

A Appendixes

A.1 List of Industries/Commodities

Table 6: List of 181 Industries/Commodities

1	Paddy	62	Sugar	123	Non-iron metal products
2	Maize	63	Peeled grain	124	Kitchen wares, and tools
3	Cassava	64	Chocolate	125	Metal furniture
4	Sweet potatoes	65	Milled and peeled coffee	126	Structural metal product
5	Other root crops	66	Processed tea	127	Other metal products
6	Groundnut	67	Soya bean products	128	Prime movers engine
7	Soybean	68	Other foods	129	Machinery and apparatus
8	Other beans	69	Animal feed	130	Electrical generator, motor
9	Vegetables	70	Alcoholic beverages	131	Electrical machinery etc.
10	Fruits	71	Non alcoholic beverage	132	Communication apparatus
11	Cereals and other food crops	72	Tobacco products	133	Household appliances
12	Rubber	73	Cigarettes	134	Other electrical appliances
13	Sugarcane	74	Cleaning kapok	135	Battery
14	Coconut	75	Yarn	136	Ship and its repair
15	Oil palm	76	Textile	137	Train and its repair
16	Fibre crops	77	Textile products	138	Motor vehicles (cars)
17	Tobacco	78	Knitting mills	139	Motor cycle
18	Coffee	79	Carpet, rope and textile	140	Other transport equipment
19	Tea	80	Wearing apparel	141	Aircraft and its repair
20	Clove	81	Leather	142	Photographic and optical eq.
21	Cacao	82	Leather products	143	Jewelry
22	Cashew fruit	83	Footwear	144	Musical instruments
23	Other estate crops	84	Sawmill and preserved wood	145	Sporting and athletics goods
24	Other agriculture	85	Plywood and the like	146	Other manufacturing
25	Livestock and product	86	Wooden building component	147	Electricity
26	Fresh milk	87	Wooden furniture	148	Gas
27	Poultry and its product	88	Other wood products	149	Water supply
28	Other livestock raising	89	Non-plastic plait	150	Residential building
29	Wood	90	Pulp	151	Construction on agriculture
30	Other forest product	91	Paper and cardboard	152	Public work
31	Sea fish and product	92	Paper and cardboard product	153	Utility construction
32	Inland water fish and product	93	Printing and publishing	154	Other construction
33	Shrimp	94	Basic chemical	155	Trade
34	Agriculture services	95	Fertilizer	156	Vehicle repairs
35	Coal	96	Pesticides	157	Restaurant
36	Crude oil	97	Synthetics resin, plastic etc.	158	Hotel
37	Natural gas and geothermal	98	Paints, vernishes etc.	159	Railway transport
38	Tin ore	99	Drug and medicine	160	Road transport
39	Nickel ore	100	Native medicine	161	Sea transport
40	Bauxite ore	101	Soap and cleaning product	162	River and lake transport
41	Copper ore	102	Cosmetics	163	Air transport
42	Gold ore	103	Other chemicals product	164	Services allied to transport
43	Silver ore	104	Gasoline	165	Communication services
44	Ore and sand iron	105	Automotive Diesel Oil	166	Banking
45	Other mining	106	IDO	167	Other financial intermediaries
46	Non-metal mining	107	Kerosene	168	Insurance and pension funds
47	Crude salt	108	LPG	169	Real estate and dormitory
48	Quarrying all kinds	109	Other fuels	170	Business services
49	Meats	110	Liquefied of natural gas	171	General government
50	Processed meat	111	Smoked and crumb rubber	172	Government education
51	Dairy products	112	Tire	173	Government health services
52	Canned fruits and vegetables	113	Other rubber products	174	Other government services
53	Salty fish and dry fish	114	Plastics product	175	Private education services
54	Processed and preserve fish	115	Ceramic and earthenware	176	Private health services
55	Copra	116	Glass product	177	Other private services
56	Animal and vegetable oil	117	Clayand ceramic products	178	Private motion picture
57	Rice	118	Cement	179	Recreations
58	Wheat flour	119	Other non-ferrous products	180	Personal and household ser.
59	Other flour	120	Basic iron and steel	181	Other goods and services
60	Bakery products and the like	121	Basic iron and steel products		
61	Noodle, macaroni, etc.	122	Non-ferrous basic metal		

A.2 List of labour Classification

Table 7: List of (official SAM) Labor Classification

	Urban/ Rural	Formal/ Imputed	Skill type
1.	Urban	Formal	Agricultural Workers
2.	Rural	Formal	Agricultural Workers
3.	Urban	Imputed	Agricultural Workers
4.	Rural	Imputed	Agricultural Workers
5.	Urban	Formal	Production, Transport Operator, Manual, and Unskilled Workers
6.	Rural	Formal	Production, Transport Operator, Manual, and Unskilled Workers
7.	Urban	Imputed	Production, Transport Operator, Manual, and Unskilled Workers
8.	Rural	Imputed	Production, Transport Operator, Manual, and Unskilled Workers
9.	Urban	Formal	Clerical, Services workers
10.	Rural	Formal	Clerical, Services workers
11.	Urban	Imputed	Clerical, Services workers
12.	Rural	Imputed	Clerical, Services workers
13.	Urban	Formal	Administrative, Managerial, Professional, and Technician Workers
14.	Rural	Formal	Administrative, Managerial, Professional, and Technician Workers
15.	Urban	Imputed	Administrative, Managerial, Professional, and Technician Workers
16.	Rural	Imputed	Administrative, Managerial, Professional, and Technician Workers

A.3 SAM Balancing Program

As described in more detail in Horridge (2003), in the final stage of constructing a SAM, the balance in a SAM A_{ij} , is often not satisfied, i.e.,

$$\sum_i A_{iq} \neq \sum_j A_{qj} \quad (\text{A1})$$

or column total q is not equal to row total q . Therefore, the problem is to seek to construct a revised SAM B_{ij} , which is close to A_{ij} , and is balanced,

$$\sum_i B_{iq} = \sum_j B_{qj}. \quad (\text{A2})$$

However, before doing any balancing using this method, a significant imbalance due to a more structural problem has to be resolved first.

The solution to the above problem is to find a scale vector K such that

$$B_{ij} = A_{ij} \frac{K_i}{K_j} \quad (\text{A3})$$

where K satisfies equation A2 above. This is what is implemented by the SAMBAL GEMPACK program, where K can be discovered by direct or iterative methods. This program carry the same principle as in the RAS or Entropy method, and as McDougall (1999) suggests many of those matrix balancing methods are in fact producing more or

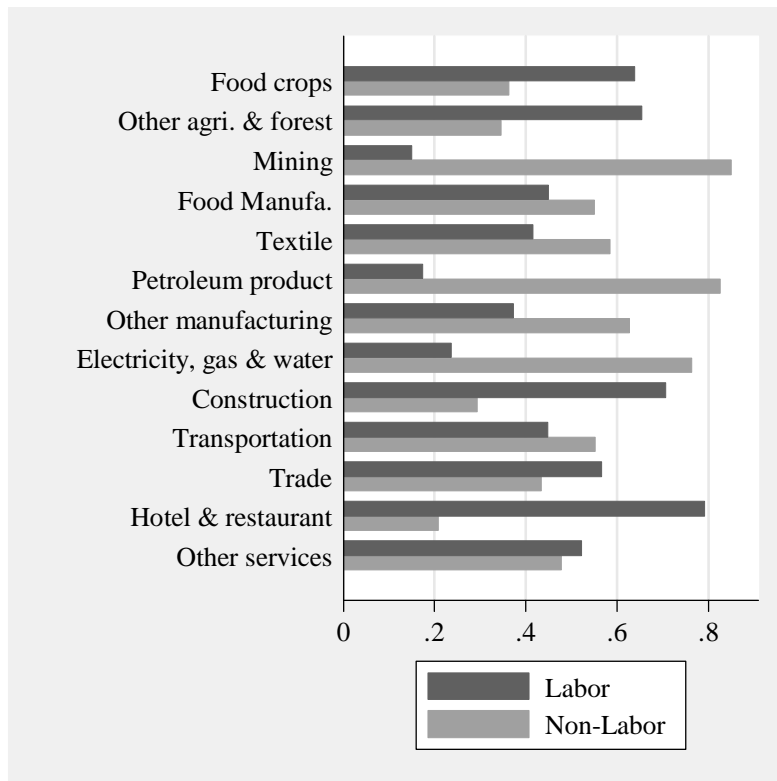


Figure 1: Industry Cost: Labor and Capital

less the same results. The reason to choose one program is simply the familiarity of the software used. In this case, this program is chosen because of the convenience of having the program in the GEMPACK environment.

This program also allows flexibility in fixing certain cells in the SAM in the balancing process. This will be useful when it is certain that some cells are produced by reliable information so that there is no need to change them. In this case of this SAM construction, these are (1) value added or primary factors for every industry, since this will guarantee that GDP will not change at all, (2) cells that involve trade data, i.e., export and import by commodity, and finally (3) indirect taxes, subsidy, and tariffs.

A.4 Figures

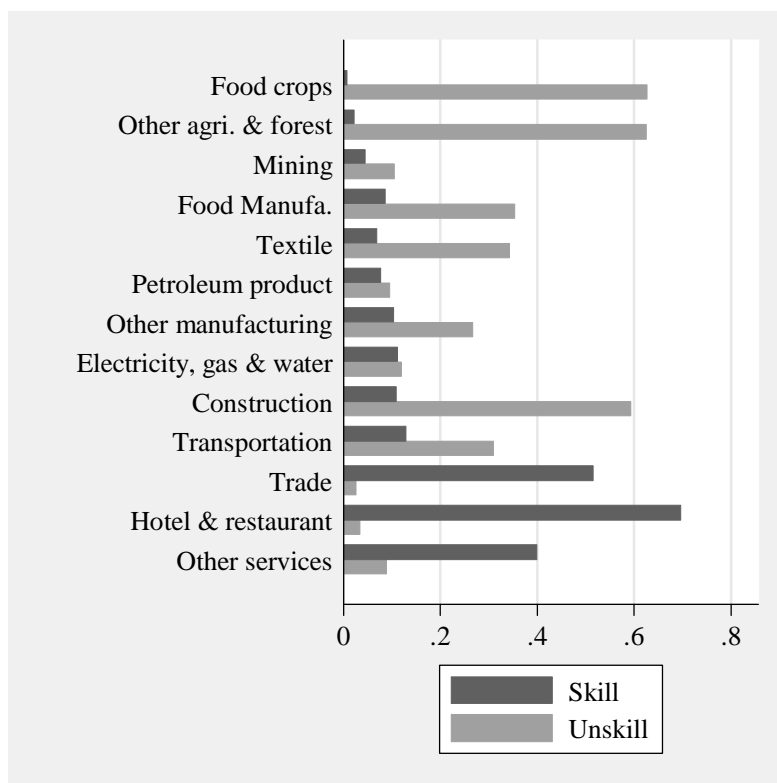


Figure 2: Industry Cost: Skilled and Unskilled Labor

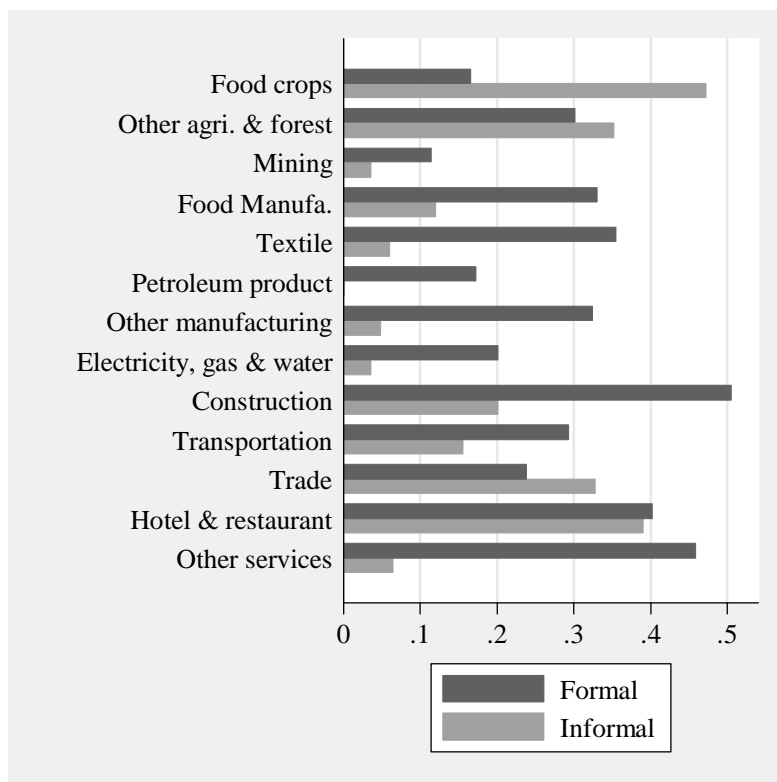


Figure 3: Industry Cost: Formal and Informal Labor

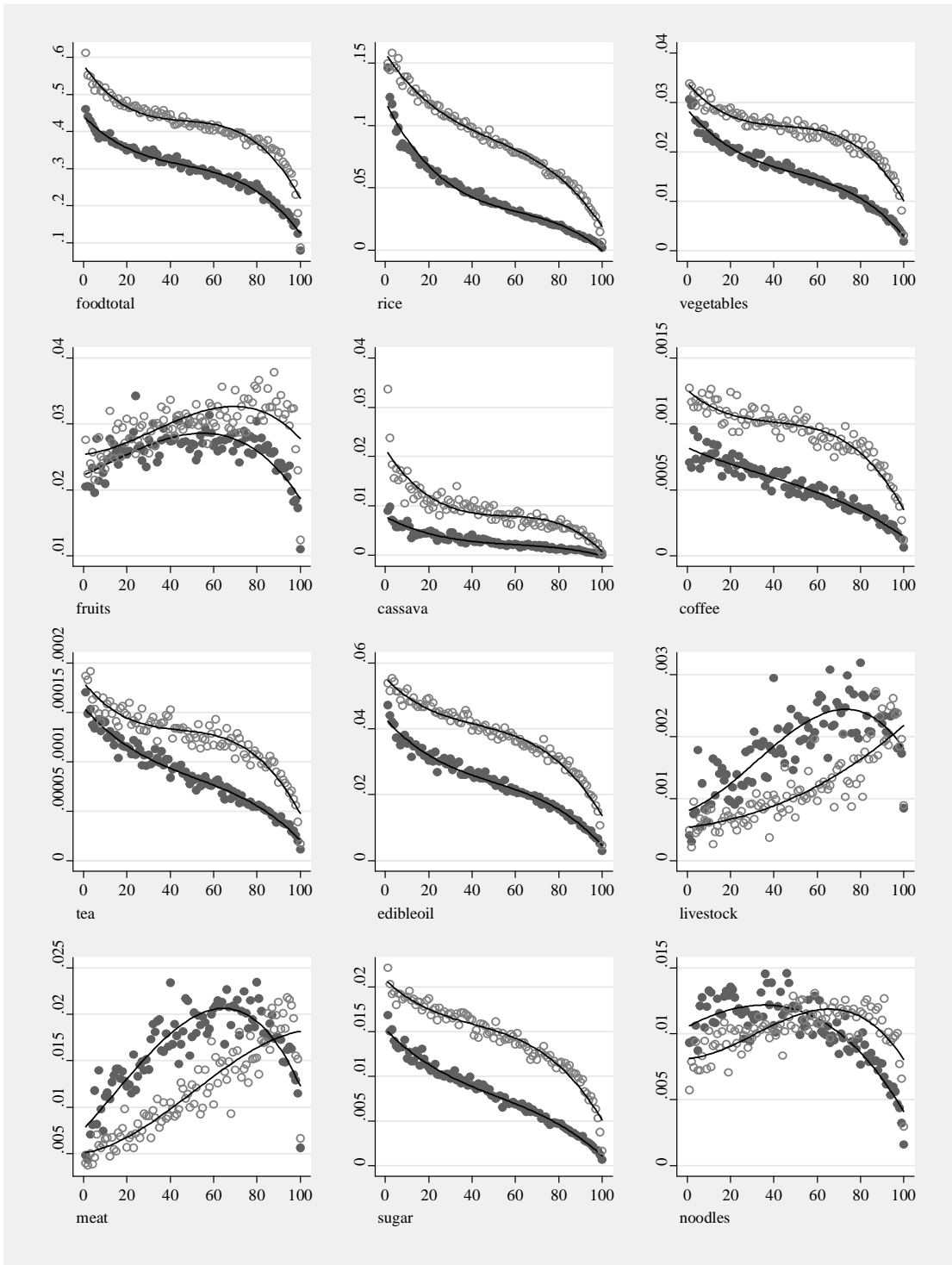


Figure 4: Household's Food Expenditure Share

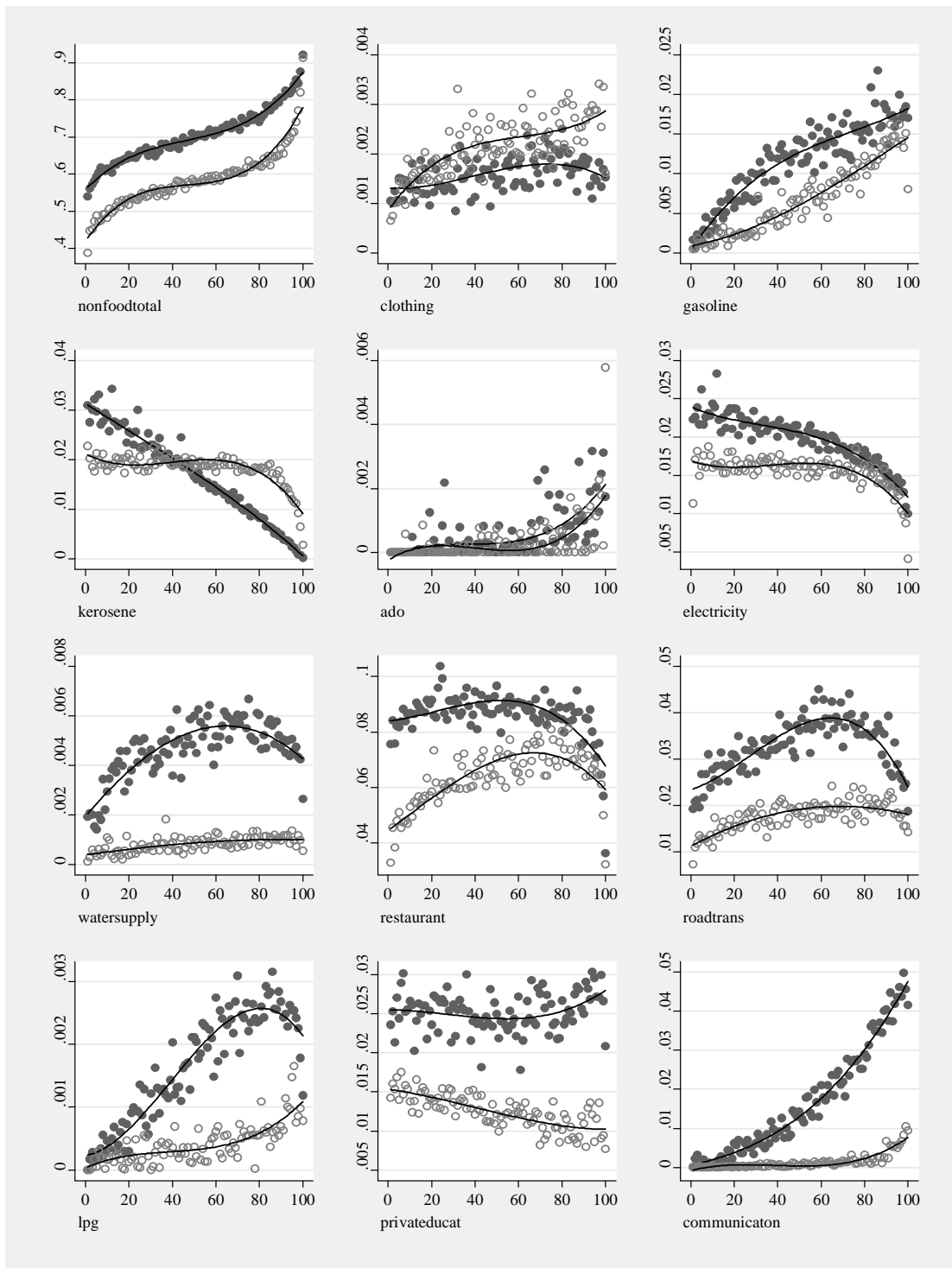


Figure 5: Household's Non-food Expenditure Share

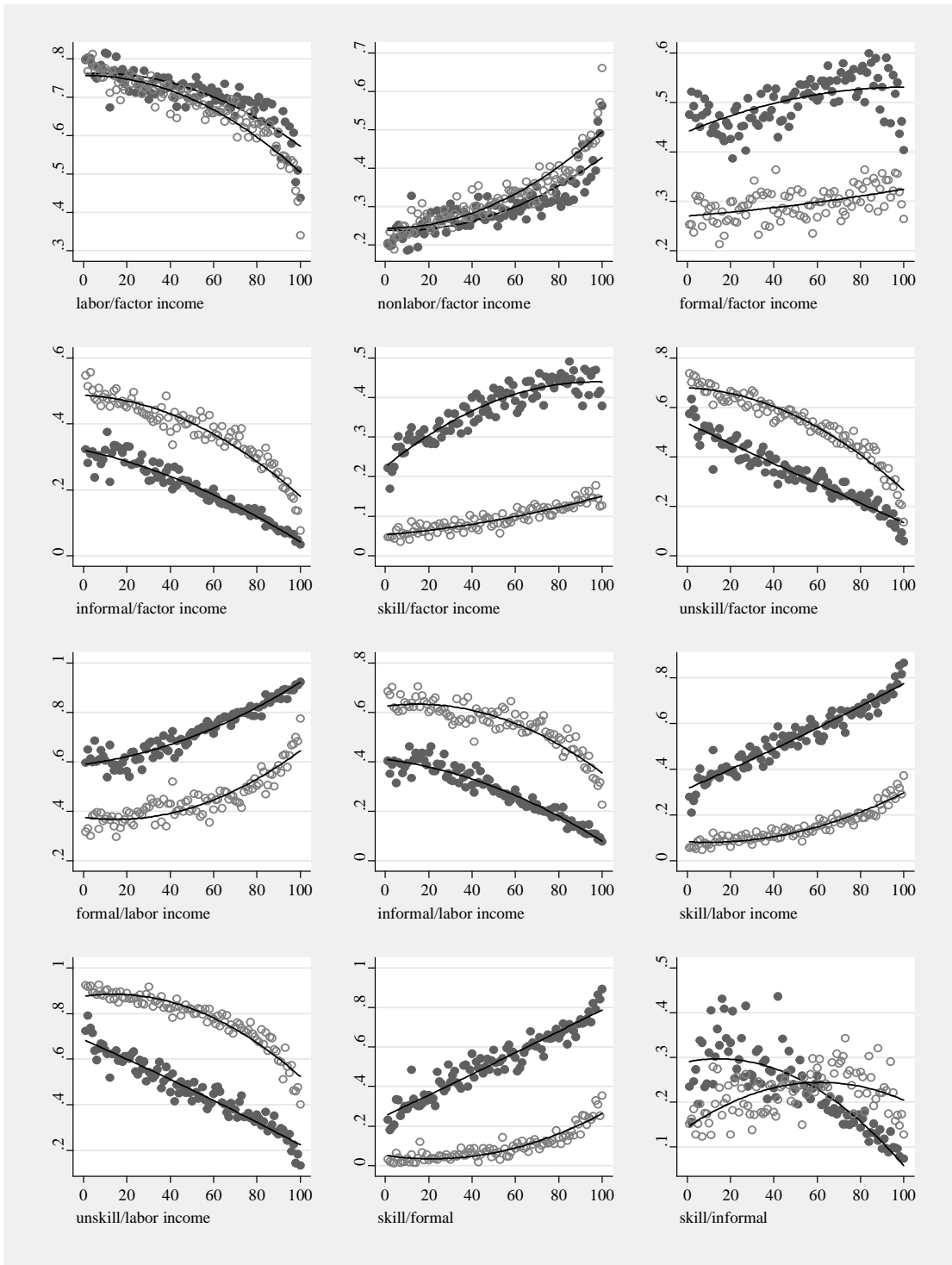


Figure 6: Household's Source of Income