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THE REGISTER OF BUSINESSES -

A FIRST STEP IN THE DEVELOPMENT OF AN INDUSTRY FILE SYSTEM [1]

by

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1. Introduction

In developing as well as in advanced economies, there exists at the present time an abundance of data relating to certain physical and economic characteristics of individual establishments, information on such things as: the ownership of land and buildings in which businesses are located; electric power consumption and capacity; imports and exports of goods; reports and balance sheets presented by businesses to the tax authorities; the taxes levied on businesses and commodities; municipal taxes; water and gas consumption; loans received by businesses from banks; employment and wages figures; the demographic characteristics of employees; licensing data, etc. This is, by no means, meant to be an exhaustive listing.

The prospect of creating a system to link much of the basic data relating to a given individual establishment - pieces of information which are currently scattered widely among a number of institutions - opens enormous opportunities for improving the efficiency of the various planning institutions.

One key element of any such data bank proposal as is discussed here results from the option - itself a function of current data processing technologies - that the basic data once collected are not to be integrated by branch, location, size, etc. as is usually the case in standard statistical procedures, but rather are to be stored in a disaggregated form linked to the individual business units, with the aim of enabling a maximum flexibility in the compilation and in the use of the data.

The idea discussed in this paper should best be apprehended against the general trend being now observed in many countries, whereby increased use is being made of abundant data, scattered among various institutions, by channelling them into a central data bank.

Thus, in England for example, the establishment of a Central Register of Businesses is seen as the first step towards the establishment of a data bank, providing "an instrument for eliminating the duplication ... in the collection of information ... which can occur when inquiries are based on different registers and are directed towards different objectives ... and to prevent the omission of information".(1)2/

2/ See Bibliography at the end of this report for the literature.

In Sweden, for example, there is at present in the planning stage "a model of information system for regional planning on existing and planned registers of data in Sweden together with a number of other registers that would be desirable to complete the system".( )

In Norway(3) efforts are currently going on to develop "dynamic micro-models" by direct utilization of an individual time-series data without the traditional detour through the general-purpose statistical aggregation which implies reduction of information. The announced goal of the Central Bureau of Statistics in Norway is to develop these models so that: "the ultimate aim should be that sometime in the future we should be able to run the socio-demographic model concurrently with our macro economic models in such a way that the interaction between the socio-demographic and the economic spheres can be taken consistently into account in analysis and planning".

The development of data banks has received a substantial pull recently as a result of the fast-growing demand for more and better data for corporate planning, location studies, market research and an expanding number of other planning-oriented purposes which cannot be adequately served by existing statistical practices, such as the provision of published data, no matter how well-developed the statistical system itself may be. At the same time, the rapid development of modern data processing techniques has, with its broad possibilities for record linkage and processing in aggregates which can vary according to specified needs, provided a strong push for the data bank "movement".

The procedures for establishing data banks are at present in varying stages of development in different countries, the degree of development in this sphere not always being directly correlated to the level of economic development of the country concerned. To the contrary, it has been observed that it may well be easier to establish a comprehensive data bank in a developing country where the existing data systems are technically less complicated and institutionally less well entrenched.

There may, as a result, be a good argument for extending these advanced data-processing techniques to the developing countries to allow for the fullest possible utilization of the existing data for a variety of purposes, including industrial planning at all levels. There is at

least justification for initiating an inquiry to examine the prospects for such a move.

2. The first stage of establishing an Industry File System - a Register of Businesses

The data bank can be regarded either as a 'sensu stricto' bank which absorbs the constant flow of a huge quantity of data, or, as an organizational system, a machinery which makes it possible to absorb data from institutions connected with the data bank, and to integrate it as the need arises with data received from other institutions. The latter interpretation appears to be preferable. In Sweden, for example, the following definition was given:

> "The information system and the philosophy directing its design do not correspond to the 'Data Bank Idea' of an immense lot of different data stored together. The system is built on the concept of separate Registers containing different information in various fields, but organised within certain established principles to ensure internal exchange of information."(2)

A similar idea appears also in the Report of the International Symposium on Industrial Development(4) which was held in Athens in November/December 1967:

> " ... a Data Bank Service, in order to create a permanent effective machinery for systematic centralization and exchange of information to be available at the national, regional and international levels." (p.99)

The establishment of a Central Register of Businesses must be regarded as the first and vital step towards the operation of a data bank. The register plays the core role by permitting to attribute the data, which will flow into the bank from various sources, to the right activity units to which it relates.

The Register of Businesses itself constitutes a sort of minor "data bank" and it is possible to store in it a certain "minimal quantity" that can be fixed or standardized according to the expected patterns of utilization of the Register.

However, it should be noted that, even when the future prospects of the data bank have not become clear in detailed terms,

the Register of Businesses can be regarded as the first and indispensable step towards the designing of any practical data bank serving for industrial development planning and administration.

3. Uses of the Register

The primary function of the Register is to establish a complete list of all businesses, to individualize them by numerical code (identification numbers), to supply the identification numbers to all the sources of information participating in the data bank, and thus to secure the technical basis on which to organize the data on various businesses coming from different sources.

The identification number will make it possible to effect the linkage of all the records relating to each given single business. In this manner, the Register constitutes the first tool in the establishment of the data bank.

The importance of the Register from the point of view of public administration (national, municipal, etc.) lies in the fact that the Register permits to receive a complete and up-dated list of all the businesses which fall under its jurisdiction. It also prevents overlapping, i.e. a situation in which two different authorities attempt to deal with the same aspect of the same business.

For the public, the Register (provided it is open to public use) provides the first-class source of information required for programming of market research, preparation of mailing lists, etc.

The Register also provides a framework for sample surveys.

From the data included in the Register alone, it is possible to describe the distribution of businesses according to branches of industry, localities, and other criteria for classification and cross-classification. In the case of a business corporation having a number of branches, the Register makes it possible to integrate or disintegrate the data on its different branch establishments according to specified uses.

4. The establishment of a Register

As was rightly emphasized in the Report of the First Session of the Working Party on Industrial Programming Data(5), the bank should:

" ... as a first priority, be established and operated on the
national level, by and for the national authorities." (p.38)

To arouse interest on the part of national or local authorities or
institutions, an early information campaign would be necessary, including
the demonstration of benefits accruing to them from the establishment of
the Register.

It is hoped that both public and private businesses, too, will be
receptive to the idea of establishing the Register for a data bank, on the
ground that it will certainly lighten their burden of statistical and
administrative reporting, which often occurs with cumbersome duplications
due to the lack of co-ordination among different authorities.

The national or local statistical bureaux will be readily aware of the
merits of operating with the Register, since it provides them with an up-dated
framework for sampling purposes, and enables them to link confidential
statistical data with additional data from various sources for a neutralized
treatment of the former.

Establishing the Register on the basis of an agreement among the
various authorities and institutions may not, in certain cases, make
redundant the need for enacting a law regulating the operation of the
"Central Register of Businesses", such as the French Law(6) enacted in
July 1948.   Some form of legislation may be needed to authorize the
subordination of the Register to a suitable organization (preferably not to
the Bureau of Statistics), to regulate the flow of data from various
sources into the Register, and to oblige businesses to fill questionnaire
forms as required by the Register and the Register-based data bank.

The first practical step towards the establishment of the Register is
a review of the principal lists of businesses which are held by the relevant
national and local institutions in a given country.   The review must
include the details of these lists, such as:

- the name and address of the institution managing the list;
- forms in which the lists are available: punched cards, magnetic
  tapes, manually written lists;
- the coding systems used for business identification;
- the units of business in the lists: enterprise, establishment,
  local unit, other;
- number of units in the lists;

- **coverage** (e.g. the entire industry, establishments employing employees only, establishments which use steam boilers, etc.);

- **data given per unit**: name of unit, address (establishment, office), phone number, branch, form of ownership, number of employees, the year in which commercial production was first started, area of premises, other data (e.g. electric motors power capacity, etc.);

- **sources** for up-dating the list and the system used for up-dating (the up-dating of data in relation to those characteristics noted in the list, as well as the information on "births" and "deaths" of businesses).

On the basis of the results of this review and in line with the given aims of the bank, it is necessary to determine in advance the principal attributes of the Central Register:

(a) Scope of the Register;

(b) Register's unit;

(c) Main characteristics of the business (name, address, branch, size, etc.);

(d) Coding systems for business identification;

(e) System used for storing data (punched cards, magnetic tapes, etc.);

(f) System of running the Register (sources of data, system used for up-dating, branch classification, codes, symbols, etc.);

(g) Register's outputs: - form of listing
          - layout of statistical tables for pre-specifiable uses (by branch, size, location, and cross classification).

5. The scope of the Register

A data bank may be designed in advance to cover primarily the data relating to industrial establishments larger than a certain size. But great care should be exercised in deciding upon whether to deal with all businesses or industrial establishments only.

A Register containing only industrial firms would have several short-comings:

(1) The institutions which will be capable of supplying basic data to the bank (and to the Register) may normally handle all types of business in the economy (e.g. insurance institutions, tax authorities, local councils, labour exchanges, etc.); also, as the users of the bank, they may not be interested in the partial Register, nor is it practical to demand of these institutions to sort out of their files the data on industrial establishments only.

(ii) The enterprises with "mixed" activities would demand excursions beyond the boundary of the manufacturing industry proper. This problem will arise with corporations which are constituted of industrial plants, trading branches, building firms, haulage branches, etc.

(iii) A purely industrial Register is likely to suffer not only from incompleteness of its coverage, but also from the danger of wasteful duplication, certain businesses entering in other non-industrial Registers as well.

It appears, therefore, to be generally recommendable to establish a Central Register of all types of businesses in the country. Collection of data into the bank, however, may be limited to individual branches, groups of business, or sizes of business, as the needs dictate.

It is particularly desirable to delimit clearly the population of the Register on the basis of size of enterprise (by number of persons employed, for example). In an ideal situation, the Register should contain all businesses including self-employed persons. There is a great degree of mobility between the smallest size group that refers to strictly self-employed businesses and the next smallest group that refers to employers using one or two employees. This fact makes difficult the running and up-dating of the Register of employers and causes confusions in the coverage of small employers. However, the matter largely depends on the sources from which the Register is planned to receive the information on the existence of the businesses.

The population of the Register should be defined, also, with respect to the type of businesses to be included; particularly cumbersome are non-profit organizations, seasonal businesses, businesses locally registered but carrying out their business abroad, etc. It is normally difficult to obtain economically meaningful data on the activities of these types of business; the relationship between the factors of input and the output in such enterprises greatly differs from that prevailing in normal businesses and as a result their data, when carelessly handled, would not contribute much to the comprehension of the structure and the flow of national products.

Another problem worth mentioning is related to the businesses which are at the stage of being set up.

As has been noted in Aide-Mémoire(7) of September 1968 (p.25), there is a need to distinguish among the various stages of preparation and

implementation of investment projects. For example:

(a) approaching the stage of bankable project (and/or application for investment license being considered);

(b) adopted as a bankable project (and/or investment license granted);

(c) construction underway;

(d) initial pilot operation, etc.

Identification of investment projects from stage (b) or (c) on would be relatively easy since at these stages it is already possible to define the location of the business, its expected size (in number of persons to be employed), its industry branch, etc. Businesses at stage (a) and sometimes even at stage (b) may still lack the basic characteristics as real businesses. However, in view of the great importance of the information on investment projects at these early stages for over-all industrial planning and policy formulation purposes, every effort should be made to build an up-to-date, reasonably comprehensive file for such projects. Technically, it would be advisable to keep such information in a separate file, rather than in the Central Register, although this separate file could easily be structured to permit uses linked to the Central Register.

5. Business units in the Register

The units that may serve as Register's units are:

Enterprise

Establishment

Local unit

It must be taken into account that the information that shall be collected together from various sources might relate to any of the units and it is not practical to obligate the sources to adopt their registration and accounts systems to one of these units only.

Thus, for example, municipal bodies in many countries levy taxes on local units only (shops, stores, offices, warehouses, departments, etc. of an enterprise located separately) and do not even keep information regarding whether the local unit is an independent business or whether it is owned by an enterprise or an establishment located elsewhere. Other institutions, on the other hand, keep all data and accounts in relation to the enterprise only, and it is possible to obtain from such institution **information on the**

enterprise basis only.

This situation makes necessary the organization of the Register in such a way that, on the one hand, the data relating to different levels of the business structure can be collected in the bank, and on the other hand, integration and differentiation of this data can be performed within the bank as called for by given needs.

The attainment of this aim - the possibility of integration and differentiation of data - depends upon the possibility of receiving additional information on each unit concerned, such as:

- Whether the unit belongs to another establishment (and if so, name and address of the establishment);
- Whether the unit owns other units which are located elsewhere (and if so, the names of the units and their addresses).

In some sources the available data may be already organized by various specific sub-units. For example, the data available from an electric company on the electrical consumption of businesses may be listed by technical units or by types of use (e.g. light, power, thermal processing, air-conditioning, cooling, etc.) and also organized according to different tariffs; the data held by a national insurance corporation may be listed by risk categories (e.g. office workers, warehouse workers, metal workers, etc.) while accounts may often be listed by reporting units such as holding companies, which do not necessarily coincide with the type of units mentioned above.

In most cases, "establishment" is identical with "local unit" and sometimes even with "enterprise" and for this reason "establishment" may be considered as the basic unit for the Register.

At the same time, the enterprise, too, should serve as a Register unit because in many cases it constitutes the principal source of data on the economic activities of the establishments which it comprises.

Concerning local units and other units (e.g. ancillary units, technical units, etc.) - these may be treated synonymously with establishments whenever basic data concerning them exist. But in some cases they may be treated as representing "characteristics" of the relevant establishments rather than as separate activity units. This matter will be further explained below.

In any case, the definition of "establishment" in the Register does not necessarily have to be identical with the definition adopted for industry classification purposes.

7. Identification number

The identification number of each unit in the Register (enterprise, establishment) must be unique so that any data relating to that unit which arrives at the data bank from any source whatsoever shall be identified by the same identification number, permitting the attribution of the data to that unique unit only.   In addition, the identification number must define the organizational rank of the unit, so as to make possible the integration and differentiation of data as mentioned above.

It is advisable not to include in the identification number any symbols relating to other characteristics of the unit, e.g. branch of industry, size, locality, etc. and that for two reasons:

- These characteristics might be variable.
- Such procedure may cause the number of identification digits to increase out of all proportion.

It must be taken into account that the identification number of a given unit shall be given by the Register to all the sources participating in the data bank, no matter if the supplied data is on computer cards, on tapes, etc.   Introducing changes into the system of identification numbers is out of the question since it implies introducing the same changes in the entire system of reporting and processing data of all sources, thus disrupting the whole structure.   This point received due consideration at the initial stage of planning of the Register in England(1).

> "We think that the reference number should not include an indicator of industry as this may have to be changed from time to time."

To determine the number of digits for identification it is necessary to have in advance an idea of the number of enterprises and establishments in existence and those which might be included in the Register in the foreseeable future.   It suffices, of course, to know only a rough order of magnitude.

In many developing countries and especially in medium-sized countries the number of industrial "establishments" will not exceed several tens of

thousands and the number of "enterprises" in which some establishments are incorporated will not exceed a few hundreds or a few thousands.

On the basis of this assumption it is possible to suggest for the composition of identification numbers the following code system:

- The digits 1, 2, 3, in the first position signify that the unit is an enterprise (an existing enterprise), in which establishments are incorporated.

- The digits 5, 6, in the first position signify that the unit is an establishment (an existing establishment).

- The digit 4 in the first position signifies that the unit is an enterprise in the process of being set up, in which its branch establishments will be incorporated.

- The digit 7 in the first position signifies that the unit is an establishment in the process of being set up.

- The digits 8, 9, in the first position represent series in reserve.

- The second, third and fourth digits for an enterprise (first digits 1, 2, 3, or 4) signify the ordinal number of the enterprise.

- The fifth and sixth digits for an enterprise (first digits 1, 2, 3, or 4) signify the ordinal number of the establishment within the enterprise (the assumption being that the number of establishments in any enterprise does not exceed 99).

- The second, third, fourth, fifth and sixth digits for an establishment (first digit: 5, 6, 7) signify the ordinal number of the establishment in the series.

- The seventh digit in each number signifies as follows:

    0 = No local units

    1 = There are local units which belong to the enterprise (or establishment).

    The remaining digits (2-9) are in reserve to mark other characteristics as needed (e.g. 2 = private sector; 3 = public sector, etc.).

- The eighth digit is intended to serve as a check digit (see APPENDIX I).

ILLUSTRATION:

Type of unit	Ordinal number	Ordinal number of establishment in enterprise	Local units, other charac- teristics	Check digit
Enterprises	1000	00	0	0
"	2000	00	0	0
"	3000	00	0	0
" (in construction)	4000	00	0	0
Establishments	500 000		0	0
"	600 000		0	0
" (in construction)	700 000		0	0
Reserve series	800 000		0	0
" "	900 000		0	0

With this system it is possible to provide identification numbers for some 3000 existing enterprises and some 1000 enterprises now being set up, to some 200,000 existing establishments and some 100,000 establishments being set up, while retaining in reserve numbers for another 200,000 units. This is without taking into account the establishments incorporated in enterprises, for which there are theoretically 300,000 identification numbers in reserve.

For local units and other units whose identification numbers within the relevant individual establishment will not be stable, an ordinal number should be given and added to the establishments' number and be noted only in an ancillary list to the Central Register. Such identification numbers of local units should be given only to those sources which provide the bank with data by local units. All other sources are to use the ordinary identification numbers only, without additional identification numbers for local units.

8. Location of businesses

In recording the address of a business, distinction should be made between the address of the establishments, where the economic activity of the business is conducted and the address for correspondence (office address). The address of the establishments is normally coded in the Register by symbols signifying the district, the region, the town or smaller geographical units. By annotating the location of a business with a symbol it is possible to obtain aggregate data on businesses located within a given geographical unit, which is defined, normally, in accordance with the administrative sub-division of the State.

For the purpose of regional (physical) planning, aggregate data are required sometimes referring to areas other than those defined by the administrative sub-division (e.g. development areas, slums, etc.) or sometimes referring to very small area units. This objective may be attained by annotating the location of the business with geographical coordinates. For example, in a State the length or breadth of which does not exceed 1000 km, 3 digits per coordinate signify an area of 1 sq. km, 4 digits - 100 sq. meters, 5 digits - 10 sq. meters and 6 digits - 1 sq. meter. Every town can be designated by the coordinates of the central point in it using 3 digits per coordinate.

In urban settlements coordinates should be given for " ... the unit known as "block face", i.e. generally one side of the street between two intersecting streets ... " as planned in Canada (8) and in Israel towards 1972.

Rules should be established for indicating the location of those businesses which change their activity locations periodically (e.g. oil drilling, deep-sea fishing, hawkers, etc.).

9. Classification by branch of industry

It is recommended to classify businesses in the Register according to ISIC(9). If local classification differs from the ISIC, a code should be provided that permits translating the local classification into ISIC so as to ensure the possibility of comparing local data with data of other countries.

It is of course desirable that the classification shall be as detailed as possible and in any case more detailed than that of ISIC. As to the detailing of the classification itself, the following should be noted:

- Particularization of classification depends primarily upon the degree of specialization of businesses in the country. A more detailed itemization of activities than its the actual degree of specialization of businesses will remain on paper. However, due attention should be given to the problem of "new industries" which arises in the assembling and evaluating of data for planning (especially long-term) purposes.

- Particularization of classification depends in practice upon the extent of detail of the information received from the business on its activities. Lack of detailed information necessitates additional investigations and correspondence with the business, which makes burdensome the proper administration of the Register.

A different problem arises for the classification of enterprises that own establishments that belong to diverse branches and the classification of establishments that conduct mixed activities. Rules were drafted on this matter by the UN for ISIC and each country should examine the possibilities of applying them in practice.

In several countries (e.g. USA) classification is carried out automatically by an electronic computer on the establishment returns on sales by groups of products which had been coded in advance according to the standard industry classification. This system should be recommended.

In the Census of the Industry and Crafts (1965) in Israel, for example, products were classified by 4 digits according to the branch of industry in which they are mainly manufactured. In each branch (first 2 digits) a product was given a serial number (second 2 digits), the seventh digit for the purpose of mechanical checking of the recording and punching of the product code.

To distinguish between the products that an enterprise manufactured with its own materials and the products manufactured out of customers' materials and to distinguish also repair work, the first digit was changed into a different number by adding 5 to the original ISIC (i.e. 6 for mining and quarrying, 7 and 8 for manufacturing instead of ISIC 1, 2 and 3. The designation of the fifth and sixth digits were affixed as

follows:

  01 to 09 - manufacture with customers' materials
  11 to 19 - repair work.

For example:

  2301-01-8   sewing male top garments with enterprises' material
  7301-01-3   sewing male top garments with customers' material
  7301-11-2   repair of top garments.

10. Size of business

It is customary to define the size of business by the number of persons employed.   In computing the number of employees the owners and members of their families who work regularly in the business, the normal employees, the part time employees (those who do not work a full day), should all be taken into account.   It should further be decided whether or not to include in the number of employees those persons working as sub-contractors for the establishment off its premises.

Of main importance is the uniformity of the definition of persons employed in the establishment.   The number of employees should serve merely as an indicator and should not follow minor current changes in employment figures.

For coding purposes it is possible to differentiate groups of employment according to size, differentiation being more detailed for the small establishments and more packed for establishments employing a great number of employees.

For enterprises or establishments under construction employment should be defined according to the number of employees expected to be at work when the plant will go into normal production following its running-in period.

It should be noted that in establishments which are at the running-in stage, great changes occur at the level of employment.   For this reason it is preferable to use the data on expected employment for normal production years rather than to rely on the information of real employment during the running-in period, which changes frequently.

11. The year in which commercial production was first started

This is a datum which appears frequently, traditionally, in statistical questionnaires and in other administrative documents. This datum is also required for various analyses, such as: average wage level, rate of growth of production, consumption of electric power per employee, etc. related to the length of life of establishments. However, obtaining this datum, simple as it appears, is beset with many difficulties.

Firstly - should "the year in which commercial production was started" relate to the starting of production in the present premises, or - ignoring a change of location - the year production was started at any other place in the country?

Secondly - should the year in which production was started under the present ownership be considered, or should the criterion be - ignoring any change in ownership - the year production was started under any ownership whatsoever? The concept of "changed ownership" requires further clarification: Should a change in the legal organisation (a partnership which was turned into a private company, etc.) or the transfer of a business to heirs be considered a change in ownership?

Thirdly - should the year production was started be that in which it started its current type of activity, or, ignoring a change in the branch of business (e.g. a move from production to trade) - the year in which commercial activity of any nature, in any branch, was started?

The problem becomes even more complicated when one attempts to define the cases of cross changes (in ownership and location, in branch and ownership, etc.).

In administrative sources, as a rule, pertinent detailed data relating to the type of changes noted above is absent and it is not clear what the datum on "the year in which commercial production was first started" actually represents.

The formulation and issue of detailed instructions on this matter and the elucidation of the datum entail enormous difficulties and it is therefore recommended that this datum be disclaimed as an identification datum of the business of the Register. For relatively new enterprises or establishments which are free from the afore-mentioned complications, this datum, if desired, may be treated as a "characteristic" of the business.

12. Running the register

Following a survey of existing lists, it is necessary to determine what are the data at the disposal of the Central Register and to plan the Register's contents accordingly.

It is necessary to determine whether it is possible to copy out data, as found, with the individual lists into the common file of the Central Register or whether it is necessary to edit the material and to change it into abstracts which are suitable for the common file of the Central Register.

The editing work may be difficult when data has to be obtained from diverse sources. It should be noted that the units in the various sources are not usually identical and that even the system of recording the name, address and other localizing data of a unit may differ from one source to another.

It is to be preferred, of course, to rely mainly on one source only, if it is sufficiently comprehensive, and to complement it with data which is obtained from other sources. However, use of diverse sources requires exhausting work of merging, which is not always crowned with full success.

Planning the common file of the Central Register requires the determination in advance of rules concerning the manner in which the name and address of a business and all other localized data which will appear in the Register should be written. (The system of abbreviating long names and addresses to permit their inclusion in the number of columns available on punched card, the manner of recording common parts of name and address, e.g. "company", "incorporated", etc., the system of translation from local language to the Latin alphabet, etc. - if there is a need for it).

In every case there will be a need to punch at least two cards for each business (see APPENDIX II).

Prints made from the first card permit the establishment of several lists of businesses, such as:

- An ordinal list arranged by rising identification number;
- Lists A.B.C. of businesses arranged by name of establishment;
- Lists as per above, of businesses within a given locality.

All these lists serve as an important ancillary instrument in the operation of the Register for the purpose of identifying a business.

The second card may be used to record such additional data character-
izing the business as will be placed at the disposal of the Register. This
card should be up-dated annually.

The source of information (a symbol of 2 digits) and the period to
which it is related (a symbol of 2 digits) should be noted for each datum
on activity or characteristics.

Any additional cards to be used should always bear the relevant
identification numbers of the business (8 columns) in the first position.

The number of such additional cards and their content depend upon the
information sources that will be at the disposal of the Bank and upon the
need for additional data.

As in every operation of this sort, an exact and detailed flow chart
must be prepared in advance starting with the flow of data to the Register
and ending with the final stage of the Register's output, the prescribed
forms to be used, etc. (e.g. business locating cards, abstracts sheet for
punching the data, sheets of business identification number which are to be
sent to institutions participating in the data bank, etc.).

13. Up-dating data in the Register

The establishment of the Register should not be regarded as a single-
instance operation. The value of the Register declines rapidly if changes
occurring in the real situation do not find their expression in the Register.

It is, therefore, necessary to up-date the Register continuously and
to ensure a routine flow of information from all the participating sources.

Concerning data on the "births" and "deaths" of businesses in the
Register which derive from administrative lists, it should be noted that
receiving information on the winding up of businesses from these sources
meets with difficulties because the concept of "winding up" has one meaning
in the administrative lists and another in the data bank's Register.
From the administrative point of view, a business, though it has ceased to
function, still continues to exist since it still owes taxes, etc., or
because the enterprise itself has chosen to retain its legal existence
although it has ceased to function in its economic capacity.

In such cases there is a need to ensure a continued flow of information on the activity of a business (e.g. discharging of all employees, non-presentation of reports to the purchase-tax authorities, etc.) which will serve as an indicator of the real continued existence of the business.

In cases where the operation of a business is dependent upon the receipt and annual renewal of a license, it is possible to make use of this information to up-date the Register.

Up-dating the number of persons employed in the business can be carried out by linking the Register with the appropriate reports of the business to the national insurance institute, to the tax authorities, etc., which usually are available monthly. All this will be easily performed if one and the same identification number is used in both the Register and these institutions' lists for each business unit considered.

Up-dating other data in the Register depends upon the flow of information from the administrative sources and/or from the businesses themselves.

Data on the "births" of enterprises (or establishments) can be obtained by up-dating the Register of enterprises (or establishments) under construction as well as from the administrative sources connected with the data bank.

APPENDIX I : Check digit

The following two methods are suggested to compute a check digit for identification number (of 7 digits).

METHOD "A"

1. Compose a 4-digit number, by placing the 4 digits which are located in the odd positions in the order of their appearance in the identification number.

2. Multiply this number by 2.

3. Add the digits of the multiplied number and the digits of the identification number in the even positions.

4. Subtract the result from the first higher number ending with a 0. The difference is the check digit.

Illustration:

Identification number: 2496351

1. 2931

2. x 2
   ____
   5862

3. 5 + 8 + 6 + 2 + 4 + 6 + 5 = 36

4. 40 - 36 = 4

METHOD "B"

1. The seven digits are multiplied, in their order of reading, by the numbers 1, 3, 7, 9, 1, 3, 7.

2. The seven products are added together.

3. The check digit shall be the last digit in the sum.

Illustration:

Identification number: 2496351

1. 2x1 = 2, 4x3 = 12, 9x7 = 63, 6x9 = 54, 3x1 = 3, 5x3 = 15, 1x7 = 7

2. 2 + 12 + 63 + 54 + 3 + 15 + 7 = 156

3. The check digit is 6.

APPENDIX II

First Card

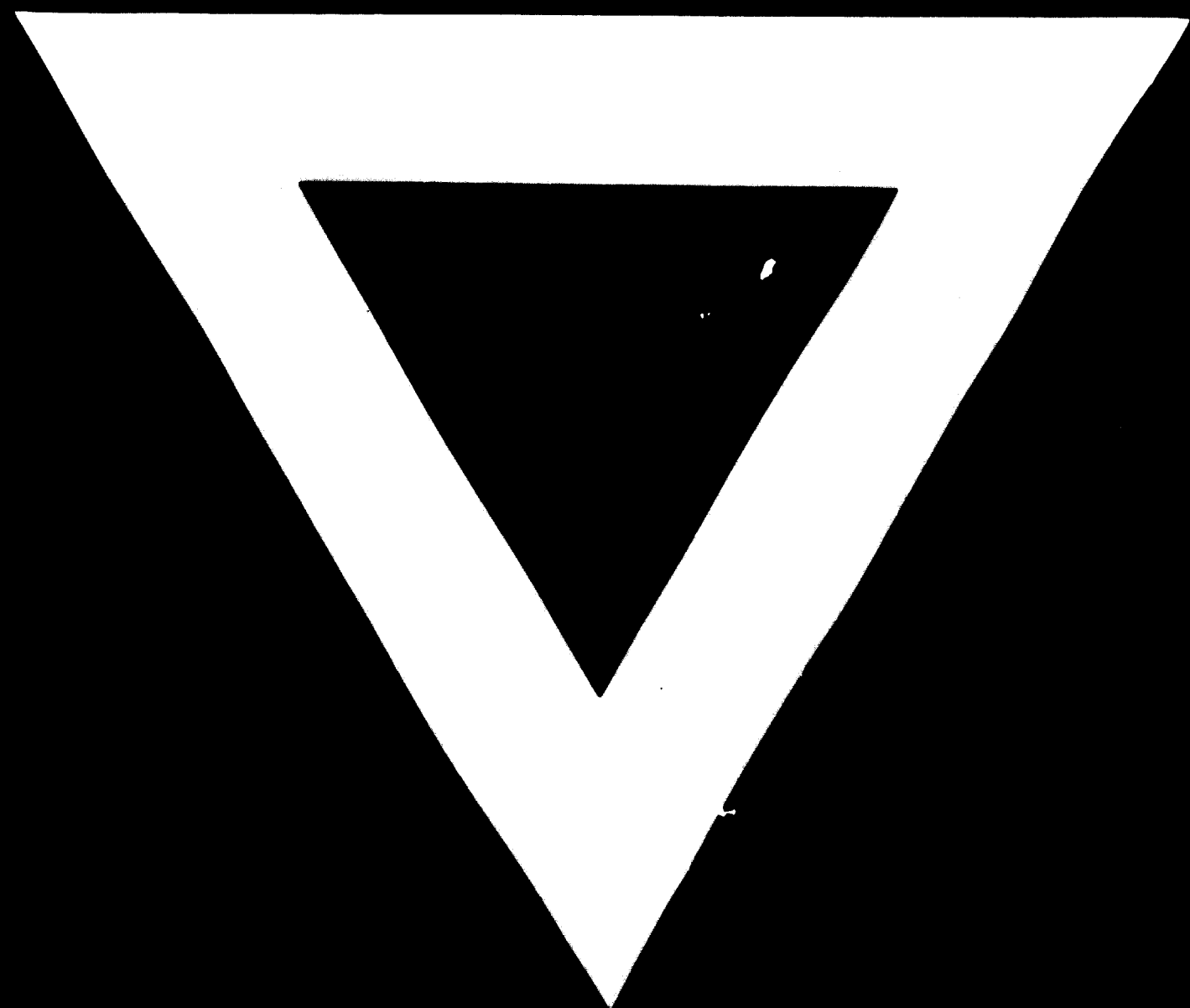| Ordinal number	Data	No. of columns in card
1	Identification number	8
2	Ordinal number of local unit	2
3	Name of unit	35
4	Code of locality (district, region, settlement, etc.)	8
5	Address (name of street and house number)	27

Second Card

Ordinal number	Data	No. of columns in card
1	Identity number	8
2	Ordinal number of local unit	2
3	Enterprise's address - coordinates	12
4	Code of locality (district, region, settlement)	8
5	Branch of industry	6
6	Size (number of persons employed)	5
7	Source code for size data	2
8	Period code for size data	2
9	Turnover	7
10	Source code for turnover data	2
11	Period code for turnover data	2

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