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Structure of Agricultural, Forestry and Fishery Sector in the Vietnam Economy: An Input – Output Analysis

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Abstract

As coming to Vietnamese culture, it refers to the culture of agriculture. Every country has agriculture, but the culture of agriculture is only in some Asian countries, including Vietnam. In the soul of the Vietnamese is always a pure soul and pure. In recent decades it seems that people are trying to change this with the "industrialization and modernization" movement, trying to force the Vietnamese people instead of using the advantages of cultivation, breeding become workers. When Vietnamese people's strengths are not used and promoted, they have to try or be forced to use their weakness. Thus, the failure is almost inevitable. This study examines the change in the interactions between agriculture, forestry and fisheries with other sectors of the economy based on the structure of the 2012 and 2016 Input Output (I/O) tables of Vietnam.

Keywords: Agriculture; Forestry; Fishery; Input-output; Multipliers; Effects; Spill over

Introduction

In recent years, the high GDP growth, along with falling in the share value-added of the agriculture, forestry and fishery sectors in GDP seems to be the trend in Vietnam. Vietnam's government (in both central and local levels) encourages change economic structure following this trend. Therefore, the share of agriculture, forestry and fishery sectors in GDP decreases from 18.4% in 2010 to 15.3% in 2017, the figure for manufacturing, and construction sectors increase slightly while the figure for service sectors raises significantly (Table 1). Due to such orientation, the amount of investment in agriculture, forestry and fishery fell down, accounted for about 8% of the total investment in 2005, and only about 6% up to 2017, whereas the figure for industry& construction, and for services accounted for the similar amount, about 47% of total investment [1]. An industry considered to be of relative importance to the economy is the one with the good index of the power of dispersion and sensitivity of dispersion, and high spillover effect to value-added but low spillover effect to imports. The result from the Input-Output model shows that agriculture, forestry, and fishery sector is the only ones that meet this requirement. In this study, agriculture, forestry, fishery sector is divided into 11 sub-sectors (Appendix 1). The study also considers the relationship between 11 agriculture, forestry and fishery sub-sectors.

According to economic theory, the role of agriculture in economic growth has been emphasized by various studies since the 12th century [2,3]. Hwa performed a statistical analysis of the contribution of agriculture to economic growth. The author showed that existing the close relationship between agriculture and other sectors, it contributed to national and international economic growth. The most common use of the I/O model is to analyze the direct, indirect and spillover effects of the economy or a group of

industries [4-7]. This study also attempts to show the interaction of eleven agriculture, forestry and fishery sub-sectors with other sectors surveyed in the model (Appendix 1).

Table 1: *Gross domestic product by economic sector.*

Year	Total	Agriculture, forestry and fishing	Manufacturing & Construction	Service	Product taxes subsidies on production
2010	100	18.38	32.13	36.94	12.55
2011	100	19.57	32.24	36.73	11.46
2012	100	19.22	33.56	37.27	9.95
2013	100	17.96	33.19	38.74	10.11
2014	100	17.7	33.21	39.04	10.05
2015	100	17	33.25	39.73	10.02
2016	100	16.32	32.72	40.92	10.04
2017	100	15.3	33.3	41.4	10
Source: Vietnam General Statistics Office					

Table 2: *The spillover effect of agriculture, forestry, and fishery final demand.*

	Consumption	*HH.*	*Gov.*	Investment	*Gross fixed capital formation*	*Change in Inventory*	*Exp. Of goods*	*Exp. Of services*	Total Exp.
Spillover effect of final demand on its value added	0.091	0.100	0.000	0.046	0.016	0.178	0.053	0.000	0.048
Spillover effect of final demand on value added of other sectors	0.047	0.052	0.000	0.027	0.010	0.106	0.021	0.000	0.019
Total spillover effect of final demand on total value added	0.137	0.152	0.000	0.073	0.026	0.284	0.074	0.000	0.068
Source: Calculated from I/O table in 2016									

Methodology

W. Leontief put forward the linear function's system for relationship between supply and demand of economy by sectors, solved at below:

$\sum^{n}_{j}Xij + Yi = Xi$ (1)

And $\sum^{n}_{i}Xij + Vj = Xj$ (2)

Where: X_{ij} present sector j used product i as input; i,j = 1….n with n is number of sectors in input-output model; Yi is final product of product i; Xi is gross output of product i (total demand of product i) and Vj is value added of sector j.

Equation (3) shows: Total output = Intermediate demand (for production) + Final demand (for consumption)

Equation (4) shows: Total input = Intermediate input (for production) + Value added

Total output always equals to total input.

Put $a_{ij} = X_{ij}/X_j$and equation (1) we have:

$$\sum^{n}_{j}a_{ij}X_j + Y_i = X_i \quad (3)$$

Rewrite the equation (3) to matrix form:

$$A.X + Y = X \quad (4)$$

With: $A = (a_{ij})_{(nxn)}$; $Y = (Yi)_{(nx1)}$; $X = (X_i)_{(nx1)}$. The equation (4) is Leontief's standard, this equation can rewrite as follow:

$X = (I - A)^{-1}.Y$

In this research the matrix A is divided by sub-matrixes including A^{RR}, A^{RS}, A^{SR}va A^{SS}

Where: R, S are industries; R is the industry is affected by increasing indirect tax; A^{RR} is the matrix of intermediate coefficients of r industry using its own product as input; A^{RS} is a matrix of intermediary coefficients for s industry using r product as input; A^{SR} is a matrix of intermediary coefficients for r industry using s product as input; A^{SS} is a matrix of intermediary coefficients for s industry using its own product as input

We can rewrite Leontief's relation:

$$\begin{pmatrix} A^{RR} & A^{RS} \\ A^{SR} & A^{SS} \end{pmatrix} * \begin{pmatrix} X^R \\ X^S \end{pmatrix} + \begin{pmatrix} Y^R \\ Y^S \end{pmatrix} = \begin{pmatrix} X^R \\ X^S \end{pmatrix} \quad (5)$$

Or:

$A^{RR}.X^R + A^{RS}.X^S + Y^R = X^R$ (6)

$A^{SS}.X^S + A^{SR}.X^R + Y^S = X^S$ (7)

From (6) and (7) we have:

$XS = (I - A^{SS})^{-1}.(A^{SR}.X^R + Y^R)$ (8)

$XR = (I - A^{RR})^{-1}.(A^{RS}.X^S + Y^S)$ (9)

Equation (8) and (9) shows that output of industry is not only based on the final demand but also depend on other sector's productions. For example, ouput of R depend on S's production by $A^{RS}.X^S$, or output of S (X^S) depend on R's production by $A^{SR}.X^R$.

Relationship between S and R can be shown:

$X^S = (I - A^{SS})\text{-}1.A^{SR}.X^R$ (10)

$X^R = (I - A^{RR})\text{-}1.A^{RS}.X^S$ (11)

Or

$\Delta X^S = (I - A^{SS})^{-1}.A^{SR}.\Delta X^R$ (12)

$\Delta X^R = (I - A^{RR})^{-1}.A^{RS}.\Delta X^S$ (13)

Equation (12), (13) show that the change in each industry can be led to the change in other industries. Matrix $(I - A^{SS})^{-1}.A^{SR}$ and $(I - A^{RR})^{-1}.A^{RS}$ show this relationship. This equation is applied to quantify the output of industries that are not directly affected by indirect tax increase are also reduced in the next production cycle.

In order to consider the effect of final demand of each industry to value added, we put:

$$B = (I - A)^{-1} = \begin{pmatrix} B^{RR} & B^{RS} \\ B^{SR} & B^{SS} \end{pmatrix} \quad (14)$$

$$\begin{pmatrix} X^R \\ X^S \end{pmatrix} = \begin{pmatrix} B^{RR}Y^R + B^{RS}Y^S \\ B^{SR}Y^R + B^{SS}Y^S \end{pmatrix} \quad (15)$$

And

$$(V^R \quad V^S) = (v^R \quad v^S) * \begin{pmatrix} B^{RR}Y^R + B^{RS}Y^S \\ B^{SR}Y^R + B^{SS}Y^S \end{pmatrix}$$

Or:

$$V = (V^R B^{RR} + V^S B^{SR})Y^R + (V^S B^{SS} + V^R B^{RS})Y^S \quad (16)$$

Equation (16) indicates the spillover effect of final demand of R and S on value added.

Results

Appendix 2 shows that in the 11 subsectors of agriculture, forestry, and fisheries, there are two sectors that have the power of dispersion greater than the average, including livestock and aquaculture products (Appendix 2). However, the import spillover indexes of these two subsectors are also above the average level and the value-added spillover indexes are lower than the average. The crop sector has good value-added spillover index but a low output spillover index. Some input sectors of agriculture, forestry, and fishery such as feeds for cattle, poultry, and aquatic products, fertilizers and nitrogen compounds, pesticides and other chemicals used in agriculture have a low value-added spillover index. This may be due to the tax policy for this industry group. The input products of agriculture, forestry, and fisheries are not subject to VAT, meaning that those industries are not deducted input VAT. Thereby, intermediate costs of those sectors cannot be reduced and their value-added fall down more and more. Is this the reason why some industries have high spillover to the economy but the producers face difficulties? According to Appendix 3, the agriculture, forestry and fishery groups stimulate other sectors

much better than other sectors simulating on them (Appendix 3). On average, one unit increase of the agriculture, forestry and fishery group will lead to an increase of 0.43 units for other sectors, while other sectors increased by one unit, the agriculture, forestry, and fishery group will increase 0.16 units. The group of crops, livestock, and fisheries has the highest stimulus to the economy. In addition, the sub-sectors including Products for preserving meat and meat products (sector 13); Aquatic products and seafood processing and preservation (sector 14); Vegetables processed (sector 15); Products of milling and flour production (sector 17); Feeds for cattle, poultry and aquatic products (sector 18); Products made from wood, bamboo (including beds, wardrobes, tables, chairs); from straw, parchment and plaiting materials (sector 18)have the largest spread to agriculture, forestry and fishery [7-10].

Appendix 4 shows that in order to meet the requirement of an increase in the output of 25 sectors (excluding 11 sub-sectors of agriculture, forestry, and fishery sectors), the annual crop output needs to increase the highest, followed by the livestock and aquaculture products (Appendix 4). In the opposite side, in order to meet the requirement of an increase in output of 11 sub-sector of agriculture, forestry, and fishery, the sectors (among remaining 25 sectors) including feeds for cattle, poultry and aquatic products, chemical fertilizers, nitrogen compounds, and other processing industries output have to increase highest. Annex 5 shows that the livestock and aquaculture products have the highest spillover effect of their final demand on other sectors' output among the 11 sub-sectors (Appendix 5). Moreover, these sub-sectors also have the highest power of dispersion. Moreover, Table 2 shows that change in inventory and household consumption have the highest spillover effect on value-added among final demand factors, while export has the lowest spillover effect. It suggests that demand management policies need to be directed towards factors that have high spillover to value-added. Agricultural, forestry and fishery products sold domestically are more profitable than export. Therefore, are the export-oriented policies a paradox? (Table 2).

Discussions and Conclusions

The study shows that the current policy of prioritizing manufacturing industries is a paradox. It is because that these industries are basically outsourcing, the spillover effect of their final demand on value-added is trivial, whereas the final demand of agriculture, forestry, and fisheries spreads to value-added much better. In addition, the research also shows that the agricultural processing industry needs to be developed in abundant raw materials areas in order to increase the value-added content in the value chain of agricultural products. With the current economic structure, the demand for annual crop products is quite large. Therefore, instead of changing this structure, Vietnam needs to improve productivity and quality as well as linking agricultural production with manufacturing to improve the value-added content of these products. The subsidy for these products also needs to be taken into account, some developed countries with an advanced industry such as Japan and the United States have also introduced this policy, but the subsidy needs to be directly for the first stage of the value chain. The first of the value chains is the farmer, the subsidy needs to be substantive, unlike previous price stabilization programs. One of the reasons for the low value-added content in the value chain of agricultural, forestry and fishery products is because of so many intermediaries, especially associations which are called association. In many cases, the associations play a role as state management. The decisions of these associations have many times made the farmers suffer. The study also shows that two sub-sectors including livestock and aquaculture stimulate other sectors considerably. Unfortunately, according to the roadmap of import tax rates by 2020, these two industries have negative effective protection. In order to contribute to increasing the protection level for agriculture, forestry and fishery products, it is necessary to include input products of these sectors subject to the VAT rate of 0% as for foreign direct investment enterprises.

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Appendix 1: *36 sectors.*

No.	Sectors
1	Annual tree products
2	Perennial products
3	Livestock products
4	Agricultural services
5	Other agricultural products not elsewhere classified
6	Forest planting and tending products
7	Wood exploitation
8	Other forest products; harvested from the forest
9	Forestry Service
10	Aquatic products exploited
11	Aquaculture products
12	Mining products
13	Products for preserving meat and meat products
14	Aquatic products and seafood processing and preservation
15	Vegetables processed
16	Milk and dairy products
17	Products of milling and flour production
18	Feeds for cattle, poultry and aquatic products
19	Products made from wood, bamboo (including beds, wardrobes, tables, chairs); from straw, parchment and plaiting materials
20	Fertilizers and nitrogen compounds
21	Pesticides and other chemical products used in agriculture
22	Products of processing industry, the rest
23	Electricity, gas, hot water, steam and air conditioning
24	Natural water extraction
25	Construction Products
26	Wholesale and retail services; Car, motorbike and other motor vehicle repair services
27	Warehouse transportation services
28	Accommodation and catering services
29	Information and communication services
30	Banking and insurance services
31	Real estate business services
32	Professional, scientific and technological services
33	Education and training services
34	Medical services and social assistance
35	Arts, entertainment and entertainment services
36	Other Services

Appendix 2: *Power of dispersion, Sensitivity, Spillover effect to value added, and Spillover effect to imports.*

STT	Industry	2012				2016			
		FL	BL	IM	IVA	FL	BL	IM	IVA

1	Annual tree products	2,25	0,94	0,75	**1,11**	2,07	0,94	0,82	**1,10**
2	Perennial products	1,00	0,89	0,74	**1,11**	0,92	0,91	0,82	**1,10**
3	Livestock products	1,37	1,52	1,21	0,91	1,24	1,46	1,14	0,92
4	Agricultural services	0,83	0,95	0,74	**1,11**	0,68	0,95	0,83	**1,09**
5	Other agricultural products not elsewhere classified	0,59	0,66	0,70	**1,12**	0,53	0,63	0,86	**1,07**
6	Forest planting and tending products	0,61	0,80	0,61	**1,16**	1,30	0,89	0,38	**1,34**
7	Wood exploitation	0,59	0,66	1,94	0,61	0,63	0,71	1,50	0,73
8	Other forest products; harvested from the forest	0,63	0,74	0,41	1,25	0,56	0,80	0,46	1,29
9	Forestry Service	0,67	0,71	0,62	1,16	0,51	0,75	0,61	1,21
10	Aquatic products exploited	0,74	0,93	1,68	0,72	0,67	0,94	1,49	0,73
11	Aquaculture products	1,06	1,32	1,04	0,99	1,04	1,31	0,98	1,01
12	Mining products	1,30	0,89	1,08	0,97	1,21	0,89	1,10	0,95
13	Products for preserving meat and meat products	0,68	1,70	1,05	0,98	0,59	1,61	1,03	0,98
14	Aquatic products and seafood processing and preservation	0,71	1,57	1,06	0,97	0,63	1,52	1,03	0,98
15	Vegetables processed	0,62	1,22	1,17	0,93	0,54	1,18	1,10	0,95
16	Milk and dairy products	0,94	1,26	1,65	0,73	0,84	1,21	1,50	0,73
17	Products of milling and flour production	1,16	1,53	0,99	1,00	1,10	1,48	1,00	1,00
18	Feeds for cattle, poultry and aquatic products	1,33	1,42	1,10	0,96	1,17	1,35	1,08	0,96
19	Products made from wood, bamboo (including beds, wardrobes, tables, chairs); from straw, parchment and plaiting materials	0,95	0,98	2,01	0,58	0,88	0,99	1,49	0,73
20	Fertilizers and nitrogen compounds	1,00	1,09	1,23	0,90	1,03	1,05	1,22	0,88
21	Pesticides and other chemical products used in agriculture	0,71	0,97	1,94	0,61	0,66	0,99	1,63	0,66
22	Products of processing industry, the rest	4,21	1,00	1,62	0,74	6,09	0,99	1,47	0,74
23	Electricity, gas, hot water, steam and air conditioning	0,98	0,73	0,39	1,25	0,91	0,75	0,63	1,20
24	Natural water extraction	0,67	0,85	0,78	1,09	0,59	0,86	0,89	1,06

25	Construction Products	0,76	1,00	1,50	0,79	0,69	0,98	1,41	0,78
26	Wholesale and retail services; Car, motorbike and other motor vehicle repair services	1,46	0,83	0,52	1,20	1,46	0,85	0,67	1,18
27	Warehouse transportation services	1,13	0,96	1,32	0,87	1,09	0,96	1,25	0,87
28	Accommodation and catering services	0,72	1,09	1,01	1,00	0,62	1,10	1,00	1,00
29	Information and communication services	1,03	1,03	1,01	0,99	0,93	1,01	1,04	0,98
30	Banking and insurance services	1,38	0,80	0,32	1,28	1,37	0,83	0,50	1,27
31	Real estate business services	0,66	0,83	0,56	1,18	0,57	0,83	0,78	1,12
32	Professional, scientific and technological services	0,74	0,95	0,68	1,13	0,76	0,98	0,83	1,09
33	Education and training services	0,60	0,71	0,26	1,31	0,52	0,76	0,48	1,28
34	Medical services and social assistance	0,58	0,88	1,28	0,88	0,50	0,89	1,25	0,87
35	Arts, entertainment and entertainment services	0,66	0,80	0,52	1,20	0,50	0,76	0,48	1,28
36	Other Services	0,68	0,80	0,53	1,20	0,60	0,89	1,25	0,87
Source: Calculated from I/O table in 2012 and 2016									

Appendix 3: *The Power of dispersionof sub-sector of agriculture, forestry, and fishery with other sectors.*

		Other sectors (25) stimulate to agriculture, forestry, and fishery (11)	**Agriculture, forestry, and fishery (11) stimulate to other sectors (25)**
Annual tree products	1		0.5077
Perennial products	2		0.5669
Livestock products	3		0.6566
Agricultural services	4		0.6130
Other agricultural products not elsewhere classified	5		0.1496
Forest planting and tending products	6		0.1935
Wood exploitation	7		0.0385
Other forest products; harvested from the forest	8		0.2652
Forestry Service	9		0.1847
Aquatic products exploited	10		0.8787
Aquaculture products	11		0.6175

Mining products	12	0.000	
Products for preserving meat and meat products	13	0.817	
Aquatic products and seafood processing and preservation	14	0.789	
Vegetables processed	15	0.757	
Milk and dairy products	16	0.025	
Products of milling and flour production	17	0.603	
Feeds for cattle, poultry and aquatic products	18	0.559	
Products made from wood, bamboo (including beds, wardrobes, tables, chairs); from straw, parchment and plaiting materials	19	0.329	
Fertilizers and nitrogen compounds	20	0.003	
Pesticides and other chemical products used in agriculture	21	0.000	
Products of processing industry, the rest	22	0.028	
Electricity, gas, hot water, steam and air conditioning	23	0.000	
Natural water extraction	24	0.001	
Construction Products	25	0.004	
Wholesale and retail services; Car, motorbike and other motor vehicle repair services	26	0.004	
Warehouse transportation services	27	0.000	
Accommodation and catering services	28	0.124	
Information and communication services	29	0.000	
Banking and insurance services	30	0.001	
Real estate business services	31	0.000	
Professional, scientific and technological services	32	0.022	
Education and training services	33	0.009	
Medical services and social assistance	34	0.001	
Arts, entertainment and entertainment services	35	0.009	
Other Services	36	0.001	
Average		**0.164**	**0.4247**
Source: Calculated from I/O table in 2016			

Appendix 4: *The sensitivity of agriculture, forestry, and fishery with other sectors and versa.*

		Sensitivity of agriculture, forestry, and fishery[1] (11 sectors)	***Sensitivity of other sectors[2](25 sectors)***
Annual tree products	1	1.261	
Perennial products	2	0.643	
Livestock products	3	0.858	
Agricultural services	4	0.120	

Other agricultural products not elsewhere classified	5	0.002	
Forest planting and tending products	6	0.256	
Wood exploitation	7	0.076	
Other forest products; harvested from the forest	8	0.018	
Forestry Service	9	0.003	
Aquatic products exploited	10	0.252	
Aquaculture products	11	0.599	
Mining products	12		0.204
Products for preserving meat and meat products	13		0.010
Aquatic products and seafood processing and preservation	14		0.030
Vegetables processed	15		0.009
Milk and dairy products	16		0.004
Products of milling and flour production	17		0.176
Feeds for cattle, poultry and aquatic products	18		**0.598**
Products made from wood, bamboo (including beds, wardrobes, tables, chairs); from straw, parchment and plaiting materials	19		0.092
Fertilizers and nitrogen compounds	20		**0.324**
Pesticides and other chemical products used in agriculture	21		0.041
Products of processing industry, the rest	22		**1.926**
Electricity, gas, hot water, steam and air conditioning	23		0.211
Natural water extraction	24		0.019
Construction Products	25		0.075
Wholesale and retail services; Car, motorbike and other motor vehicle repair services	26		0.371
Warehouse transportation services	27		0.180
Accommodation and catering services	28		0.043
Information and communication services	29		0.074
Banking and insurance services	30		0.201
Real estate business services	31		0.012
Professional, scientific and technological services	32		0.043
Education and training services	33		0.003
Medical services and social assistance	34		0.001
Arts, entertainment and entertainment services	35		0.001
Other Services	36		0.023
Source: Calculated from I/O table in 2016			

Appendix 5: *Decomposition of the multiplier effect, Feedback effectand spillover effects of agriculture, forestry and fishery and other sectors.*

		Total effect	**Direct effect, indirect effect and spillover effect (Enlarge leontief Inverse)**	**Direct and indirect effects**	**Spillover effect**	**Feedback effect**

Annual tree products	1	1.932	1.276	1.256	0.02	0.656
Perennial products	2	1.86	1.192	1.176	0.017	0.668
Livestock products	3	2.984	1.831	1.48	**0.35**	**1.154**
Agricultural services	4	1.952	1.224	1.191	0.033	0.728
Other agricultural products not elsewhere classified	5	1.296	1.122	1.118	0.004	0.174
Forest planting and tending products	6	1.811	1.514	1.505	0.009	0.296
Wood exploitation	7	1.458	1.367	1.364	0.003	0.091
Other forest products; harvested from the forest	8	1.629	1.298	1.278	0.02	0.331
Forestry Service	9	1.536	1.295	1.287	0.008	0.242
Aquatic products exploited	10	1.924	1.031	1.002	0.03	0.893
Aquaculture products	11	2.684	1.673	1.363	**0.309**	**1.011**
Mining products	12	1.814	1.795	1.785	0.009	0.019
Products for preserving meat and meat products	13	3.302	2.158	1.446	0.712	1.144
Aquatic products and seafood processing and preservation	14	3.103	2.071	1.387	0.683	1.033
Vegetables processed	15	2.416	1.629	1.193	0.437	0.787
Milk and dairy products	16	2.473	2.395	2.35	0.046	0.078
Products of milling and flour production	17	3.029	2.125	1.661	0.464	0.904
Feeds for cattle, poultry and aquatic products	18	2.767	1.983	1.566	0.417	0.783
Products made from wood, bamboo (including beds, wardrobes, tables, chairs); from straw, parchment and plaiting materials	19	2.026	1.597	1.524	0.073	0.429
Fertilizers and nitrogen compounds	20	2.155	2.134	2.124	0.01	0.021
Pesticides and other chemical products used in agriculture	21	2.026	2.004	1.994	0.01	0.021
Products of processing industry, the rest	22	2.024	1.964	1.934	0.03	0.061
Electricity, gas, hot water, steam and air conditioning	23	1.536	1.525	1.519	0.006	0.012
Natural water extraction	24	1.764	1.744	1.735	0.009	0.02
Construction Products	25	2.011	1.972	1.957	0.015	0.039
Wholesale and retail services; Car, motorbike and other motor vehicle repair services	26	1.747	1.72	1.708	0.012	0.027

Warehouse transportation services	27	1.964	1.939	1.928	0.012	0.025
Accommodation and catering services	28	2.243	1.945	1.766	0.178	0.298
Information and communication services	29	2.058	2.035	2.024	0.011	0.023
Banking and insurance services	30	1.7	1.684	1.677	0.007	0.016
Real estate business services	31	1.708	1.684	1.673	0.011	0.024
Professional, scientific and technological services	32	2.001	1.952	1.927	0.024	0.05
Education and training services	33	1.545	1.504	1.488	0.017	0.041
Medical services and social assistance	34	1.815	1.788	1.775	0.013	0.028
Arts, entertainment and entertainment services	35	1.545	1.504	1.488	0.017	0.041
Other Services	36	1.815	1.788	1.775	0.013	0.028
Source: Calculated from I/O table in 2016						