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RESEARCH IN ECONOMICS AND RURAL SOCIOLOGY

The spatial Demography of New Establishments: more creations in urban areas, but a higher survival rate in rural areas

Although the total number of firms does not increase much, the French productive system is facing a constant renewal: every year, more than one firm out of ten exits and one in ten enters in activity, without any systematic correspondence of location and activity between entries and exits. While urban areas are characterized by an intense turnover of their productive units, the low turnover rate observed in rural areas comes along with a higher survival rate of newly created firms. In terms of the turnover intensity, peri-urban areas are in an intermediate situation but, by the same time, benefit from a specific positive effect in terms of demographic balance.

Demography of firms: some major findings

The renewal of the productive system: a wide-ranging phenomenon

The economic importance of firms' demography seems indisputable. The INSEE (the French Institute for Statistics and Economical studies) reports 320,000 firms taken over or created in 2004, that is to say a big rise compared with the average annual level recorded between 1997 and 2002, which were 270,000. Moreover, in this flow the share of pure creations (distinct from take-overs and reactivations (frame 1) is also increasing: in 2004, it represented 70% of the whole flow against 55% in 1997. Business failures (which are expressed in liquidations) amount to 40,900 in 2004 against 52,300 in 1997; they represent around one seventh of firms closing down.

All in all, all the assessments make more or less the same diagnosis: the low variations in the total number of firms, most often lower than 1% hide the extent of the entry-exit flows, which are at their origin. Every year, more than one firm in ten enters and more than one in ten exits. The intensity of this movement deeply marks the productive system, while it modifies industry, spatial and size distribution of firms.

To study the spatial variations of demography, the right level is *establishment*, as local set-ups of *firm*. In order to keep certain homogeneity within the population which is observed, our study is limited to the single field of manufacturing, in the wide sense (frame 2). For these establishments, we will find the general results observed for all the firms.¹

On average between 1993 and 2000, every year, out of a hundred active "manufacturing" establishments 87 remain in activity during the year, 14 are created and 13 exit out of activity, that is to say a 0.7% net rate of change in stock (table 1). The relative stability of the phenomenon can be analysed over time, year after year. Over a period marked by a relatively instable economic situation, entry rates vary very little (from 13 to 14.8%) while exit rates fluctuate from 11.9 to 14.9%. So yearly, each of the two phenomena concerns more than one establishment in ten. However, business closures seem to be more connected to the overall economic situation than the creation of new firms or establishments.

Entries and exits: multiple forms and causes

On average and over 1993-2000, the phenomenon takes several forms. If we break down the global results according to the forms of entry, we observe that the 13.7% entry rate is made up of half "pure" creations (6.8%), of 0.7% reactivations, 2% take-overs, and last, 4.2% transfers - meaning entry transfers- (table 3). Each type of event is linked in a different way to the economic situation. Only pure creations (which represent half of the entries) seem to be influenced by it, with in particular, very significant drops in 1996 - a year marked at the same time by a depressed economic situation, especially in manufacturing, and, by the same time, some changes in the policy addressed to business creation. On the other hand and over the same period, take-overs and transfers are stable enough and their level seems to be disconnected from the overall economic situation. Thus, when studying firm demography, one may not only consider the single canonical form of the pure ex nihilo creation, as the other kind of events (take-over, transfer), which may have different economic characteristics, represent half of the flow.

One of the most direct aspects of the connection between entry and exit rates is expressed by the notion of *survival*

¹ This analysis uses a longitudinal database on establishments built from the SIRENE data survey over 1993-2002.

rate. Our results show that newly created firms have quite a short life, and a certain number of them will close down over the following years. Among the manufacturing establishments created in France in 1993, 2.5% closed down the same year they started, 10.5% the following one, 13% the year after and 14.5 another year after. After 3 full years, there are no more than 59.5% of surviving firms in this cohort, 44.5% after 5 full years, and there will remain no more than 31% after 8 years (graph 1).

The hypothesis of spatial differentiation between urban, peri-urban and rural areas

Why should the intensity and forms of demography vary according to the location of firms? First, such variability is empirically observed between French areas. Then, using the zoning that interests us, which introduces a distinction between urban, peri-urban and rural areas (frame3), some previous works prove that spatial heterogeneity exists in terms of jobs flows, distribution of activities or establishments transfers (see “INRA Sciences Sociales”, décembre 2003). Therefore, we are led to pose and test the hypothesis of spatial differentiation of firm demography between urban, peri-urban and rural spaces.

A high rate of renewal in the urban hubs, a certain inertia in the rural areas, an increasing number of units in the peri-urban areas

An examination of entries and exits according to the kind of areas shows a great contrast between urban hubs and rural areas (table 2). Flows are very large in urban hubs (around 15% for entries and exits on an annual average) and significantly smaller in rural areas (around 9%), that is to say a gap of around 70% in favour of urban hubs. Thus, the opposition is strong between urban hubs, where the productive system is rapidly renewed, and rural areas where it is steadier. The peri-urban areas hold an intermediate place, with entry and exit rates both close to 11%.

However, although urban hubs also show a greater dynamism in terms of entries and exits, the result of both movements is finally to the advantage of the peri-urban areas by comparison with the other two kinds of areas. We observe a higher growth rate of the total number of industrial establishments than elsewhere: over 1993-2000, on average +1.1% per year against + 0.7% in urban hubs and 0.4% in rural spaces. Such a gap between entries and exits will conduct progressively to an increase of the periurban share among the population of French manufacturing units.

One may consider, in a first analysis, entry and exit as two opposite but symmetrical processes directly linked to the overall economic situation: many entries and few exits in an upward economic trend, conversely in a downward economic trend. Such an opposition has not been confirmed by observations, and should be replaced by a distinction between (temporal or spatial) renewal and inertia. At certain times and in certain regions, both entries and exits reach some high levels, while in other places or times, both types of flows are at low levels. As an illustration, urban areas “moves” fast (between 14.5% for entries and 17% for exits, according to the years, while rural areas are more “steady” (between 8 and 10% for entry and exit rates). The variations are proportional to the mean level, but at no time does the

economic situation challenge the observed hierarchy between categories of areas. Time variations only add temporary effects to the specific situation of each type of areas, but the spatial specificity is maintained over periods.

Detailed in accordance with the category (pure creation, take-over or transfer), entries reveal various profiles according to areas (table 3). Pure creations and transfers are more common in the urban hubs than in the rural areas, the peri-urban zones being in an intermediate position. However, the rural spaces have a slightly greater proportion of take-overs. Then, the overall additional differences in favour of the urban areas essentially come from the higher rates of pure creation and transfers.

A higher survival rate in the rural areas

On average, newly created establishments have quite a short life and therefore a certain number of them will close down in the years following the creation. Previously, we mentioned that among the manufacturing establishments created in France in 1993, after 8 years only 31% remain in activity. If we compare the firms’ average survival rates in the three space-groups, we observe a differentiation in favour of rural and, to a lesser degree, of peri-urban areas (graph 1). 45% of the firms created in rural areas are still active 8 years after their creation, while they are 38% in periurban and only 27.5% in urban areas. The rural areas, where establishment creations are less frequent, partly compensate for that weakness by higher resistance of new establishments. To a lesser degree, the same result is observed in the peri-urban areas.

The distribution according to the form of entry may explain part of this phenomenon. Rural space is less frequently concerned by pure creations and transfers than other spaces and slightly more by take-overs (table 3): in 1993, 27.5% of establishments created in the rural areas were concerned by take-overs against 18% in the peri-urban and 13% in the urban areas. Yet, take-overs have by mean a higher survival rate than other forms of entry, which, from this viewpoint, gives an advantage to rural areas. However in terms of survival, the advantage of the rural (and peri-urban) zones, remains present whatever the entry process: pure creations, transfers and take-overs. This greater ability to survive may be noted as a specific characteristic of rural new establishments.

A major geographical effect on flows

Once the existence of spatial differentiation in demography of firms has been highlighted, there comes the question of the impact of structural factors (spatial distribution of industries) relatively to the geographical factors of another nature. Does the higher intensity of units flows noted in the urban areas come from an overrepresentation of industries known for their high rate of renewal? Conversely, is the relative rural “inertia” linked to a specifically geographical effect or to an industry distribution centred on steadier activities?

Such a question is justified by the spatial heterogeneity of the industry distribution, even when limited to manufacturing in a large sense. Intermediate goods, Food industries and construction are overrepresented in rural areas. Conversely,

some of the service activities linked to manufacturing (wholesale trading, business services) are more typically based in urban hubs. Yet demography of firms varies accordingly to the observed industries. Traditional manufacturing sectors such as intermediate goods simultaneously experience less flows and a negative entry-exit balance while, on the other side, service activities present high flows and a very positive balance. Other activities combine numerous flows and null or negative balance (transportation, consumer goods industries).

A structural-geographical analysis (frame 4) applied to the average entry rate (table 4) confirms the existence of significant spatial differentiation: average deviations drop from + 13% in the urban space to - 34% in the rural space. These deviations may be simultaneously explained by structural and geographical significant effects having the same sign (positive in the urban case, negative in the peri-urban and rural ones). Therefore, the greater entry rate in the urban areas may be explained on the one hand by a favourable industry distribution (with a stronger proportion of sectors where a lot of new establishments are created), and on the other hand by a geographical specific effect. Conversely, in rural areas, both industry distribution and geographical factors are less favourable to new establishment creations. In all cases, the distribution of activities explains a part of the observed gap but in smaller proportion (about 5 times less) than the geographical factors.

Very similar results are obtained on average exit rates. The weight of geographical effect is even higher, about 10 times higher than structural one. This suggests the proximity of factors likely to have an influence on both entry and exit rates. Thus, when analysing flows, one should not oppose entries to exits, but fast-moving to inert situations.

A major structural effect on balances

An analysis of the balance between entries and exits brings out different findings. The sectoral effect works totally in favour of urban hubs (which, therefore, seem to attract activities where more establishments are created than closed) while unfavourable to peri-urban and rural areas. But the geographical peri-urban effect remains significant and is quite clearly positive. In spite of an unfavourable industry distribution, the peri-urban areas experience a higher entry-exit balance than the national mean, thanks to its specific geographical effect. On the other hand, the trends observed in the urban and rural cases are only guided by structural effects: positive in the first case, negative in the second.

Two findings come out of this structural-geographical analysis. Flows are predominantly determined by the establishments' location, from the very mobile urban situation to the much steadier rural one. Balances are predominantly determined by industry distribution, with the notable exception of a very positive peri-urban geographical effect.

Jean-Pierre Huiban, Francis Aubert, Anne-Marie Dussol, INRA UMR CESAER, Dijon
huiban@enesad.inra.fr – aubert@enesad.inra.fr – dussol@enesad.inra.fr

For further information

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Frame 1: The various events in demography of firms

Entries of establishments:

- **Pure creations** (ex nihilo): creation of an active economic establishment which did not exist beforehand and consequently the operation of new production means.
- **Reactivation**: an establishment, which had ceased all activity, becomes economically active again.
- **Take-over**: An establishment partially or fully takes over the activity of another establishment. In this case, the establishment partially or completely changes management.
- **Entering transfer**: the transfer corresponds to the relocation of production means from an establishment of a firm. The unit of the location of arrival corresponds to an entering transfer.

Exits of establishments:

Exits of establishments also involve different purposes but which are not detailed in the sources that we have.

Frame 2: The sectoral field of industry, in the broad sense of the word

The classical industrial sectors (except energy), but also the sectors which have a production rationale close to that of industry and the sectors with activities strongly linked to industries are grouped together under the notion of “Industry, in the broad sense of word”: building, services to establishments, part of trading (intermediate and wholesale trading) and part of transport (road transport of goods and organization of freight transport).

Table 1: Entry-exit rates, for the whole “industrial” establishments, per year.

Year Establishments	1993	1994	1995	1996	1997	1998	1999	2000	Average 1993-2000
Perennial (%)	87.3	88.0	88.5	85.2	87.3	88.0	87.7	88.4	87.5
Entries (%)	14.5	14.8	13.7	13.0	13.8	13.6	13.0	13.0	13.7
Exits (%)	13.3	12.5	11.9	14.9	13.3	12.5	13.0	12.3	13.0
Balance (%)	1.2	2.3	1.8	- 2.0	0.5	1.1	0.0	0.7	0.7

Source INSE: Firms and establishments' directory (industrial field, in the broad sense of the word). Establishments with employees.

NB: The total amount of the percentages of perennial and exiting establishments is slightly higher than 100 %, since the same establishment may be counted several times in the same year.

Table 2: Entry and exit rates according to type of space (for 100 establishments present on average, at the beginning of the year, over 1993-2000)

	Urban hubs	Periurban hubs	Rural areas	France
% entering firms	15.4	11.5	9.1	13.7
% exiting firms	14.7	10.4	8.7	13.0
Balance (%)	0.7	1.1	0.4	0.7

Source INSE: Firms and establishments' directory (industrial field in the broad sense of the word). Establishments with employees.

Firms' demography: more frequent creations in urban areas, long-term creations in rural areas

Jean-Pierre Huiban, Francis Aubert, Anne-Marie Dussol, INRA UMR CESAER, Dijon

huiban@enesad.inra.fr – aubert@enesad.inra.fr – dussol@enesad.inra.fr

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Table 3 -Exit rate, according to purpose and type of space for 100 establishments present on average at the beginning of the year, over 1993-2000)

	Urban hubs	Periurban hubs	Rural areas	France
Entering establishments (%)	15.4	11.5	9.1	13.7
Pure creations (%)	7.7	5.7	4.2	6.8
Take-overs (%)	1.9	2.0	2.4	2.0
Transfers (%)	5.0	3.1	1.9	4.2

Source INSEE: Establishments and establishments' directory (industrial field in the broad sense of the word). Establishments with employees.

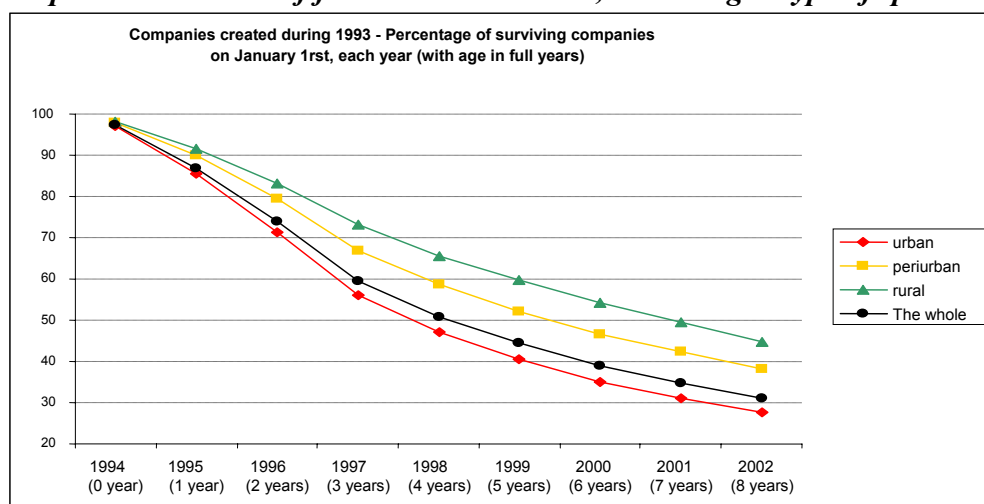
Frame 3: Nomenclature of French municipalities

The urban, periurban and rural spatial groups are determined by Zoning in Urban Areas and employment-based areas in Rural Spaces:

- The urban hubs: urban units offering 5000 jobs or more, which do not belong to the periurban belt of another urban hub;
- The periurban belts (of an urban hub): all the communes (or urban units) where 40% or more active residents work outside the commune (or the urban unit) but in the urban area (urban hubs and belts of the of the urban hubs)
- The multi-polarised communes: they are communes or urban units where 40% or more active residents work in several urban areas, without any one of them reaching this threshold.
- The space with a dominant rural characteristic groups together the whole of the other communes.

In this survey, the urban area includes all the urban hubs, the periurban hub includes the periurban belts and multi-polarised communes, and the rural area corresponds to the whole of the dominant rural space.

Graph: Survival rate of firms created in 1993, according to type of space



Source INSEE: Firms and establishments' directory (industrial field in the broad sense of the word). Establishments with employees.

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Jean-Pierre Huiban, Francis Aubert, Anne-Marie Dussol, INRA UMR CESAER, Dijon

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Table 4 -Average entry and exit rates, per type of space, over 1993-2000

	Average deviation (a)	Geographical effect	Structural effects
<i>Average entry rate</i>			
Urban	0.0177 (13.1 %)	0.0144 (**)	0.0033 (**)
Periurban	-0.0215 (-15.9 %)	-0.0169 (**)	-0.0046 (**)
Rural	-0.0457 (-33.8 %)	-0.0377 (**)	-0.0080 (**)
<i>Average exit rate</i>			
Urban	0.0168 (13.5 %)	0.0151 (**)	0.0016 (**)
Periurban	-0.0235 (-18.9 %)	-0.0216 (**)	-0.0019 (**)
Rural	-0.0402 (-32.4 %)	-0.0360 (**)	-0.0042 (**)
<i>Average net entry rate</i>			
Urban	0.0009 (7.4 %)	-0.0008 (NS)	0.0017 (**)
Periurban	0.0020 (17.7 %)	0.0047 (*)	-0.0027 (**)
Rural	-0.0055 (-48.7 %)	-0.0017 (NS)	-0.0038 (**)

(a): ratio between average deviation and this average value

** : significant at 1 % threshold

* : significant at 5 % threshold

NS: non significant

Frame 4: The structural-geographical analysis

The structural-geographical analysis allows measurement of what, in each area's average deviations, may be explained by the sectoral composition of establishments located in that area, and what is connected to specifically geographical factors. To this end, an accounting model itemises the considered value (for instance, the average entry rate) into three elements: (i) an overall average value; (ii) a structural effect associated with inter-sectoral differentiations, (iii) a geographical effect associated with the area effect within the sector. A weighted variance model with two factors without interaction tests whether the effects are significant or not.