ASECU South-Eastern Europe Journal of Economics 1 (2006) 81-94 SEEJE

MARKET SHARE MOBILITY IN GREEK MANUFACTURING INDUSTRY

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Abstract
The objective of this paper is to present evidence on the extent and the determinants of firms' market share stability in Greek manufacturing industry for 1989-1992. Results find that market share stability is reinforced by large initial industry size, low growth rates and, to a lesser extent, by low exit and high entry rates within the group of incumbent firms. Two variables, concentration level and innovative intensity, tend to have differentiated effects on mobility according to the sample taxonomy used. Further work is suggested in testing the hypotheses for a longer period so as to allow for possible effects of product and/or business cycles.

JEL Classification: L11
Keywords: Market share mobility, concentration, innovation

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"Industries are complicated entities.
They are characterized by fluidity and stability".

Baldwin (1995, p. 118)

1. Introduction

The vast majority of past empirical studies on market structure have focused primarily on various concentration indices as measures of the intensity of competition. However, concentration characteristics are static concepts, summary representations of a current «state of affairs», while competition is, by definition, a dynamic process.

In an effort to account for the strength of the competitive process some researchers have modelled the change of concentration over time. A snapshot at two distinct points of time is an exercise in comparative statics and thus may mask intense and bitter struggles among market participants that took place in various forms between these two points of time. No changes or minor changes in overall industrial concentration may be accompanied by considerable underlying instability in firm market share.

In this respect a more promising approach seems to be the study of stability (or mobility) measures which take into consideration intra-industry movements. The objective of this paper is to present information on stability and change in market shares in Greek manufacturing, as well as to explore the factors that determine market share stability.

2. Measuring stability

Cable (1997) proved, as Equation (1) shows[1], that measured market share mobility (M_t) over a period of time is not independent of the Herfindahl index of concentration and its change, in other words, that M_t already embodies information on both the level of concentration and its change. Thus

$$M_t = \Delta H_t + 2(H_0 - n\rho s_t s_0 - 1/n) \quad (1)$$

where Mt is the sum of squared market share changes, $\Delta H_t = H_t - H_0$, where H_0 and H_t are the beginning-of-period and end-of-period Herfindahl indices respectively, ρ is the correlation coefficient between market shares at years 0 and t, s is standard deviation and n is the number of all firms in the industry at time 0 or t, or both.

1. The formula had originally appeared erroneously in the paper by Cable (1997).

The second point arising out of this formulation is that the humble correlation coefficient ρ, which has itself been used in the past as a mobility index, provides us with a clearly interpreted measure of the persistence of market shares through time, free of adhocery and of the double counting defect (i.e. the joint use of mobility measures and the concentration index for policy purposes, Cable, *ibid.*, p. 138).

3. Sample and Data

The purpose of this paper is to examine market share mobility in the Greek manufacturing sector between 1989 and 1992. Our sample data are unusual in that they correspond to the share of each firm's 4-digit separate products in the total sales of each individual product. The data originate from 4173 firms (1989) and are grouped according to 261 4-digit products (or alternatively, industries)[2]. A summary of descriptive statistics is presented in Table 1. Column (1) indicates that, on average, market share mobility is higher in smaller industries. Column (2) reveals a close (inverse) relation between market share mobility and the correlation of market shares. Finally, it is interesting to observe [columns (3) and (4)] the non-linear relationship between mobility and concentration.

Table 1. Market Share Mobility, Size and Concentration, 1989-1992

Industries ranked by market share mobility (in descending order)	(1) % of total sales (1989)	(2) Correlation of market shares (weighted by sales)	(3) Herfindahl index for 1989 (weighted by sales)	(4) Herfindahl index for 1992 (weighted by sales)
First quintile	.092	.468	.332	.344
Second quintile	.117	.708	.266	.293
Third quintile	.112	.840	.184	.200
Fourth quintile	.261	.884	.198	.200
Fifth quintile	.419	.943	.257	.254

2. Our sample excludes the following three categories of products (21 in total): (i) where there is only one firm producing the product in one year or in both years under examination, (ii) where the product is produced in one year only, and (iii) where the same two firms in both years manufacture the total quantity of the product. In this third case the correlation coefficient equals one by definition.

Table 2 shows the statistics of 4-digit industries which have now been aggregated to the 2-digit sector according to the weight of the industry sales. It can be seen (e.g. sectors 20 and 24, 22 and 38, 23 and 37) that a given value of the mobility index (eq.1 and row 6) is consistent with quite different values of concentration, change in concentration and the correlation coefficient ρ, thus confirming one of Cable's (*ibid.*) assertions.

Table 2. Market Share Mobility, Size and Concentration for 2-digit Sectors, 1989-1992

Sector	(1) Number of industries (*n*=261)	(2) % of total sales (1989)	(3) Correlation of market shares (weighted by sales)	(4) Herfindahl index for 1989 (weighted by sales)	(5) Herfindahl index for 1992 (weighted by sales)	(6) Market share mobility index
20	42	18.8	.884	.174	.182	.024
21	5	4.8	.983	.417	.402	.011
22	2	2.8	.749	.278	.262	.085
23	26	10.2	.748	.159	.164	.043
24	14	4.2	.670	.061	.055	.027
25	13	1.5	.669	.215	.259	.155
26	3	.8	.781	.068	.081	.016
27	4	2.9	.972	.211	.223	.010
28	5	1.5	.835	.086	.081	.017
29	4	.6	.904	.155	.165	.020
30	12	3.5	.744	.192	.255	.079
31	22	8.8	.897	.176	.200	.036
32	6	10.8	.989	.350	.356	.007
33	20	6.2	.866	.247	.223	.057
34	6	9.8	.797	.385	.393	.105
35	27	5.4	.768	.296	.251	.101
36	14	1.1	.347	.151	.098	.122
37	13	4.3	.873	.264	.285	.044
38	11	1.5	.884	.426	.505	.084
39	12	.6	.823	.318	.338	.065

4. Empirical Model

We now come to the core of this paper. Two variables which are usually incorporated in models of market share mobility are industry size and industry growth rate. Other things being equal, the larger the size of an industry, the larger the change in sales that corresponds to a given percentage. We thus expect that industry size will have a negative impact on mobility. In addition, growth in industry demand is expected to affect mobility for two main reasons. First, rapidly growing markets will tend to be most attractive to new entrants and rapidly declining markets will induce larger exit rates. Second, rapid growth (or contraction) is likely to increase rivalry because of uncertainty among existing firms' actions towards the enlarged (or reduced) market. Heggestad and Rhoades (1976, p. 447) observed that "in addition to facilitating new entry, rapid growth in a market will tend to create disequilibrating forces that would disturb the relationships of established firms by creating uncertainties with regard to rivals' intentions toward the expanding market". Furthermore, some firms may adjust their capacity to anticipated growth faster than others and this yields instability (Gort, 1963, pp. 54, 5). However, Caves and Porter (1978) argued that the positive relationship between instability and growth is likely to occur in industries where concentration is high enough for a consensus between firms to exist. On the other hand, where concentration is not too high, industry growth "can remove all practical recognition of mutual dependence" and this reduces "the incentive for firms to adopt share-distributing competitive tactics" (*ibid*. pp. 296, 305). In this latter case, a negative relationship between instability and growth is expected. Hence, according to these authors the sign of the growth variable should be regarded *a priori* as indeterminate.

Another valuable variable is innovation intensity. Innovation is an important element of the strategic behavior of firms (an element of *conduct*) in their continuing struggle to gain a competitive advantage over their rivals, in other words to gain the largest possible market share. Hence, *ceteris paribus*, the larger the intensity for innovation the lesser the constancy of market shares.

Also, a distinction between Schumpeter Mark I (SM-I) and Schumpeter Mark II (SM-II) industries may be employed. As van Dijk (2000, pp.173, 4) has argued:

> "In the literature on technological regimes, a distinction is usually made between two major patterns on innovative activities. The first one, called Schumpeter Mark I (SM-I), is characterized by a key role played by new firms in innovative activities, whereas in the second one, Schumpeter Mark II (SM-II), this key role is fulfilled by the large and established firms. The differences between the two regimes are mainly related to differences in the appropriability, cumulativeness and knowledge conditions. Given these differences, industries with different underlying technological regimes are likely to differ with respect to their dynamic and structural properties. For instance, in SM-I industries, we may expect a turbulent and large population of small firms, low

profit rates and low entry barriers. SM-II industries might be characterized by a more stable and small population of large firms, high profit rates and high entry barriers".

To all this, we may also add low concentration levels in SM-I industries and high ones in SM-II industries. Thus, mobility may depend on basic features of an industry's technology (see also Caves, 1998, pp.1976, 7). Finally, we add as a control variable the lagged market share correlation[3].

4.1 All Firms

Informed by Equation (1) and by the previous discussion on the possible effect of size, growth, innovation intensity and SM-I/SM-II industries on market share mobility, we test the following regression:

$$\rho = f\,(\text{HERF 89}, \Delta\text{H}, \text{GROWTH}, \text{LNSAL89}, \text{INNOVINT}, \text{LAGCOR}, \text{SM-I}, \text{SM-II}) \quad (2)$$

where ρ: correlation of market shares between 1989 and 1992; HERF89: Herfindahl index in 1989; ΔH: changes in the Herfindahl index between years 1989 and 1992 were calculated as suggested by Henley (1994, p.58); GROWTH: the absolute value of industries' rates of growth in sales between years 1989 and 1992 (see also Eckard, 1987, pp. 545, 6); LNSAL89: the natural logarithm of industry sales in 1989; INNOVINT: innovation intensity in 1992, measured as the ratio of sales of new (not existing in 1989) 6-digit products over industry sales; LAGCOR: correlation of market shares between 1988 and 1989, SM-I and SM-II: dummy variables; those industries that belong neither to the SM-I nor to the SM-II categories form the omitted group. The taxonomy used is the one employed by van Dijk (*op. cit*., pp. 192, 4).

Equation (2) is estimated for the full sample[4] of 252 4-digit products (industries)

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3. One might recall that in the firm growth literature it has been shown that the variance of firm growth decreases with firm size. As a result, we may expect industries that on average are composed of small firms to also show a higher level of market share mobility. To account for this eventuality we tested the prevalence of small sized firms in affecting market share mobility by using various small size cut-off points. However, due to the high multicollinearity between the size variable and the small sized firms' presence variable, we have run regressions omitting the latter. In virtually all specifications of the tables that follow, the coefficient of the former variable appeared significant with the expected negative sign. The results of the remaining variables did not change as compared to those presented in Tables 3 and 4. Regressions are available upon request from the authors.
4. Our initial sample, as mentioned previously, comprised 261 4-digit products (industries). However, regression results of equation (a) appearing in Table 3 are based on a smaller (252 industries) sample. This is due to the method by which the ΔH variable was constructed, as noted before. Moreover, the sample difference between equations (a) of Tables 3 and 4 (252 vs. 225) is due to the absence of the non incumbent firms.

and for two sets which depend on the concentration level and the age of industries, respectively. The former distinction (see also Caves and Porter, op. cit., p. 302) is based on the findings of Table I which suggest the exploration of the variation of instability with the level of concentration (Eq. b: meanHERF89=.541, eq. c: meanHERF89=.244, eq.d: meanHERF89=.092). The latter is used because we hypothesize that mobility may show up in a brand new industry while it may not show up to the same extent in a long established industry. We define as "young" those industries whose production index more than doubled between 1970 and 1988.
The results are given in Table 3:

Table 3. Determinants of market stability (all firms)

	All Industries (n=252) (a)	Industries with high concentration (n=79) (b)	Industries with medium concentration (n=86) (c)	Industries with low concentration (n=87) (d)	"Young" Industries (n = 64) (e)	"Old" Industries (n = 188) (f)
CONSTANT	-0.424*	0.048	-0.501	-0.647	-0.265	-0.461
	(1.867)	(0.128)	(1.464)	(1.559)	(0.659)	(1.502)
HERF89	0.374***	0.538**	-1.127*	1.403**	0.377***	0.369***
	(4.153)	(2.373)	(1.709)	(2.127)	(2.828)	(2.903)
ΔH	0.092*	0.123**	-0.075	0.037	-0.018	0.108*
	(1.653)	(2.382)	(0.683)	(0.311)	(0.172)	(1.921)
GROWTH	-0.065***	-0.111***	-0.028***	-0.111*	-0.086***	-0.050**
	(3.177)	(3.815)	(2.818)	(1.958)	(6.280)	(2.303)
LNSAL89	0.071***	0.038*	0.097***	0.085***	0.063***	0.072***
	(5.246)	(1.952)	(3.901)	(3.848)	(2.968)	(3.828)
INNOVINT	-0.032	0.176	-0.821**	0.007	-0.290*	0.108
	(0.184)	(1.036)	(2.203)	(0.030)	(1.674)	(0.561)
LAGCOR	0.102*	0.056	0.148	0.005	0.089	0.106*
	(1.946)	(1.075)	(1.272)	(0.056)	(0.911)	(1.657)
SM-I	-0.154**	-0.210*	-0.144	-0.120*	-0.170	-0.143**
	(2.796)	(1.988)	(1.234)	(1.901)	(1.207)	(2.299)
SM-II	0.005	-0.071	0.058	-0.022	0.045	-0.023
	(0.108)	(0.952)	(0.798)	(0.313)	(0.735)	(0.373)
Adj.R-squared	0.236	0.294	0.324	0.164	0.391	0.176

* Significant at the 10% level (two-tailed test).
** Significant at the 5% level (two-tailed test).
*** Significant at the 1% level (two-tailed test).
t ratios are in parentheses. Standard errors are White heteroskedasticity consistent.

The regression coefficients of the size variable are robustly significant and their sign comes up positive. This finding conforms to our *a priori* expectations that large absolute initial size should be associated with high interfirm stability within an industry (see also Heggestad and Rhoades, *op. cit*., p. 450). By contrast, neither in the pioneering study by Gort (op. cit., p. 57) nor in the more recent Geroski and Toker article (1996, pp. 153, 4) did size prove to be an important variable in explaining stability.

Turning now to the effects of growth, in all equations the coefficient is negative and statistically significant, thus denoting that the stability of market shares is disrupted by rapid industry growth rates (measured in absolute terms). In the words of Cable (1998, p. 28) "the mobility – growth relationship has produced rather more than usually mixed results". And on top of those studies covered in his survey, we may add firstly, the positive significant relationship between instability and growth observed by Eckard (*op. cit*., p. 548), Heggestad and Rhoades (1978, pp. 530, 1) and Kambhampati (2000, p.272), secondly, the mixed results of Rhoades and Rutz (1981) and Caves and Porter (*op. cit*., pp. 304, 5) and thirdly, the non significant relationship found by Das *et al*. (1993, p. 1412) and Marlow *et al*. (1984, p. 681). Finally, it is worth pointing out the similarity of our results to those of Davies and Geroski (1997, pp. 388, 9) which imply that both positive and negative rapid growth in industry's sales yield higher uncertainty and hence, greater instability.

The Schumpeter Mark I (SM-I) group, where, as theorized previously, a crucial role is played by new firms in innovative activities, seem to contribute negatively to stability in all categories; but in the medium concentration level category the coefficient of the variable fails to meet the significance levels ordinarily employed. It is only in this subsample though, that the innovation intensity variable appears to affect stability negatively in an explicit manner[5]. We will hold over the discussion of this finding till we come to the results of Table 4.

We come now to addressing a thought-provoking finding which results from the finer-grained analysis based on the three distinctive concentration level groups (eqs. b, c, d). Let us start with the strand of economic literature regarding the negative relationship between seller concentration and instability which is attributed to the successful collusive (tacit or otherwise) oligopolistic behavior in concentrated markets. Cable (1998, *op. cit*., p. 18) summarizes the picture by stating: "The sum of the evidence since [the early Hymer and Pashigian article] is... generally consistent". One of the few exceptions to this rule is the finding by Davies and Geroski (*op. cit*., p. 389) that more concentrated industries exhibit more market share turbulence.

Our results reveal a positive relationship between stability and concentration in the two extreme concentration level categories, whereas in the medium concentration

5. We have tested whether these results were due to multicollinearity between the SM-I/-II and innovation intensity variables. No such evidence was found.

level group the coefficient appears with a negative sign. This finding is reminiscent of the rationalization of the nonlinearity that should exist between stability and concentration, as suggested by Caves and Porter (op. cit.): "...as seller concentration rises from 'moderate' to 'high' the effectiveness of collusion and hence the stability of increase in shares should rise. However, it should also rise as concentration falls from 'moderate' to 'low' so that firms' behavior approaches that under pure competition and there are no mutual understandings to be violated" (*ibid.*, p. 292) and "... concentration high enough to achieve essentially complete joint-maximizing collusion should reduce instability from the level prevailing with incomplete collusion or collusive agreements subject to breakdown. On the other hand, shares cannot be destabilized by weak agreements, where no agreements exist, or where agreements are incomplete and do not cover all variables affecting shares" (ibid., p. 299)[6]. In our case, the fragility of weak and incomplete agreements, that characterize mainly the medium concentrated industries, contributes to market instability. However, we should not exaggerate the importance of this finding since the regression coefficient is only marginally significant at the 10% level ($p = .0915$).

The final point which deserves to be made with relation to the effect of the concentration variable is the remark by Rhoades and Rutz (op. cit., p. 449) that "...if differences in the market shares among leading firms become larger as concentration increases, then mobility and turnover may be lower in concentrated markets simply because the market shares of the leading firm are relatively disparate"[7]. One may thus hazard the guess that the sign of the regression coefficient of the concentration variable could be a statistical artifact. However, this cannot be maintained if one recalls that our dependent variable is free from the bias embedded in the stability (mobility) measures previously employed. Moreover, further evidence to this is provided by the negative sign of the concentration variable in the "medium concentrated level" group and the positive sign in the "low concentrated level" group.

Let us now turn to the last two equations (e) and (f) of Table 3 involving the separate estimation of mobility for the "young" and "old" industries/products. In general,

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6. At this juncture, we are wondering why the Caves and Porter (1978) article (*op.cit.*) does not deserve a single reference, after twenty years, in the Caves (1998) survey (*op.cit.*). In any case, we are also puzzled by reading in Caves (*ibid*., p. 1964) that firstly, "Evidence of relations running from concentration to mobility is…thin" and secondly, "Baldwin (1995, chap.5) did find a negative relation between concentration and mobility of the leading firms. However, it turns up as greater mobility for leaders only in the least concentrated quintile of industries, which hardly suggests that collaboration among oligopolists fostered by concentration is what deters mobility". Has the author renounced the notion that the impossibility of any oligopolistic bargain in industries at the lowest concentration levels is a stability-inducing attribute, as was previously claimed?

7. The same point has also been brought up by Scherer and Ross (1990, p. 90), and, in a roundabout manner, by Caves and Porter (op.cit., p. 294).

the findings corroborate those of the adjacent equations based on the concentration level distinction, pointing thus to the robustness of the results. However, it is worth noting that the absence of the concentration level split leads to the replication of the positive sign of the concentration variable, as observed in the "all industries" equation (a). Finally, regarding the sign of INNOVINT, we postpone, yet again, the discussion on this point till further below.

4.2 Incumbent Firms

In order to identify the possible effect of entry and exit on stability we constructed the correlation of market shares of incumbent firms (i.e. firms that were active in both years). This allowed for the inclusion of two additional variables, namely MSENTRY which is defined as the sum of market shares of firms that do not appear in the initial year (1989) and MSEXIT which is the sum of 1989 market shares of firms that do not exist in 1992. Both variables are expected to have, independently, a negative impact on stability, *ceteris paribus*, since they introduce disturbance in the status quo. Thus we estimate the following regression:

$$\rho_{inc}=f(HERF89, \Delta H, GROWTH, LNSAL89, INNOVINT, LAGINCCOR, SM\text{-}I, SM\text{-}II, MSENTRY, MSEXIT) \quad (3)$$

where ρ_{inc} is incumbent correlation. We tested equation (3) along the lines of equation (2), and came up with the results presented in Table 4.

In this instance the following remarks seem appropriate[8]. First, the exclusion of non-incumbent firms has led to a serious deterioration of the fit in the high concentration level category while on the contrary the fit of the medium concentration level group is surprisingly high as is the number of significant independent variables. Second, the concentration variable is significant only in the overall sample. However, the more dependable equations (b), (c) and (d) of Table 4 indicate that there is no relationship between mobility and concentration as Caves (*op. cit.*, p.1976) had also observed. Third, growth and industry size follow similar patterns as in the previous specifications. Fourth, MSEXIT (wherever significant) has a negative impact on stability, as expected, whereas the positive sign of MSENTRY is somewhat of a paradox. A plausible interpretation might be that in medium concentrated industries entry is restricted to some niche of the market and has no impact on the market shares of the leading firms[9]. However, this hypothesis needs further investigation. Fifth, in all four

8. For reasons of space we refrain from showing the results of the "young" and "old" industries split since no additional useful information can be extracted. They can always be made available by the authors upon request.

9. In the low concentration level though, the variable comes up with a negative sign suggesting, as expected, a positive effect on mobility, but the value of the regression coefficient fails marginally the significance test (p = .118).

equations of Table 4 only in the low concentration level category does a technological regime class pass the significance test.

Table 4. Determinants of market stability (incumbent firms)

	All Industries (n=225) (a)	Industries with high concentration (n=58) (b)	Industries with medium concentration (n=80) (c)	Industries with low concentration (n=87) (d)
CONSTANT	0.276	0.384	0.373*	0.031
	(1.599)	(0.617)	(1.872)	(0.111)
HERF89	0.324***	0.349	0.112	0.493
	(3.171)	(0.743)	(0.441)	(0.957)
ΔH	0.133***	0.145***	0.144**	0.114
	(7.961)	(3.236)	(2.273)	(1.341)
GROWTH	-0.045**	0.001	-0.070***	0.055
	(2.435)	(0.014)	(15.450)	(0.947)
LNSAL89	0.033***	0.022	0.032***	0.044***
	(3.155)	(0.780)	(2.844)	(3.047)
MSENTRY	0.220**	0.192	0.420***	-0.389
	(2.094)	(0.698)	(3.060)	(1.582)
MSEXIT	-0.188**	0.040	-0.396***	-0.002
	(2.204)	(0.220)	(2.892)	(0.007)
INNOVINT	-0.052	0.193*	-0.616**	-0.862***
	(0.375)	(1.871)	(2.147)	(3.371)
LAGINCCOR	0.058*	0.017	0.074*	0.105
	(1.810)	(0.367)	(1.846)	(1.520)
SM-I	-0.056	-0.100	0.030	-0.004
	(1.318)	(0.782)	(0.671)	(0.077)
SM-II	0.010	-0.024	0.032	0.069*
	(0.409)	(0.343)	(0.983)	(1.754)
Adj. R-squared	0.203	0.064	0.589	0.254

* Significant at the 10% level (two-tailed test).
** Significant at the 5% level (two-tailed test).
*** Significant at the 1% level (two-tailed test).
t ratios are in parentheses. Standard errors are White heteroskedasticity consistent.

More specifically, there is evidence that stability within the group of incumbent firms is higher in SM-II industries than in SM-I industries. This stability-enhancing effect was hypothesized by van Dijk (*op.cit*., p.180) though without the "concentration level" classification. Lastly, the results related to the innovation intensity variable require some clarification and invite careful commentary.

Let us recall firstly, that we had initially assumed that the larger the intensity for innovation the lesser the constancy of market shares, and secondly, that from Table 3 INNOVINT came up significant with a negative sign in the "medium concentration level "group and in the "young" industries category. In the incumbent firms analysis the variable appears with a positive sign in the "high concentration level" group and with a negative one in the two remaining groups. We offer the following explanation. Firms in highly concentrated industries try to keep their leading place and their oligopolistic profits, and if the innovative activity helps them to meet their targets they engage in it actively. But in industries with medium and low concentration, innovation seemingly acts in the opposite direction: firms which can implement a new idea into a new product –by superiority or by luck- are facing the opportunity to override their rivals and to acquire monopoly profits, even in the short-run.

5. Conclusion

The analysis of market share stability is attracting increasing attention in economic literature. In this paper we have presented evidence on the extent and the determinants of firms' market share stability using Greek manufacturing data for 1989-1992. A number of potential explanatory variables in various groupings have been deployed. We have found that, in various specifications, market share stability is reinforced, almost unequivocally, by large initial industry size, low growth rates and, to a lesser extent, by low exit and high entry rates within the group of incumbent firms. The behavior of the concentration variable (an element of structure) and that of the innovation intensity variable (an element of conduct) seem to follow an erratic, yet in overall terms justifiable, pattern. Both variables tend to have differentiated effects on mobility according to the sample taxonomy used.

In general, all these findings conformed to our *a priori* expectations and seem to be consistent with prior economic theory. A possible limitation of the results is the short time interval covered. Thus a suggestion for future research would be to examine the above hypotheses for a longer period so as to allow for possible effects of product and/or business cycles.

Appendix

20	Food
21	Beverages
22	Tobacco
23	Textiles
24	Footwear, other wearing apparel and made up textile goods
25	Wood and cork
26	Furniture and fixtures
27	Paper and paper products
28	Printing and publishing
29	Leather, fur, and leather and fur products
30	Rubber and plastic products
31	Chemicals
32	Products of petroleum and coal
33	Non-metallic mineral products
34	Basic metal industries
35	Metal products, except machinery and transport equipment
36	Machinery and appliances, except electrical and transport equipment
37	Electrical machinery, apparatus, appliances and supplies
38	Transport equipment
39	Miscellaneous manufacturing

Acknowledgments

We wish to thank Professor G. Krimpas for his helpful comments on an earlier version of this paper.

The work for this paper was supported by the "Special Account for Research Grants" of the University of Athens.

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