

Appendix 3. Output Multipliers, Income Multipliers, Employment Multipliers, and Production Linkages

Industry	Total Domestic Output Multiplier ¹ (additional domestic output per peso change in final demand)	Total Domestic Income Multiplier ¹ (additional domestic household income per peso change in final demand)	Total Domestic Employment Multiplier Effect ¹ (additional domestic jobs per one billion peso change in final demand)	Backward Linkage ²		Forward Linkage ²	
				Strength (relative to other industries)	Dispersion (relative to other industries)	Strength (relative to other industries)	Dispersion (relative to other industries)
Manufacturing							
Auto Manufacturing	2.34	0.24	1,134	weak	even	weak	uneven
Auto Parts	2.12	0.20	945	weak	uneven	weak	uneven
Motorcycle	2.37	0.27	1,276	weak	even	weak	uneven
Basic Chemicals	2.13	0.24	1,134	weak	uneven	strong	even
Bamboo	1.61	0.20	945	weak	uneven	strong	even
Biodiesel	1.32	0.08	378	weak	uneven	strong	even
Cement	2.29	0.25	1,181	weak	even	weak	even
Ceramic Tiles	2.59	0.40	1,890	strong	even	weak	uneven
Copper and Copper Products							
Non-ferrous smelting, refining plants, rolling, etc.	1.98	0.16	756	weak	uneven	strong	even
Non-ferrous foundries	2.24	0.24	1,134	weak	uneven	strong	even
Electrical machinery	1.75	0.17	803	weak	uneven	weak	uneven
Furniture							
Wooden	2.55	0.30	1,418	strong	even	weak	uneven
Rattan	2.66	0.39	1,843	strong	even	weak	even
Other Furniture	2.77	0.36	1,701	strong	even	weak	even
Garments and Textile	2.16	0.21	992	strong	uneven	strong	even
Iron and Steel							
Blast furnace and steel making furnace, etc.	2.14	0.17	803	weak	uneven	strong	even
Iron and steel foundries	2.38	0.21	992	weak	even	weak	uneven

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				Strength (relative to other industries)	Dispersion (relative to other industries)	Strength (relative to other industries)	Dispersion (relative to other industries)
Metal Casting	2.07	0.18	851	strong	even	weak	even
Plastics	2.04	0.22	1,040	weak	uneven	strong	even
Paper							
Pulp, paper, Paperboard	2.19	0.20	945	weak	uneven	strong	even
Paper and paperboard containers	2.19	0.26	1,229	weak	uneven	weak	even
Articles of paper	2.06	0.20	945	weak	uneven	weak	even
Semiconductor devices	2.21	0.31	1,465	weak	uneven	weak	uneven
Shipbuilding	2.29	0.21	992	weak	even	weak	uneven
Services							
Air Cargo	2.42	0.24	1,134	strong	even	weak	even
Information Technology-Business Process Management	2.78	0.52	2,457	strong	even	weak	uneven
Private business services	2.39	0.36	1,701	strong	even	strong	even
Private recreational services	2.21	0.33	1,559	strong	even	weak	uneven
Mass Housing	2.69	0.43	2,032	strong	even	strong	even
Medical Travel							
Private medical, dental, other health services	2.89	0.53	2,505	strong	even	weak	uneven
Other hospital activities, medical and dental practices, vet.	1.97	0.27	1,276	weak	uneven	weak	uneven

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Agribusiness: Food Processing							
Slaughtering and meat packing	3.23	0.41	1,937	strong	even	strong	even
Meat and meat products processing	3.45	0.37	1,748	strong	even	weak	even
Milk processing	2.47	0.23	1,087	strong	uneven	weak	even
Canning and preserving of fruits	2.57	0.31	1,465	strong	even	weak	even
Mining							
Copper mining	2.16	0.26	1,229	weak	uneven	weak	uneven
Gold mining	2.07	0.24	1,134	weak	uneven	weak	even
Chromite mining	2.12	0.29	1,370	weak	uneven	weak	uneven
Nickel mining	2.03	0.26	1,229	weak	uneven	weak	uneven
Other metallic Mining (silver, etc)	1.89	0.23	1,087	weak	uneven	weak	uneven

Notes:

¹“The total domestic output, income, and employment multiplier effects incorporate the initial, direct, indirect, and induced effects. The total domestic output and income multipliers were derived from a semi-closed domestic inverse matrix. The total employment multiplier effect is derived by dividing the total domestic income multiplier effect by the annual average compensation. The annual average compensation used in this study is 211,615 pesos. This was based on the 2010 Annual Survey of Philippine Business and Industry.” (Terosa, 2013, Sec. III).

²“The relative strength of the production linkages of an industry is considered strong if the corresponding linkage index is greater than 1. If the linkage index of the industry is less than 1, the relative strength of its production linkages is considered weak. The relative dispersion of production linkages is deemed even if the coefficient of variation of the industry is less than the average coefficient of variation for all industries. Otherwise, the relative dispersion of production linkages is considered uneven.” (Terosa, 2013, Sec. IV).

Source: Terosa, C. L. (2013). *Multiplier Effects and Production Linkages in 2000 of Selected Industries in the Philippines*. Report submitted to the United States Agency for International Development – Advancing Philippine Competitiveness Project (USAID-COMPETE), for the Department of Trade and Industry.