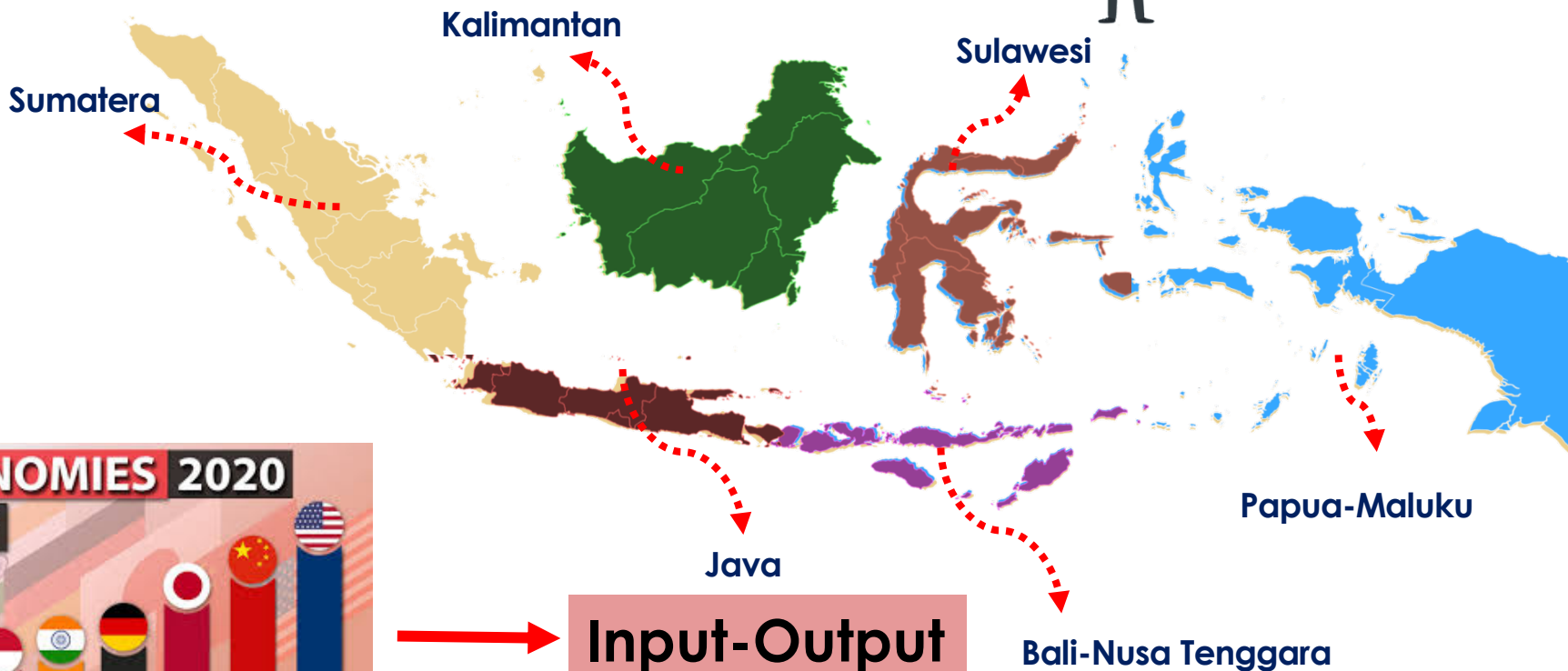
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INTRODUCTION: Background



17.000 Islands
267 Million People



**Gross Domestic
 Product**





INTRODUCTION: Objectives

1

Analyze the Structure of Input-Output Table

2

Analyze the leading sectors through backward and forward linkage

3

Explain the economic driving sector (multiplier effect) through output, income, employment, and value-added multiplier





METHODOLOGY: Analysis Method

SECTORS I-O

17

Input-Output Table

IFL and IBL

Inverse of
Leontief Matrix

MULTIPLIER

Output

Income

Labor

Value Added

Leading Sectors





Structure of I-O Table

Table 1. Intermediate input, value added, and output of 17 Sectors, I-O Table 2010 (Billion Rupiah)

Sectors	1	2	3	4	5	6	7	8	9
Intermediate Input	209,193	251,270	2,818,165	237,002	4,144	1,130,851	442,862	307,309	240,999
Value Added	978,787	690,047	1,552,652	72,491	19,669	593,452	927,109	243,579	199,130
Output	1,187,980	941,317	4,370,817	309,493	23,813	1,724,303	1,369,971	550,888	440,130
Sectors	10	11	12	13	14	15	16	17	*The explanation of sectors code stated in figure 3
Intermediate Input	154,074	92,004	42,652	83,163	158,843	109,645	82,806	60,458	
Value Added	254,993	241,053	203,656	119,808	259,646	201,566	66,509	59,532	
Output	409,068	333,057	246,308	202,972	418,489	311,211	149,315	119,990	

The Highest:
Manufacturing Industry

The Lowest:
Water Supply, Waste Management,
Waste, and Recycling



Forward and Backward Linkage

Forward Linkage describes how an increase in output of certain sectors will encourage an increase in the output of other sectors. **Backward Linkage** describes an increase in the output of a certain sector will increase the input demands of other sectors.

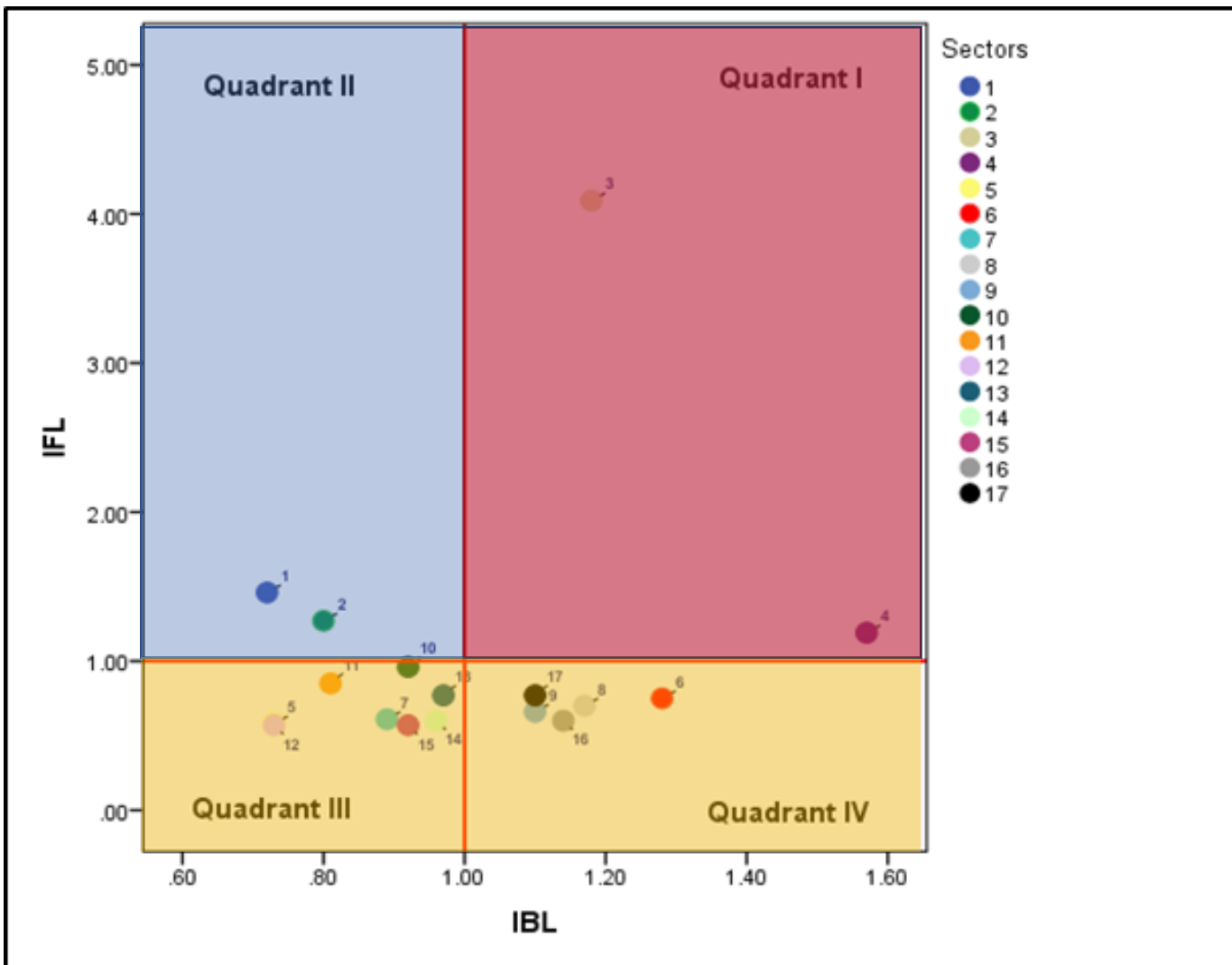
Table 2. Result of Forward and Backward Linkage, Multiplier Analysis

Sectors	IFL	IBL	O _j	I _j	L _j	V _j
1	1.46	0.72	1.33	1.24	1.11	1.21
2	1.27	0.80	1.49	1.57	2.69	1.36
3	4.09	1.18	2.20	2.54	4.50	2.82
4	1.19	1.57	2.92	4.17	12.70	4.27
5	0.58	0.73	1.36	1.47	1.29	1.21
6	0.75	1.28	2.37	2.30	3.69	2.91
7	0.61	0.89	1.65	1.46	1.29	1.48
8	0.70	1.17	2.18	2.02	2.00	2.26
9	0.66	1.10	2.04	1.94	2.48	2.21
10	0.96	0.92	1.72	1.68	3.72	1.60
11	0.85	0.81	1.51	1.39	1.75	1.38
12	0.57	0.73	1.36	2.22	3.88	1.21
13	0.77	0.97	1.80	1.66	1.88	1.69
14	0.60	0.96	1.77	1.21	1.63	1.61
15	0.57	0.92	1.72	1.21	1.32	1.54
16	0.60	1.14	2.13	1.73	2.30	2.25
17	0.77	1.10	2.04	1.70	1.51	2.00



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Forward and Backward Linkage



Code of Sectors :

- 1: Agriculture, Forestry, and Fisheries
- 2: Mining and excavation
- 3: Manufacturing Industry
- 4: Electricity Procurement and Gas
- 5: Water Supply, Waste Management, Waste and Recycling
- 6: Construction
- 7: Wholesale and retail trade, car and motorcycle repair Activities
- 8: Transportation and Warehousing
- 9: Provision of Accommodation and Food and Drink
- 10: Information and Communication
- 11: Financial Services and Insurance
- 12: Real estate
- 13: Company Services
- 14: Government Administration, Defense and Mandatory Social Security
- 15: Educational Services
- 16: Health Services and Social
- 17: Other services

Figure 3. Quadrant Analysis of IFL and IBL, Table I-O 2010





Multiplier

Multipliers measure the total effects on either output, income, employment or value added, given an increase in one unit of output of a particularly industry

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**In Line with
Linkage Analysis**





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Conclusion



1 From Initial analysis (Structure of I-O Table), manufacturing industry (sector 3) and procurement of electricity, gas sector (sector 4) are the leading sectors and most potential sector to support the economic development of Indonesia

2 Moreover, both sectors according to the result of forward linkage (IFL) and backward linkage (IBL) have the greatest value compare to another sector.

3 In line with linkage analysis, multiplier analysis from 4 different approaches shows that both sectors also have the greatest value.



BPS-Statistics Indonesia
Analysis of Input-Output Table :

*Rate of Economic Development
by Leading Sectors in Indonesia "*

TERIMA KASIH
THANK YOU