MEASURING THE VALUE OF THE CAPITAL STOCK BY DIRECT OBSERVATION

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In the Netherlands the Central Bureau of Statistics (C.B.S.) carried out two experimental investigations into the possibility of observing the actual value of the capital stock by means of enquiries at enterprises.

This article reports on the investigation into the cigar-industry. The intention is to carry out enquiries in one branch of industry after another. In due course (for instance after 10 years) it will again be the turn of the first branch of industry and so on. There are also branches of industry which have a fair amount of information regarding capital assets available at their disposal, so that enquiries are not necessary. In the long run the method described will supply statistical data on the value of the capital stock for all branches of industry together.

The gross actual value at current and constant prices is calculated for the cigar-industry, broken down by type and vintage. The enquiry was carried out in two steps. Questionnaires were not sent to the enterprises but they were visited in order that C.B.S. staff could derive the data required from the accounts available. Within the C.B.S. this information was processed, C.B.S. staff making estimates for lacking data. It may be concluded that this method of enquiry for the capital stock is difficult but useful. The results of the enquiry are comparable throughout, the valuation having been carried out in the same way for all enterprises and care having been taken that in each enterprise all means of production were asked for.

In the future this new technique of enquiry will provide good detailed information on the capital stock in the Netherlands.

1. INTRODUCTION

The Central Bureau of Statistics (C.B.S.) in the Netherlands carried out two experimental investigations into the possibility of observing the actual value of the capital stock (C.S.) by means of enquiries at enterprises. The investigations first dealt with the cigar-industry and then with the packing machinery industry. The investigation into the cigar-industry was published by C.B.S. (1982). Before starting the investigation a high degree of complexity of the enquiry was expected. Therefore it was decided to carry out the enquiry by means of personal visits to the enterprises. This article reports on the enquiries, evaluating them in terms of the possibility of using the same method of enquiry for other branches of industry. In this article the problems of measurement will receive the bulk of the attention. This means that the visits to the enterprises and the problems of processing will mainly be dealt with. In section 2 some important concepts will be defined. For more information on this subject see United Nations (1979). In section 3 various methods of estimating the value of the C.S. are described. It will appear that it is necessary to measure a large part of the C.S. by enquiry. Each enquiry is carried out in two steps, namely gathering information from the informants and the statistical processing within the C.B.S. Why and how is explained in section 4. The value of the C.S. is broken down by type of asset and by vintage. The problems related with these points are discussed in sections 5 and 6 respectively. In the discussion of the determination of the actual value in section 7 some problems due for example to the lack of data or the lack of compatibility

of data are dealt with. It will appear that it will be necessary to make estimates of many kinds to supplement the basic material received from the informant. This gives a special character to the measurement of the value of the C.S. The expected and realized lifetime of capital goods is an important economic figure of which little is known in the Netherlands up to now. An attempt to measure it was made (section 8). Finally in section 9 some conclusions are formulated.

2. Definitions

In this study capital stock is understood to mean the stock of goods which are used more than once in the production process, like machinery, buildings, land, installations, inventory, vehicles, civil engineering works, dwellings and part of livestock. Apart from land these are reproducible goods. This enumeration corresponds with the definition of investments in fixed assets in the System of National Accounts with the exception of land, which is not included in investments in National Accounts. All capital goods available within an enterprise for use in the production process are included in the investigation, which means that it comprises both owned and rented capital goods. Usually capital goods require regular maintenance. As far as this is normal maintenance and replacement of parts with a short lifetime (current repair and maintenance) the costs are not included in the value of the C.S. Costs which lead to a considerable increase of the production capacity of a capital good and/or to an essentially longer lifetime (capital repair and alteration) are included in the value of the C.S. In principle the costs of procuring capital assets are included in the value of the C.S. The stock includes not only newly purchased but also second-hand capital goods. A special problem arises concerning the capital assets that are available but no longer used in the production process. These goods may be required as spare capacity. In that case they are included in the C.S., as this capacity is necessary for the production process. At the moment the capital asset leaves the enterprise or will definitely not be incorporated in the production process any more, it is considered as retired and so from that moment on it does not belong to the C.S. of the enterprise.

In order to be able to say something sensible about the value of the C.S. the concept "value" will have to be further defined in these statistics. Value relates to the purchasers' prices of the capital assets including indirect taxes (but excluding turnover tax[1]). The purpose of these statistics is to obtain information on the actual value of the C.S. The actual value of a capital asset in use in an enterprise equals the price the enterprise will have to pay for a new identical asset at the date under report. The application of actual values has the advantage that in an enquiry all assets are valued at prices of the same period. This means that the users of the statistics are able to compare the values of the various types of capital assets with each other. The value of the C.S. can be given both in current and in constant prices and can be based on gross and on net values. The

[1]The treatment of indirect taxes in the C.S. statistics is in accordance with the method used in many other related statistics. Indirect taxes are included in the value of the goods, because they are part of the cost price. The value added tax usually is not part of the cost price and therefore it is not included in the valuation of capital assets.

difference between the gross and the net value is accumulated depreciation. For the calculation of the net values information on the lifetimes of capital assets is indispensable as this information is required for the calculation of depreciation. For that reason the lifetimes of capital assets are an important part of these statistics. The values of the capital assets as described are broken down by type and by year of installation (vintage), and also by region, by ownership/rent and by second hand/new.

3. Measurement

In principle there are four methods for the measurement of the value of the C.S.:

-gathering data on insured values;
-gathering data on book values;
-perpetual inventory method;
-enquiry (gathering values by vintage).

For enterprises the value of the capital assets available is often appraised for fire insurance. In the appraisal reports the appraised values are given by groups of capital assets down to a fair degree of detail. However, in general such reports are not made annually, and unfortunately the vintages of the various capital assets are not stated. As the vintage is one of the most important data elements in these statistics, this method is not very suitable for use in the statistics of the C.S.

The book value of a capital asset is the value at which the capital asset figures on the books of the enterprise. The depreciation that has occurred since the purchase of the asset is already incorporated in the book value. Often enterprises have only a very rough breakdown by kind of asset. As most enterprises do not calculate on the basis of replacement value this means that book value consists of the purchasers' value of assets with varying vintages. Therefore book values are not very suitable for use in C.S. statistics either.

The perpetual inventory method in its simplest form implies that the investments by vintage can be derived from investment statistics. Estimating the economic lifetimes for each kind of asset allows the determination of the vintages of the investment goods still available. By means of price indexes by type of good the values are converted into actual prices and so the actual value of the C.S. appears. The next year the retired capital goods must be taken out of the stock (to be calculated with the help of estimates of the economic lifetimes). The newly purchased investment goods in that year are added to the stock and a new revaluation is carried out, leading to the new C.S. In the Netherlands the results of this method are not very reliable, because the investment statistics usually give only a very rough breakdown of the assets, whereas different goods may have fairly divergent economic lifetimes and price developments. Furthermore information on the economic lifetime of capital goods is hardly available in the Netherlands. This implies that the C.B.S. does not consider the publication of figures of the C.S. determined in this way to be justified.

For this reason the decision was taken to proceed to the method of direct enquiry for a number of branches of industry. The advantage of this method is

that fairly detailed figures, which have been asked for by many users, become available. The intention is to carry out enquiries in one branch of industry after another, be it fully or partly by means of a sample or not. In due course (e.g. after 10 years) it will again be the turn of the first branch of industry and so on, so that in each branch of industry an enquiry is carried out periodically. The information thus obtained on the value of the C.S. by group of goods and on the economic lifetimes, backed up by investment statistics, will open the possibility of less detailed estimates for the group of enterprises concerned in the intervening years. There are also branches of industry which have a fair amount of information regarding capital assets available at their disposal, so that enquiries are not necessary or can be of a limited size, like e.g. agriculture and transport. Also for the stock of dwellings and for the C.S. of the government it seems possible to refrain from a direct enquiry. In the long run the method described will supply statistical data on the value of the C.S. for all branches of industry and for all capital assets together.

4. Organization of the Enquiry

When thinking about the way in which the enquiry should be carried out the complexity is immediately apparent. In the first place there is the point that the C.S. statistics ask for the *vintage*. It was to be expected that the accounts departments of the enterprises would not in all cases be able to supply the required data directly. Moreover the information on the vintages of second hand goods and of rented goods was expected to be difficult to obtain from the enterprise addressed by the enquiry.

A further addition to the complexity was the fact that C.S. statistics require *actual values* of the capital assets. Enterprises value their capital assets in different ways. Most make their calculations on the basis of historical costs. In practice it is not possible to induce enterprises which so far have not worked with actual values in their annual accounts to proceed to doing so just for statistical reasons on behalf of the C.B.S. Some enterprises, however, use some kind of valuation with actual prices. Even then the computation of the statistics gives problems because different enterprises may use different measures of price for the valuation of the same kind of capital asset. This is often the case. Therefore the choice was made to ask for historical costs at the enterprises. Within the C.B.S. the amounts of historical costs are converted into amounts in actual prices by means of price index numbers.

As a result of all this it was decided not to send questionnaires to the enterprises but to visit them in order that C.B.S. staff could derive the data required from the accounts available. This information would then be processed within the C.B.S., C.B.S. staff making estimates for missing data at the same time. Furthermore the data would be processed within the C.B.S. in order to arrive at gross and net values in current and in constant prices, broken down by type of capital good, vintage, industry class, size class of enterprise, region, second-hand/new and ownership/rent. For the enquiry the visiting staff member was provided with a checklist giving all points of attention systematically. Due to the complexity of the enquiry the visiting staff members had to have a good education

and experience in the field of industrial accountancy and business economics, as well as a thorough knowledge of theory and practice of C.S. statistics. In the choice of the enterprises to be sampled comparable statistics had to be considered, as it is important that the results of the C.S. statistics should be comparable with those of National Accounts, production, investments, wages, employment, etc. This implied that all these statistics should be based on the same statistical unit. For that reason also the C.S. statistics had to be based on the activity unit.[2] Consequently the choice of the file of informants was based on the General Register of Enterprises (Algemeen Bedrijfsregister = A.B.R.) of the C.B.S. in which all activity units are registered. A further advantage of relating the file to the A.B.R. is that in this way the Standard Classification of Enterprises (Standaard Bedrijfsindeling = S.B.I.)[3] and the subdivision into size classes are fixed.

5. Classification of Goods

It is of importance that the results of the C.S. statistics should be broken down by type of good, because of the analyses which have to be carried out with them. A breakdown by type of good within the framework of the computation of these statistics is also necessary, however. This applies to the revaluation and the calculation of the net value, for which price indexes and average lifetimes by type of capital asset are used. Therefore for the cigar-industry enquiry a classification in some 200 groups was used. In order to allow comparison with other statistics within the C.B.S. the composition of this classification was based on the Standard Nomenclature of Goods[4] as far as possible.

In the enquiry it appeared, however, that on the one hand this classification was too elaborate because there were many groups of goods not represented in the enterprises. On the other hand the classification was too limited because the production process in cigar-industry is rather specific and for specific cigar-machines the lowest level of detail in the classification is "equipment for the tobacco-processing industry". It will be clear that a large part of the existing machines fall under that denomination. Therefore for the next enquiry, conducted for the packing machinery industry, an attempt was made to make a two-step classification. First a rather rough classification was made into some 100 groups, and a further breakdown was then made of those groups which relate to the specific production process of the enterprises addressed by the enquiry. The first rough classification was fairly satisfactory, but the second classification still raised a fair amount of problems at the enquiry and in the processing of the basic material. The future will have to show whether it is possible to continue the use of this two-step classification.

A problem is that certain parts of large capital assets are sometimes purchased separately and sometimes as a part of a total. Examples are installations like

[2] In the statistics describing the production process it is advisable (and in some cases obligatory) to use the so-called activity unit in the C.B.S.-statistics. This means an enterprise or a part of an enterprise, or several enterprises together, as homogeneous as possible regarding activity and fully describable.

[3] The S.B.I. is a classification of activity units by activity used within the C.B.S. in the statistics.

[4] This is being prepared within C.B.S. and will be used in the C.B.S. statistics in future.

electrical, air conditioning and central heating facilities. When a building is purchased the costs of such installations are often included in the value of the building and cannot be distinguished as such, as can be done when such installations are purchased at a later stage. In the enquiries no attempt was made to separate the costs of installations from the value of buildings when they were included.

6. Determination of Vintage

In principle the year of installation of a capital good (vintage) is the year in which a new capital good becomes available for use in the production process, usually the year in which it was purchased. At the enquiries the question arose how to deal with second-hand and rented goods in this respect. With a view to the basic principles of these statistics the year in which a means of production became available for the production process for the first time was chosen as the vintage. For second-hand goods this meant the year when the asset became available for the production process by the first owner.

A further problem in the field of the determination of the vintage was related to capital repair and alteration. In principle three methods for the determination of the vintage of capital repair and alteration were available. The total value of a capital asset including the value of capital repair and alteration may be dated in the year in which the original capital asset became available for the first time. The entire value, including the capital repair and alteration, may be dated in the year in which the largest amount of the original investment or of the capital repair and alteration was carried out. The third possibility is to date each expenditure in the year in which it occurs. This means that the value of the capital asset (including the capital repair and alteration) is spread over one or more vintages. The last mentioned method was chosen for these statistics.

It was not always easy to determine vintages. In many cases the vintages could be derived from the accounts of the enterprises, but a combination of vintage and the rather detailed classification of goods rather often gave trouble. For example, the vintages were sometimes only recorded for large groups of goods (inventory, machinery, etc.). It will be clear that the determination of the vintage of the assets bought second-hand or rented is not easy either. In order to solve these problems estimating methods were developed which make it possible to estimate the data required on the basis of those data which are available. Use was made among other things of data on similar goods, of data from other enterprises, of serial numbers and licence plate numbers (for cars). For land a classification by vintage was not made, land being second-hand and not reproducible anyway (except in case of land reclamation).

7. Determination of the Actual Value

As explained in section 4, the investigation of the actual values of the C.S. was carried out in two phases. The enterprise was requested to state the historical costs of the various capital assets, and these historical costs were translated into actual values within the C.B.S. by means of C.B.S. price index numbers.

In the first phase of the processing historical costs by type of capital good and by vintage were derived from the basic material obtained from the respondent. Very often this turned out not to be an easy job. In some cases the enterprises had lists of historical costs of the existing capital goods by vintage. In those cases where the specification of the goods in those lists was given in sufficient detail this was in fact the end of the processing. However, very often the difficulty arose that the classification of the capital goods was too rough for the purpose of these statistics, making a further breakdown necessary. Especially this was difficult in those cases where classification was limited to a few groups only, such as buildings, machinery, and inventory. It also occurred that only data regarding the amounts of the investments in capital goods in the various years were available, it not being known whether these goods were still available at the date under report. These problems could often be solved by using fire insurance appraisals. They list in detail the capital goods available, indicating the appraised replacement value. With the help of these data (in much detail as far as the classification of the goods is concerned but not broken down by vintage) and the data from the accounts of the reporting firm (often rough as far as the classification of goods is concerned but broken down by vintage) the historical costs by type of good and by vintage could be estimated. Sometimes it was also possible to make use of special tables available at the accounting departments of the enterprises, although these tables differed from enterprise to enterprise.

Certain kinds of goods involved specific problems. For rented goods like cars, computers, buildings often the amount of rent was known but not the historical costs and the vintage. Sometimes an amount of historical costs was estimated on the basis of a relationship between the amount of rent and the historical cost. In some cases the lessor was consulted. An investigation is now being carried out on price composition among providers of computers and telephone installations. Second-hand goods involve the same kind of problems. Also here, when no other solutions were conceivable, as a last resort relationships between goods purchased new and similar second-hand goods were used. Similar problems occurred in cases of merger or take-over where often no historical costs of the capital assets were known, but only purchase costs at the time of the merger or take-over. In this case an attempt was made to get some insight into the historical costs by asking the technical staff of the enterprise, by serial numbers, or otherwise. For land, the number of square meters of land in use was asked for. This number was valued at the prices of land at the date under report in order to arrive at an idea of the value of the land. The prices were taken from the statistics "Prices of industrial sites bought from municipalities" based on data regarding the sale of land derived from the land registry offices. This procedure was applied to both owned and rented land.

Once historical costs were determined, they had to be revalued to arrive at actual values. In general this was done by means of price indexes of the C.B.S. for every group of goods. This involved in the first place selecting a price index number suitable for the group of goods concerned. In this connection it was a problem of importance that the C.B.S. only has price indexes for capital goods manufactured in the Netherlands. Moreover they relate to producers' prices and not to purchasers' prices which in fact would be required. At this stage of the

investigation, no corrections were introduced in this respect. It was also necessary to link price index numbers of capital assets with varying base years. For the most recent years (approx. from 1960 till now) price index numbers were calculated according to a detailed classification of goods. For the years before that time only more general price index numbers were available. These were used for the calculation of the price development by type of good in the years before 1960. So the farther back in time the less accurately was the price development of a certain good monitored by the linked price index numbers.

8. Lifetime

Hardly any statistical data about the lifetime of capital goods are available in the Netherlands. It was of great importance that such information be obtained, not only because it is required for the calculation of the net value, but also because investigators need data on the lifetimes as such e.g. in vintage models.

At the enquiry the expected and the realized lifetime were asked for. Apart from sales on the second-hand market the lifetime is determined by the moment of the first availability of a capital asset and the moment of retirement. The question arose at what moment capital assets are retired. Retirement is clear when a capital asset is sold as scrap. When a capital asset is still present in the enterprise but will certainly not be used in the production process any more this can also be considered as the end of the lifetime. Of course this is not so when capital assets are kept available as a reserve of production capacity.

The question on expected and realized lifetime in the enquiry for the cigar-industry was badly answered. The reason is to be found in the fact that it is very difficult to reply to a question regarding expected lifetime and somewhat less so to reply to a question regarding the realized lifetime. Information about the expected lifetime was often not explicitly available. It proved to be not easy to find the proper expert in the enterprise. For the question regarding the realized lifetime (of capital assets already retired) it was not easy to produce the necessary information. All this required a good formulation of the question and perseverance of the field staff of the C.B.S. Because the enquiry in the cigar-industry was the first of its kind, this involved putting a lot of energy into the determination of the value and the vintage, pushing questions regarding lifetime somewhat into the background. In the second enquiry in the packing machinery industry the lifetime question received more attention, which improved the results although they cannot yet be considered ideal. This implies that in further enquiries attempts will have to be made to obtain better information on lifetimes.

9. Conclusion

In this article an attempt has been made to give a picture of a relatively new technique of enquiry which proved to be required for the computation of the C.S. statistics. Enquiries were made in two economic groups. It may be concluded that this method of enquiry for the C.S. is difficult but useful.

The enquiry is difficult because a combination of data is asked for which often is not known as such at the enterprises. Problems were met especially in

TABLE 1

VALUE IN 1979 PRICES OF THE CAPITAL STOCK IN THE CIGAR INDUSTRY AT THE END OF 1979 BY TYPE AND VINTAGE

Type	Vintage				
	Before 1970	1970-74	1975-79	Vintage Irrelevant	Total
			1 000 gld		
Land	—	—	—	15,770	15,770
Buildings (dwellings, pavement and lifts included)	165,040	19,080	11,320	—	195,440
Electric installations (electric wire and cable, connecting and distributing installations included)	4,500	1,240	1,090	—	6,830
Central heating installations	4,170	3,010	730	—	7,900
Air-conditioning installations	550	1,440	1,310	—	3,300
Products of manufacture of textile and wearing apparel	80	110	180	—	370
Carpenter's work and wooden racks	120	90	50	—	270
Wooden packing cases, crates and casks	100	60	60	—	220
Wooden pallets	150	120	160	—	430
Special wooden furniture (furniture for industrial use)	490	190	180	—	850
Other products of manufacture of wooden products, wooden furniture and similar industries	490	390	350	—	1,240
Products of the petroleum, chemical, rubber and plastic products industry and of manufacture of artificial and synthetic yarns and staple fibres	80	60	120	—	260
Products of the basic metal industries	20	20	30	—	70
Gasholders, reservoirs and tanks and (pneumatic) pipes	650	80	90	—	820
Products of structural engineering	150	40	60	—	250
Metal furniture	930	720	580	—	2,230
Fire extinguishers	80	30	360	—	470
Lighting fittings	730	470	410	—	1,610
Other metal products (except tools)	270	160	140	—	570
Chipping machine-tools for metal working, accessories, parts and tools for these machine-tools included	1,070	480	410	—	1,960
Non-chipping machine-tools for metal working, accessories, parts and tools for these machine-tools included	380	100	40	—	520
Packing machinery, machinery for cleaning or drying bottles or other containers	2,710	3,560	1,580	—	7,850
Centrifuges n.e.c.; filtering and purifying machinery and apparatus for liquids or gases	120	50	120	—	280
Machinery, apparatus and plants for the tobacco processing industry	106,190	48,730	23,960	—	178,880
Forklift trucks, stacking machines	200	440	480	—	1,120
Conveyors for goods with continuous movement	1,090	730	290	—	2,110
Winches, pully tackles, escalators and other lifting and handling machinery	130	110	150	—	390

TABLE 1—*continued*

Type	Vintage				
	Before 1970	1970-74	1975-79	Vintage Irrelevant	Total
			1 000 gld		
Machine-tools for working wood and mechanical tools for hand operation	480	380	190	—	1,050
Machinery, apparatus and plants for manufacture of paper and paperboard and for the printing industry	90	30	70	—	190
Typewriters	70	150	210	—	430
Office machines incorporating a calculating device	120	120	110	—	360
Copying machines, data-processing machines and other office machines	50	60	3,060	—	3,180
Pumps and compressors, hydraulic and pneumatic units and installations	820	830	140	—	1,790
Fans and air-heating and air-drying apparatus and installations	2,500	800	1,120	—	4,420
Refrigerators and deep-freezers (compression type included), apparatus and installations	240	780	100	—	1,110
Weighing machinery (precision balances excluded)	260	170	130	—	560
Automatic vending machines	30	70	100	—	200
Gas-operated welding and cutting appliances (autogenous)	10	10	70	—	90
Machinery, apparatus and plants for industries n.e.c.; other machinery, apparatus and plants n.e.c. and tools (except mechanical tools for hand operation)	240	120	220	—	570
Electrical motors, transformers (if specially designed for arc-welding also included), etc.	70	50	820	—	940
Electric communication, control, radio, television and acoustic equipment	160	90	240	—	490
Other products of electrical engineering (electrical wire and cable and switchboards and distributing installations excluded)	140	230	290	—	660
Motor vehicles, tractors, and other products of manufacture of motor vehicles	160	830	4,630	—	5,620
Containers (for transport)	30	50	190	—	270
Other vehicles (whether or not with own propulsion)	400	390	350	—	1,140
Other products of manufacture of transport equipment	50	100	50	—	210
Products of instrument engineering	150	140	170	—	460
Other products, not elsewhere classified	120	20	60	—	190
Total	296,660	86,940	56,560	15,770	455,940

TABLE 2

AVERAGE AGE OF THE CAPITAL STOCK IN THE CIGAR INDUSTRY AT THE END OF 1979 BY TYPE

Type	Average Age (years)
Land	—
Buildings (dwellings, pavement and lifts included)	24.7
Electric installations (electric wire and cable, connecting and distributing installations included)	13.6
Central heating installations	12.9
Air-conditioning installations	6.0
Products of manufacture of textile and wearing apparel	5.9
Carpenter's work and wooden racks	11.0
Wooden packing cases, crates and casks	7.7
Wooden pallets	7.0
Special wooden furniture (furniture for industrial use)	12.0
Other products of manufacture of wooden products, wooden furniture and similar industries	11.5
Products of the petroleum, chemical, rubber and plastic products industry and of manufacture of artificial and synthetic yarns and staple fibres	5.6
Products of the basic metal industries	4.6
Gasholders, reservoirs and tanks and (pneumatic) pipes	13.6
Products of structural engineering	12.1
Metal furniture	9.2
Fire extinguishers	3.3
Lighting fittings	9.1
Other metal products (except tools)	9.2
Chipping machine-tools for metal working, accessories, parts and tools for these machine-tools included	11.7
Non-chipping machine-tools for metal working, accessories, parts and tools for these machine-tools included	14.3
Packing machinery; machinery for cleaning or drying bottles or other containers	9.4
Centrifuges n.e.c.; filtering and purifying machinery and apparatus for liquids or gases	8.3
Machinery, apparatus and plants for the tobacco processing industry	12.4
Forklift trucks, stacking machines	5.7
Conveyors for goods with continuous movement	10.2
Winches, pully tackles, escalators and other lifting and handling machinery	6.9
Machine-tools for working wood and mechanical tools for hand operation	9.7
Machinery, apparatus and plants for manufacture of paper and paperboard and for the printing industry	18.1
Typewriters	5.7
Office machines incorporating a calculating device	8.3
Copying machines, data-processing machines and other office machines	1.7
Pumps and compressors, hydraulic and pneumatic units and installations	10.6
Fans and air-heating and air-drying apparatus and installations	10.4
Refrigerators and deep-freezers (compression type included), apparatus and installations	8.5
Weighing machinery (precision balances excluded)	10.7
Automatic vending machines	5.2
Gas-operated welding and cutting appliances (autogenous)	1.1
Machinery, apparatus and plants for industries n.e.c.; other machinery, apparatus and plants n.e.c. and tools (except mechanical tools for hand operation)	8.7
Electrical motors, transformers (if specially designed for arc-welding also included), etc.	2.2
Electric communication, control, radio, television and acoustic equipment	7.6
Other products of electrical engineering (electrical wire and cable and switchboards and distributing installations excluded)	5.7

TABLE 2—*continued*

Type	Average Age (years)
Motor vehicles, tractors, and other products of manufacture of motor vehicles	2.9
Containers (for transport)	4.1
Other vehicles (whether or not with own propulsion)	8.2
Other products of manufacture of transport equipment	7.6
Products of instrument engineering	8.2
Other products, not elsewhere classified	10.9
Total	16.8

obtaining data on the combination of type of capital asset and vintage. Furthermore it is difficult to determine the original historical cost and the vintage of second-hand and rented goods. As explained, lifetime also involves many problems. The data required were supplied by the enterprise to the field staff member of the C.B.S. according to a checklist. This implied that the information did not reach the C.B.S. in a very streamlined form and was often not complete. The consequence was that within the C.B.S. several steps of processing and estimating had to be carried out with the material obtained. This was a rather difficult and time-consuming operation. However, according to the opinion of the people who carried out the enquiry this method of gathering data was the only possible way.

But at the same time it is a sensible way. The results are such as to justify publication. The results of the enquiries give a good picture of the actual value of the C.S. broken down by type of capital good and vintage. This does not mean that all parts are of the same strength. As an example the figures on the value of the capital goods of recent vintages are more reliable than those on very old vintages. The values of second-hand and rented goods were often estimated and so, in principle, are less reliable than those of new and owned goods. Generally speaking, however, the investigation can be considered to have been a success, except for lifetimes.

In this way for the first time in the Netherlands information on the value of the C.S. was obtained by enquiry. The results of these enquiries can well be compared in parts, the valuation having been carried out in the same way for all enterprises and care having been taken that in each enterprise all means of production were asked for. At the moment new enquiries are under way. In the future this new technique of enquiry will provide good detailed information on the C.S. in the Netherlands.

Tables 1 and 2 show some results of the enquiry for the cigar industry. For further results of this enquiry please refer to C.B.S. (1982).

LITERATURE

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