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## Land Valuation and Fiscal Policy in Denmark

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IN DENMARK the total market value of land can be estimated quite accurately. Table 11 : I shows the value of different types of land for 1986. The total is 385 milliard Dkr. (£1.00 = 11.40 Dkr.). The figures are the result of a process of public valuation which takes place every four years. For each property the land is valued at the highest and best economic use, disregarding the existing buildings. The land value includes site improvements like drainage, sewerage and roads.

For all urban and recreational land the valuation is very accurate. Agricultural land, however, is undervalued due to the regulations which determine the valuation of this type of land. The public valuation includes 97% of all land and only excludes roads, railways, airports, seaports, churches, parks and defence installations.

Adjusting for the under-valuation of agricultural land and for the value of land not included in the public valuation, the total market value of all land in Denmark can be estimated as 450 milliard Dkr. for the year 1986. The market value of all real estate (land and buildings) was 1,500 milliard Dkr. The national income for 1986 was 580 milliard Dkr., and a rough estimate of the value of all assets is 2,000 milliard Dkr.

**Table 11 : I**  
**Market value of land, 1986**

<i>Type of land</i>	<i>Area (km<sup>2</sup>) '000s</i>	<i>Value (million Dkr)</i>
Residential	1,300	208,863
Commercial	62	12,971
Mixed commercial and residential	171	21,943
Industrial	189	13,313
Public administration	617	24,536
Private institutions, etc	93	4,775
Recreational <sup>1</sup>	380	20,359
Vacant urban land	640	20,237
Agriculture	33,158	45,210
Woods	3,664	2,377
Miscellaneous	914	11,235
<b>Total</b>	<b>41,188</b>	<b>385,819</b>

<sup>1</sup> Summer houses and week-end cabins.

£1 = 11.40 Dkr.

### Public Valuations

Taxes related to properties have been important in Denmark for centuries, as has been the case in many other countries. To establish a fair and equitable base for taxation the market value of all properties has been assessed every four years since 1903. Since 1920, when a land tax was introduced, the capital value of the land has also been assessed every four years. Both the land value and the total value are capital values and not annual or rental values. Table 11:II shows the overall result of the valuations since 1926.

The values are used for all the different taxes related to the properties, and for a number of other purposes as well (payment for water, garbage removal and road maintenance, calculation of grants to municipalities and appreciation of buildings for business).

Valuation is carried out by the central government with secretarial assistance from the municipalities. Both for central govern-

**Table 11 : II**  
**The value of real estate, 1926-1986**

	<i>Land value</i> <i>(milliard Dkr)</i>	<i>Total value</i> <i>(milliard Dkr)</i>
1927	5.1	13.2
1932	5.0	13.7
1936	5.6	15.7
1945	6.8	20.8
1950	9.3	29.5
1956	12.5	47.1
1960	17.2	68.4
1965	41.2	150.0
1969	67.4	242.9
1973	103.5	397.7
1977	194.3	769.5
1981	319.8	1,115.1
1981 <sup>1</sup>	229.7	800.6
1986 <sup>1</sup>	385.8	1,461.7

1 Cash equivalent value (before 1981 valuation based on nominal value; that is, equivalent to the amount written in the deed.)

ment and the municipalities the valuation administration is a part of the general tax administration.<sup>1</sup>

The valuation is based on the basic information about each property, that is, the size, quality and location of the land, and the size, age, installations and material used for the building. The valuation is also based on the collected information about the sales prices of all sold properties, the planning regulations and the knowledge of the local valuer.

### **Valuation Standards**

Two values are assessed for each property:

- Total value (land and buildings)
- Land value

The *total value* is the full market value of the property including land and buildings but excluding machinery, furniture and livestock. The value is the average *cash* payment a sensible buyer would pay for the property at the time of valuation.

The basis of the valuation is the best economic use to which the property can be put. All public rules and regulations — like planning regulations, preservation of buildings or nature and rent control — must be taken into consideration. Private regulation and agreements are not taken into account. That means that unusual rent agreements or special mortgage conditions do not influence the value.

The *land value* must be the full market value (assuming cash payment) of the land without the buildings. The best economic use of the land — disregarding the existing buildings and the present land use — is the basis of the valuation. All public regulations concerning the land — but not the buildings — are taken into consideration.

Land in rural zones is assessed at the best economic use for agriculture. The value depends on the basic agricultural quality of the land and of the location in relation to the market outlet for agricultural products. An average condition concerning fertilizer, marling etc. is assumed. On the market the price per hectare of agricultural land also depends on the size of the farm, but this element is disregarded in the valuation. The value of an expected transfer of the land to the urban zone is also disregarded, but this value is included in the total value of the property.

The land value includes site improvements like drainage, sewerage and roads. However, a special assessment of an owner's actual costs for site improvements can be made and can be deducted from the taxable land value for 30 years.

### Valuation Techniques

Land valuation in urban areas is primarily based on statistical analysis of sales of vacant land (plots). The annual number of sales are between 4,000 and 6,000. Only arm's-length transactions in the open market are considered. For each type of land, sales statistics indicate land value. Different factors influence different types of

land. Simple models explaining the price structure have been developed for each type of land.

For land intended for apartment houses or commercial buildings the price of land depends on the total floor space which can be constructed on a plot. Besides location and size of plot, permitted building/land ratio according to planning regulations is the decisive factor influencing the price. In areas intended for apartment houses or commercial activities, sale prices of vacant land are related to permitted building/land ratio according to planning regulations.

Sales of vacant land will often be located on the periphery of urban areas. In densely built-up areas only a few sales are recorded. The valuation authorities therefore include sales of other types of properties in order correctly to estimate the land value. A variety of techniques are used in this process.

— Sales of single-family houses, terrace houses and summer-houses: the computer models used for estimation of the total value of these properties produce statistics which can be used to indicate general land value levels in different regions of the country.

— Analyses of sales of properties with demolished buildings. On the sales report the buyer must indicate if he intends to demolish existing buildings. The land value is calculated by deducting the average demolition cost from the sale price. In some city areas this will be the only approach available. The number of sales of this kind are quite substantial. In the Copenhagen area 100 sales were recorded during the 4-year period prior to the 1986 valuation.

— Using the knowledge of the valuer. Local valuation committees have knowledge about the structure of land values in their valuation circle. With the use of that experience, land values in densely built-up areas can be calculated from the sale prices of plots in inferior locations.

Practical valuation involves a combination of all methods. The definition of land value has implications which seem odd to the public but are logical. If utilisation of land is inefficient according to planning regulations (for instance, if a single-family house is located in an area where regulations permit commercial activities) land value exceeds total value. Following the 1986 valuation,

this was found to be the case for approximately 1,500 properties.

Ownership has no influence whatsoever on land value (or total value). The best economic use decides the valuation. A government building and a private office building will have identical land values if size of plot, location and planning regulations are identical.

The valuation of agricultural land is different from the valuation of urban land. The basis is the classification of all agricultural land according to productive quality. Before each valuation a number of sold agricultural properties are selected and visited by experts from the Danish Inland Revenue and The National Tax Board. After each visit the sales price is analysed and divided into three parts:

- value of production buildings
- value of residence, and
- value of land.

Using the results from these visits (200 by the 1986 valuation), The National Tax Board decides on values for agricultural land of medium quality located in 10 different regions. With that as a basis, the value of land of all the other qualities is calculated.

### **Computer Assistance**

During the period 1960-1980 computer registers were established which contained all the basic information needed for the valuation. Two very powerful valuation systems were established for the 1981 valuation and expanded for the 1986 valuation.

The Land Value System calculates the land value of all properties. As a basis for this the detailed planning regulations are recorded for all areas, and land value areas are formed each having only one type of permitted land use. For each land value area a 'price' or an updating factor is reported. The land value can then be calculated for each property using different mathematical models for different types of permitted land use.

The Total Value System calculates the total value for single-family houses, two and three-family houses, summer houses, freehold flats and rental multi-family houses. The basis is statistical analysis of the sold properties resulting in different mathematical

models for each type of property. The value of the building is then calculated and the land value is added.

Since 1982 there has been a computer update of all values for the years between valuations. The update is based on the price trend for different types of properties in different areas.

The valuation systems do not replace the human judgement in the valuation process. They do, however, execute a vast number of calculations and recordings which previously had to be performed by the local valuers. For this reason the number of local valuers was reduced in 1982 from 3,840 to 1,444. This has reduced the total cost of the valuation administration by approximately 50 million Dkr. Table 11 : III shows the different taxes related to properties in Denmark.

The Property Tax is a local tax levied by both the municipalities and the counties. Ninety per cent of the revenue is a land tax based on the assessed capital land value for each property. Almost all types of properties are subject to the land tax including vacant plots and agricultural land. Ten per cent of the revenue is tax on the value of buildings used for business and publicly-owned buildings.

**Table 11 : III**  
**Taxes related to properties, 1985**  
**(million Dkr)**

	<i>Total tax</i>	<i>Tax of properties</i>
Property tax	5,600	5,600
Income tax of imputed rentals	6,000	6,000
Development gains tax	40	40
Property transfer tax	900	900
Net wealth tax	1,300	520
Inheritance and gift duty	1,400	500
Capital gains tax	1,700	100
Total	—	13,660
Per cent of total taxes and duties	—	4.5%
Per cent of GDP	—	2.2%

Owner-occupiers of dwellings and summer homes must include an imputed rental value of the property in their personal income for the income tax. The imputed rental is a percentage of the total capital value of the property.

When rural land is redesignated as urban land, the owner must pay development gain tax, which is half the increase in assessed land value due to the re-zoning.

When properties are sold or transferred, a property transfer tax (or stamp duty) must be paid to the Land Registry. The tax is 1.2% of the sales price or the assessed value, whichever is the higher.

Table 11:III further shows how much of the revenue of net wealth tax, inheritance and gift duty and capital gains tax can be attributed to properties.

### Costs of Valuation

The total costs of valuation and collection of property taxes have been estimated as 260 million Dkr. for 1986, when valuation took place, and 200 million Dkr. for the years before and after. The costs are related to data-processing maintenance of the computer registers, all costs of personnel and honoraria for the local valuers. The costs are only 1.5-2.0% of the revenue.

### NOTES

1 The local valuers are appointed by the municipality (4-8 per valuation circle). They are exclusively recruited from members of local political party organizations and the composition of the valuation committees is by and large a reflection of the local political party structure. According to the valuation law no specific training or experience is required. When appointed, new members of the valuation committees receive introductory training organized by the Inland Revenue.

The job as local valuer is a typical sideline occupation. That explains why the computerization of the valuation process was not conceived as a threat against the vital interests of any professional group. In spite of the reduction in number, the local valuers have welcomed the computerization because they can concentrate on a few types of properties. Trivial routine calculations are done by the computers, which offers the local valuers a great opportunity to apply their special knowledge in the valuation process.