Employment effects of private investment initiatives in rural areas of southern Europe: a regional SAM approach

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Abstract

The paper examines issues related to the employment effects of financial investment-incentives provided to SMEs in a lagging rural area in Southern Europe. A regional SAM is built to portray the structural characteristics of the local economy, followed by the estimation of regional economic impacts, distinguished into investment- and capacity-adjustment effects. Results indicate a moderate impact on regional employment, but capacity-adjustment effects seem substantial. Policy effectiveness is moderate when only jobs created on site are considered. However, if economy-wide jobs created are considered, gross cost per job is significantly lower, this consisting a more comprehensive measure for policy makers.

Key words: *Regional development policy; Social accounting matrices; Private investment-incentives; Job-creation*

Introduction

Rural regions in the EU are currently undergoing significant economic and social changes, mostly induced by agricultural policy reform, international trade liberalization and the enhancement of the role of rural development policies. These changes are not expected to affect all EU rural areas in an equal manner. Rural areas in the 'centre' are characterized by higher population densities, greater proximity to major markets, low dependence on farming and a diversified economic base, and are expected to face a smoother adjustment process, as their economies and societies do not concentrate heavily on farming. On the other hand, rural areas of the 'periphery', characterised by severe remoteness, depopulation, infrastructural inadequacies and high dependence on agriculture, are expected to face a significant structural adjustment process (Psaltopoulos *et al.*, 2006).

Agricultural adjustment in these peripheral areas is expected to have a significant influence, as job opportunities in farming decline and increased dependence on welfare transfers creates more pressure in terms of the maintaining of a fragile social fabric. As already suggested in several fora, the answer to these problems lies in economic diversification and the promotion of an integrated development process, which can be facilitated through (amongst other programs) the creation and maintenance of viable Small and Medium Enterprises (SMEs), especially in the secondary and tertiary sectors.

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Regional development policy in Greece (a country dominated by remote rural areas, most of which still depend heavily on agriculture) aims at promoting regional employment, re-distributing and diversifying the regional economic base and enhancing competitiveness through the adoption of innovation and technology in all stages of production. Selective regional assistance to investment projects in the secondary and tertiary sectors has attempted to advance economic growth through supporting and sustaining the growth of regional non-farm sectors. Along these lines, the first coherent framework of regional investment-incentives to private enterprises was introduced by Development Law 1262/82, later amended and reoriented by Development Laws 1892/90 and 2234/90. These frameworks, funded by both the European Regional Development Fund (ERDF) and national funds, have provided SMEs with capital subsidies, interest rate subsidies on investment bank loans, tax waivers on profits and increased depreciation rates.

Employment growth however, is undoubtedly the paramount aim of formal regional policies in Europe and internationally. Thus, it is not surprising that, the overwhelming majority of research efforts have focused on the employment effects of regional assistance instruments (Foley, 1992; Hart *et al.*, 1993; Harris, 1991; Moore and Rhodes, 1973; Storey, 1990; Wren, 1987; 1989; 1994; 1996; 1998; Wren and Waterson, 1991). Within this framework, highly developed research has attempted to identify the job creation effects of regional assistance instruments. These effects are distinguished into "gross job-creation", defined as the number of work-places specifically created by a certain policy intervention without taking into account economy-wide effects of this policy on the regional economy, and "net job-creation" which takes into account displacement, i.e., the number of existing jobs displaced by aided jobs through increased competition in local product and labour markets (Holden and Swales, 1995).

These rather narrow definitions of gross and net job-creation do not incorporate additional regional jobs increases associated with "backward linkage" effects, where an increase in output of a certain sector increases demand for inputs used in the production process, inducing in turn a whole series of repercussions for regional output, income and employment, as the economy adjusts into the new equilibrium. In turn, these effects can be only captured by regional multiplier analysis, which can identify additional economic effects generated through the expansion of output in industries that have been set-up or/and modernized by the provided regional assistance to investment projects. In this framework, estimated economy-wide job creation might be the subject of an evaluation that could comprehensively identify policy cost-effectiveness.

A thorough review of all the international literature concerning the job creation effects of regional assistance policies is beyond the scope of the present paper; however, one, can easily confirm that, despite the wealth of the relevant published research, efforts investigating the multiplier, economy-wide effects of regional assistance policies are rather limited (Ashcroft and Swales, 1982; Gillespie *et al.*, 2001; King, 1990; Munday *et al.*, 1999; Swales 1997). Along these lines, this paper attempts to fill this gap, by measuring the economy-wide effects of regional assistance instruments to investment in the secondary and tertiary sectors in a peripheral rural area of Greece (Prefecture of Aitoloakarnania). More specifically, the present work utilizes the Social Accounting Matrix (SAM) analytical framework (Pyatt and Roe, 1977; Pyatt and Round, 1977; 1985), to estimate economy-wide effects of regional investment assistance. In this way, region-

and sector-specific estimates of economy-wide job creation effects of regional assistance policy are derived, while these global (i.e. direct, indirect and induced) effects are also distinguished in terms of both the "investment" stage (i.e. effects strictly related to investment action) and "capacity-adjustment" (i.e. related to economic activity generated through the utilization of the generated productive resources) process (Thomson and Psaltopoulos, 2000). The SAM technique is preferred for this particular impact analysis, as it can comprehensively trace both the growth-generating effects of each program/project on the local economy and the importance of the links between regional sectors and the macro-economy.

The next section of the paper briefly presents the applied methodology, while Section 3 deals with the structure of the constructed regional SAM and the applied regionalisation process. Section 4 presents the results of this impact analysis, namely investment effects and capacity-adjustment effects of regional policy investment-incentives and also attempts to compare the "on-site" gross cost per job to the gross cost of the total number of jobs that were estimated as created, by the SAM model. The paper ends with conclusions.

Methodology

The use of the SAM analytical framework for evaluating the economic impacts of development policies in a regional context has been a popular issue in rural and regional economic analysis. Reviewing research in this field is far beyond the scope of this paper; however, Marcouiller *et al.* (1995) used a SAM to analyse the differential impact of natural resource management programmes and policies for timber development on three groups of households by income level. Also, Leatherman and Marcouiller (1996) analysed a small rural region in Wisconsin, and concluded that local policy could influence distributional patterns, through targeting specific economic sectors for growth. Finally, Roberts (1998) constructed a rural-urban interregional SAM model in Scotland, in order to investigate financial flows and relations with the rest of the world.

In this study, a regional SAM was generated for the study area for the year 1988, through a two-stage process; first, the hybrid Generation of Regional I-O Tables (GRIT) technique (Jensen *et al.*, 1979) was used to construct a regional I-O table, via the use of mechanical adjustment procedures (employment location-quotients) and primary data obtained through a business survey plus other primary and/or secondary information. This method was chosen since the cost of using a full survey-based method to generate the regional table was prohibitive, while regional I-O tables constructed via non-survey techniques are 'not free from significant error' (Mattas *et al.*, 1984). Then, by using various data-sources for household, institutional and government data, a regional SAM was constructed for Aitoloakarnania. The impact analysis was distinguished into two stages, namely the conventional Leontief procedure which estimates the economic effects of investment, and 'capacity-adjustment' analysis.

More analytically, the estimation of investment effects was performed by partitioning the regional SAM into endogenous and exogenous (government, capital and the rest of the world) accounts. Then, private investment on secondary and tertiary SMEs induced by the implementation of Development Laws 1262/82 and 1892/90 in the study area during the period 1982-98 was identified and built into a systematic database. The next step involved the conversion of these flows into base-year prices and the estimation (via

the SAM linkages) of regional economy-wide effects, associated with this investment. These flows were treated as exogenous 'injections' into the local economy and, through multiplier analysis, their growth-generating impacts were assessed in terms of annual average output and employment effects.

The procedure to estimate capacity-adjustment effects of private investment incentives followed the 'mixed exogenous/endogenous variable version of the Leontief model' method devised by Miller and Blair (1986) for I-O analysis, and extended to a SAM context by Roberts (1992). In this framework, certain investment expenditures may have the effect of rising a constraint on the level of certain activities in a local economy, by increasing the capacity of a resource such as a transport facility or visitor centre. Such expenditures have economy-wide effects not only through the immediate effects (direct, indirect and induced) of the investment activity thus stimulated, but also by loosening a binding capacity constraint so that other activities which utilise that capacity can expand to meet demand which was not hitherto satisfied. Usually, such expenditure will be applied to the construction of additional roads, buildings or other works, but the supply of an additional island ferry or other crucial equipment, or staff training so that more tourists can be handled, could be other forms of capacity adjustment. Naturally, expenditures which do not have this effect - either because they do not raise capacity, or extra capacity is not used - can be ignored in the present context.

Following the collection of information on the expected direct (i.e. sectoral) change in output generated by implemented projects, calculations (following the above method) were carried out for the study-area-specific investment flows (all in base-year prices) associated with the two Development Laws during the aforementioned period. This information was normally available in each project's feasibility report and/or its environmental impact assessment, or was found in regional authorities or central government files. In some cases, information was available only on the expected or actual project-specific change in direct employment. In such cases, using the sector-specific Direct Employment Coefficient, this estimate was converted into an estimate for change in the level of direct output. If there was no information available on future changes of output in monetary terms or employment, information on the change of physical output was acquired. In this case, if the aim of the project was to increase the capacity of an existing industry (e.g. development of agri-tourism establishments), then the magnitude of increased capacity was linearly estimated (i.e. proportionately to the output levels specified in the base-SAM) and inserted into the model.

Regional Application

Regional SAM Structure

Since, no single SAM classification and disaggregation can fit all possible policies, projects and conditions, the structure adopted is particular to the study area, and was partly determined by factors such as data availability and modelling purposes. As known, a SAM consists of the production activities and factor (labour and capital) accounts, the current accounts of the domestic institutions (households, firms and government), the capital account and the 'rest of world' account. Regarding the structure of these accounts and their components and taking account of the extensive data requirements in the case of the construction of a regional SAM (R-SAM), the following points should be noted:

The economic agents whose incomes and expenditures are given in the R-SAM are strictly those who are residents in the case study region and are economically active there (i.e. a GDP view of the regional economy).

Due to data availability constraints the constructed R-SAM does not separate production industries from commodities. Instead, the inter-industry matrix is a symmetrical industry by industry one.

The number of industrial sectors to be included in an inter-industry matrix depends on factors such as the classification of available national I/O tables, the structure of the economy under investigation, and the type of projects implemented in the study area. In the case of Aitoloakarnania, the inter-industry matrix includes 18 sectors (see Appendix).

The R-SAM includes one category of labour (factor account) and one household type (in the institution accounts), since the investigated policies do not specify different target groups.

The government component of the institution accounts is sometimes distinguished into various sub-components (e.g. national government, regional government, EU). However, in the case of Aitoloakarnania, the separation of government seems an impossible task, taking account of the central role of the national Greek government in terms of administrative functions.

Finally, the Aitoloakarnania SAM includes only one external (rest of world) account.

Regionalisation Process

The base of this analysis was the 1988 I-O table for Greece (National Statistical Service of Greece, 1992), which contained 123 sectors. The choice of this base-year was justified in terms of the fact that the objective was to investigate the economic effects of private investment initiatives for period 1982-98; therefore, the use of a model constructed approximately in the middle of that period avoided the danger of depending on structural information which could be either out-of-date or (in the case of a more recent I-O table) would have embodied a considerable part of these impacts.

Next, and in order to achieve compatibility between the sectors of the national table and the available sectoral employment data, the national table was aggregated to 32 sectors. Then, the mechanical GRIT procedure was applied, and the table was further aggregated to 18 sectors (see Appendix), in order to represent the most important regional economic activities. Next, the mechanically-derived input purchasing and output sales patterns of economic sectors were modified by the insertion of relevant superior data, derived from a study-area-specific business survey on input-purchasing and sales-direction patterns of regional sectors for year 1988. This survey (170 questionnaires) corresponded to 5 sectors, namely Agriculture, Fishing, Food Processing, Construction, Hotels and Catering. The selection of these sectors for survey was based mainly on their importance to the local economy (in terms of output and employment), and secondarily their relevance to development policy implementation.

The next step involved the estimation of the non-I-O parts of the SAM, and included the utilization of the following data-sources:
- the 1988 Household Income and Expenditure Survey
- the area-specific business surveys
- National Statistical Service data on taxes and government transfers

- regional information on property incomes, and government transfers from and to the 'rest of the world'.

Impact Analysis

In order to carry out an impact analysis of private investment-incentives for secondary and tertiary SMEs (Development Laws 1262/82 and 1892/90) in Aitoloakarnania during the period 1982-98, the sectors and the relevant flows (in 1988 prices) were first specified. Every project represented an increase in final demand, and the estimation of the impacts on local (average annual) output and employment took place via the traditional Leontief procedures.

Table 1 presents the results of the impact analysis for Development Law 1262/82. Annual average real (i.e. in 1988 prices) investment expenditure amounted to 992.92 million Drs, or 0.69 per cent of the 1988 GDP of study area. At the sectoral level, the majority of investment was undertaken by Hotels and Catering (32.6 per cent of total), Other Manufacturing (15.6 per cent) and Food Processing (15 per cent). Average annual output increased by 0.50 per cent (compared to the 1988 level), while average annual employment increased by 1.39 per cent, i.e. 1073 new jobs were created at the 'construction' stage.

Table 1: Economic impacts of investment initiatives promoted by Law 1262/82, Aitoloakarnania (annual average changes)

Sectors	Investment Expenditure	Output Effects		Employment Effects	
	(ml Drs, 1988 prices)	(ml Drs, 1988 prices)	(% change)	(jobs created)	(% change)
1. Food Processing	183.27	282.01	0.10	196	0.25
2. Textiles	16.83	26.03	0.01	19	0.02
3. Timber Processing	1.16	1.81	0.00	1	0.00
4. Furniture	90.01	13.11	0.01	100	0.13
5. Other Manufacturing	190.74	294.90	0.10	211	0.27
6. Construction	48.75	76.60	0.03	47	0.05
7. Energy	1.83	2.90	0.00	2	0.00
8. Trade	4.75	7.34	0.00	5	0.00
9. Hotels and Catering	397.06	613.65	0.22	441	0.57
10. Transport	54.34	86.51	0.03	46	0.06
11. Post and Telecom					
12. Banking & Insurance					
13. Public Admin, Health, Education					
14. Recreation	4.18	6.46	0.00	5	0.00
15. Other Services					
Total	992.92	1411.32	0.50	1073	1.39

Source: Authors' calculations

Table 2 presents the relevant results for Development Law 1892/90. Annual average investment expenditure amounted to 1,183.14 million Drs, or 0.83 per cent of the 1988 study area GDP. The sectoral distribution was quite different from that of Reg. 1262/82, with Other Manufacturing attracting 35.3 per cent of total investment, followed by Food Processing (27.9 per cent), Hotels (12.6 per cent), Textiles (11.9 per cent) and Recrea-

tion (5.6 per cent). Similarly, average annual effects were higher, as output increased by 0.65 per cent (compared to 1988), and average annual employment by 1.71 per cent, i.e. 1315 new jobs were created at the 'construction' stage.

Table 2: Economic impacts of investment initiatives promoted by Law 1892/90, Aitoloakarnania (annual average changes)

Sectors	Investment Expenditure	Output Effects		Employment Effects	
	(ml Drs, 1988 prices)	(ml Drs, 1988 prices)	(% change)	(jobs created)	(% change)
1. Food Processing	329.93	509.90	0.18	367	0.48
2. Textiles	140.47	217.09	0.08	156	0.20
3. Timber Processing	31.30	48.37	0.02	35	0.05
4. Furniture	6.44	9.96	0.00	7	0.01
5. Other Manufacturing	417.66	645.50	0.23	464	0.60
6. Construction	15.43	23.85	0.01	17	0.02
7. Energy					
8. Trade	1.92	2.97	0.00	2	0.00
9. Hotels and Catering	149.62	231.23	0.08	166	0.22
10. Transport	23.27	35.97	0.01	26	0.03
11. Post and Telecom					
12. Banking & Insurance					
13. Public Admin, Health, Education					
14. Recreation	66.46	102.71	0.04	74	0.10
15. Other Services	0.64	1.03	0.00	1	0.00
TOTAL	1183.14	1828.58	0.65	1315	1.71

Source: Authors' calculations

Following the already specified methodology, capacity-adjustment effects (i.e. economic effects derived from the full-utilization of the productive capacity of new investment) were estimated for both development frameworks.

Table 3: Capacity-adjustment effects of investment initiatives promoted by Law 1262/82, Aitoloakarnania

Sectors	Output Effects		Employment Effects	
	(ml Drs, 1988 prices)	(% change)	(jobs created)	(% change)
1. Food Processing	13107.78	4.64	6307	8.20
2. Textiles	346.68	0.12	135	0.18
3. Timber Processing	21.86	0.01	8	0.01
4. Furniture	1948.87	0.69	716	0.93
5. Other Manufacturing	9360.14	3.31	3379	4.39
6. Construction	460.16	0.16	157	0.20
7. Energy	34.10	0.01	13	0.02
8. Trade	121.59	0.04	51	0.07
9. Hotels and Catering	5586.05	1.98	2238	2.91
10. Transport	445.66	0.16	165	0.21
14. Recreation	12.54	0.00	5	0.01
Total	31445.43	11.12	13174	17.12

Source: Authors' calculations

In terms of Law 1262/82 (Table 3), output effects were estimated at 31,445 million Drs (at 1988 prices), which represent an 11.12 per cent increase over the 1988 level. Compared to the sectoral targeting of investment, the distribution of output effects is quite different, with sectors characterized by high linkages (Food Processing, Other Manufacturing) being associated with significant impacts. In terms of employment, effects seem to be even more significant (a 17.12 per cent increase is estimated), mostly attributed to the same sectors.

Although Law 1892/90 involved a higher level of investment flows and economic effects at the investment stage compared to that of Law 1262/82, capacity-adjustment effects were estimated as significantly lower (Table 4). Output effects were estimated at 10,518 million Drs (at 1988 prices), which represent a 3.72 per cent increase of the 1988 levels, with Other Manufacturing (1.79 per cent) and Food Processing (1.33 per cent) being associated with significant impacts. In terms of employment, effects seem to be somewhat higher (a 5.58 per cent increase is estimated), most of which is almost equally attributed to the above two sectors.

Table 4: Capacity-adjustment effects of investment initiatives promoted by Law 1892/90, Aitoloakarnania

Sectors	Output Effects		Employment Effects	
	(ml Drs, 1988 prices)	(%)	(jobs created)	(%)
1. Food Processing	3764.15	1.33	1811	2.35
2. Textiles	715.75	0.25	278	0.36
3. Timber Processing	103.82	0.04	39	0.05
4. Furniture	11.52	0.00	4	0.01
5. Other Manufacturing	5050.77	1.79	1824	2.37
6. Construction	97.91	0.03	33	0.04
9. Hotels and Catering	422.02	0.15	169	0.22
10. Transport	21.64	0.01	8	0.02
14. Recreation	330.22	0.12	126	0.16
Total	10517.80	3.72	4292	5.58

Source: Authors' calculations

As already mentioned, a number of studies have attempted to measure the effectiveness of regional policy in terms of several cost-per-job measures. Along these lines, Munday *et al*. (1999) provide a full review of the methodologies and results obtained by various studies concerning the effectiveness of UK regional policy schemes. The most frequently used measures are the gross cost per job and net cost per job. In this work, the gross cost per job 'on site' is calculated and then compared with the cost per total number of jobs created in the regional economy (i.e. taking account of the backward linkages, that are estimated via the R-SAM) including those created in the construction phase (investment effects) and by the capacity-adjustment process. These figures are then compared to previous findings on the effectiveness of job creation policies in Greece.

Tables 5 and 6 show that the gross cost per job estimated simply on jobs created on site is much higher than the corresponding measure when all jobs created in the regional economy are taken into account, the latter being a more "comprehensive" figure, as it takes into account the inter-linkages of the economic activities in the area. Also, in the case of several sectors (such as food processing), cost effectiveness of on-site jobs cre-

ated by investment-incentives policy seems to be very high; however, when all "related" created jobs are taken into account, cost effectiveness seems relatively low. Naturally, the opposite finding is relevant in the case of investment targeting other economic sectors (such as timber processing, energy and transport). Undoubtedly, this finding can be particularly valuable to policy makers in terms of assisting their effort to promote employment generation via an efficient use of financial resources.

Table 5: Cost effectiveness of Law 1262/82, Aitoloakarnania

Sector	Total Investment (ml Drs, curr. prices)	Jobs Created:				Cost Effectiveness	
		On Site	Investm. Effects	Capacity-Adjustm.	Total	On Site	Total
	1	2	3	4	5=3+4	1/2	1/5
4. Food Processing	2932.3	491	3138	6307	9445	6.0	0.3
5. Textiles	269.2	31	297	135	432	8.7	0.6
6. Timber Processing	18.63	4	20	8	28	4.7	0.7
7. Furniture	1440.11	169	1600	716	2316	8.5	0.6
8. Other Manufacturing	3051.87	404	3382	3379	6761	7.6	0.5
9. Construction	780.03	47	753	157	910	16.6	0.9
10. Energy	29.24	3	25	13	38	9.7	0.8
11. Trade	76	18	84	51	135	4.2	0.6
12. Hotels and Catering	6352.92	728	7060	2238	9298	8.7	0.7
13. Transport	869.4	103	736	165	901	8.4	1.0
17. Recreational Serv.	66.85	3	74	5	79	22.3	0.8

Source: Authors' calculations

Table 6. Cost Effectiveness of Law 1892/90, Aitoloakarnania

Sector	Total Investment (ml Drs, curr. prices)	Jobs Created:				Cost Effectiveness	
		On Site	Investm. Effects	Capacity-Adjustm.	Total	On site	Total
	1	2	3	4	5=3+4	1/2	1/5
4. Food Processing	5278.82	141	5866	1811	7677	37.4	0.7
5. Textiles	2247.48	64	2498	278	2776	35.1	0.8
6. Timber Processing	500.79	19	557	39	596	26.4	0.8
7. Furniture	103.11	1	115	4	119	103.1	0.9
8. Other Manufacturing	6682.57	218	7426	1824	9250	30.7	0.7
9. Construction	246.94	10	274	33	307	24.7	0.8
12. Hotels and Catering	2393.88	55	2660	169	2829	43.5	0.8
13. Transport	372.34	5	414	8	422	74.5	0.9
17. Recreational Services	1063.32	79	1182	126	1308	13.5	0.8

Source: Authors' calculations

Finally, in the case of the study-area-specific estimates, it is worth mentioning that the gross cost per job created on site in Aitoloakarnania compares well with the figures found for the corresponding industrial classes in the whole of Greece (Georgiou, 1991; Daskalopoulou *et al*., 2000) or in other case studies (Skuras and Tzamarias, 2000). However, perhaps more important, when the results of the two development frameworks are compared, it seems that despite the expected improvement in the cost effec-

tiveness of jobs created on site (as total investment is provided in current prices), cost effectiveness of total jobs created improves only marginally. In this way, estimates demonstrate that the multiplier effects of regional assistance policies are very sensitive to the regional industrial structure and thus may vary significantly according to the range of sectors mostly benefited by such policies.

Conclusions

The estimation of the effectiveness of regional development policy financial incentives, as total investment cost per total gross jobs created in the regional economy provides a new perspective on measuring cost effectiveness, and it is worth pursuing further research in this area. The estimation of such measures should be refined with the introduction of firm and job survival considerations, as evidence shows (Dimara *et al*., 2000) that assisted firms have a longer survival time than non-assisted firms, and thus the gross cost per job may be even lower if extended to a longer time period.

The above analysis has shown that the impact of the two development frameworks (Laws 1262/82 and 1892/90) on the regional output and employment of Aitoloakarnania seems to be significant, when capacity-adjustment effects are taken into account. However, the impact differs between the two frameworks, as Law 1892/90 seems to have had a smaller impact on both output and employment. This may be attributed to three possible aspects of the targeting of investment promoted by this framework:

- to sectoral segments which created fewer jobs per unit than the average sectoral coefficient;
- to sectors which created fewer jobs per unit (compared to the targeting of 1262/82);
- to projects which modified the technology-mix and production function of sectors, i.e. modernization, capital-intensity, etc.

However, more research is needed to identify the factors influencing the observed discrepancies between the impacts of the two frameworks in the area.

Finally, cost effectiveness in terms of the gross cost per job, calculated by taking account the total number of jobs created in the regional economy in both the construction (investment effects) and operation (capacity-adjustment effects) phases of the assisted investments is significantly lower and structurally (in terms of sectoral analysis) different than the conventional measure of gross cost per job created on site. This estimation allows policy makers and regional planners to take into account the structure of the regional economy and to employ discretionary policy delivery mechanisms in order to maximize the number of created jobs. However, this issue needs more research before safe conclusions are drawn and policy guidelines are proposed.

Acknowledgments

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Appendix: Industrial Classification, Input-Output Table for Aitoloakarnania, 1988

Industry Group	NACE Code
1. Agriculture	01
2. Forestry	02
3. Fishing	05
4. Food Processing	15
5. Textiles	17
6. Timber Processing	20
7. Furniture	36
8. Other Manufacturing	14, 16, 18, 19, 22, 23, 24, 25, 26, 27, 28, 29, 31, 34, 38
9. Construction	45
10. Energy	40, 41
11. Trade	50, 51, 52
12. Hotels and Catering	55
13. Transport	60, 63
14. Post and Telecommunications	64
15. Banking and Insurance	65, 66
16. Public Admin., Health, Education	75, 80, 90
17. Recreational Services	92
18. Other Services	70, 71, 73, 74, 85, 91, 93