

A COMPARATIVE STUDY ON FARMLAND TAXATION IN GERMANY AND TAIWAN

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摘 要

1. 於西德，就農場用地定期課徵賦稅的徵稅基礎，即農場標準課稅價值，其係按生產價值予以評估。由於農場係包含經濟要素與住宅要素兩項，故其標準課稅價值為農場用地的經濟價值（或稱收益價值）與農宅的租賃價值之合計。
2. 個別農場生產價值的評估，係經比較調整過程求取而得。為利於比較調整程序之進行，乃由財政當局遴選全國、各邦與各郡之評價基準點（標準農場）。所謂「理想農場」，係指全國壤質、土地使用條件最佳的農場，也就是全國最優的標準農場。個別農場的稅基評價結果，均以相對指數值表之，而理想農場的指數值為100。
3. 現行標準課稅價值，係以1964年1月1日為定價基準日，所定價值自1974年1月1日起沿用至今。此等價值未予調整的主要理由是：(1)理想農場的實質淨收益正逐年遞減中，(2)重新規定標準課稅價值的經費浩繁，手續龐雜。
4. 就農地定期課徵的賦稅，有土地稅、財產稅與遺產稅，其稅基均是農場標準課稅價值。由於1964年所評定的標準課稅價值，遠低於市場價值，故農民投資於農場資產，即意味著土地稅、財產稅與遺產稅的負擔均低。
5. 原則上，因土地移轉所產生的淨益，均需納入可稅所得，課徵所得稅。惟按所得稅法之規定，倘農地移轉的淨益再用以購買其他替代農場，則可免予課稅。由於西德的所得稅法給予農民特別的免稅保障，使其得以因應經濟發展過程中的調適壓力問題。
6. 於臺灣，中央政府決定自1988年起取消田賦的課徵。採此措施，的確可減輕農民生產成本的負擔，然卻可能引發若干問題：(1)土地所有權人之間的稅負不公平，(2)難以促進農地的有效利用，(3)藉減稅措施以獎勵擴大農場規模的成效盡失，(4)有引發投機者將農地變更使用卻無須支付任何附加稅之嫌。
7. 就改善農業結構的觀點言，西德就農地課徵較輕賦稅的措施，誠然要比我國取消田賦課徵的措施略勝一籌。蓋原以減徵農地稅或加徵荒地稅的獎勵或懲戒措施，皆無從發揮功效。
8. 我國未來農地稅制的更革方向，為：(1)稅基評價宜按生產價值評定，(2)地稅得徵收實物或折繳代金，(3)平衡一般土地與三七五租約地的稅負，(4)農地稅與水利費宜按農場規模大小累退課徵。

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Abstract

(1) In Germany, the *Standard Tax Value* of a farm is basically assessed on the basis of production value. Because the assessment of a farm consists of two parts, the economic element and farm house element, its *Standard Tax Value* will be the economic value (or proportional return value) of the farmland plus the rental value of the farm house.

(2) The production value of the individual farm is assessed by a procedure of comparison. For the purpose of comparison, valuation bases were selected by the financial authorities on the national, state and county level. The ideal farm is the best agricultural enterprise with the highest land classification in the country. The results of the assessment are expressed in relative terms by index number, and the index of ideal farm is 100.

(3) The actual *Standard Tax Values* were reidentified as the common value on the key date of Jan. 1th, 1964. The renewed values were first applied since Jan. 1th, 1974. The reasons why these values remain unadjusted were that: 1. the net return of the ideal farm was decreasing annually, 2. the administrative expenses for a new assessment was too high.

(4) The taxes levy upon farmland are Land Tax, Property Tax and Succession Tax, and the tax bases are *Standard Tax Values*. Because the 1964 assessment on the *Standard Tax Values* results in a substantial reduction of the land property value against its market value, investments in farm real estate mean reduction of Land Tax, Property Tax and Succession Duty. In other words, the farmer's tax burden related to his land property is extremely low.

(5) In principle, all net gains from alienation of land are taxable incomes and are liable for Income Tax. However, the Income Tax Act provide that if the proceeds of farmland transaction are used for acquisition of replaced land, the tax liability is exempted. Today, in Germany, these exemptions from Income Tax are necessary in order to protect farmers from heavy taxation to escape the economic adjustment pressure.

(6) In Taiwan, the central government repealed the Farm Land Tax (FLT) and the announcement came into effect in 1988. This measure can indeed reduce some of farmer's production cost; nevertheless, it may cause some significant problems, such as: 1. inequity in tax burden among landowners, 2. inefficiency of agricultural land use, 3. the degraded function of the measures for encouraging farm size enlargement by tax reduction, 4. to stimulate speculators to convert farmland into other use without paying any surtax.

(7) From the point view of the improvement for agrarian structure, the light taxation system upon the farmland in Germany is better than the abolishment of the FLT in Taiwan. On the whole, the policy of tax free for farmland holding is not very effective.

(8) The recommendation to the FLT system reform in Taiwan are: 1. tax base should be reassessed on the basis of production value, 2. tax payment may be made in kind or in cash, 3. equalization of taxes on Self-cultivated Land and Tenanted Land, 4. FLT and Water Irrigation Fee should be levied regressively in accordance with farm size.

I. Introduction

In respect to agriculture, German tax policy is carried out under the impression of the heavy adjustment problems which agricultural enterprises have to face during the process of economic development. In pre-industrial times, agriculture was the basic source for public revenue collection. But this has been changed fundamentally. Today, agriculture has lost its importance as a major source for tax collection and is more in need for public support than in the position to contribute substantially to public means available for government spending.

Though the status of economic development in Germany and Taiwan is different, the small scale of family farming is about the same. For years, Taiwan has faced serious adjustment problems as Germany had before. Therefore, it is worthy to learn German experience in tax policy which is mainly emphasized on improvement of structural change in agriculture, as a reference for decision making of our own.

The main purpose of this study is to compare the impact of taxation systems on agrarian structure in Germany and Taiwan. Moreover, some suggestions will be made to improve the existing taxation system. Hopefully they are relevant to policy making so as to acclimate economic development, and cope with the challenges of structural change in nowadays.

II. Characteristics of the Taxation System in Germany

(1) Standard Tax Value and its Application by Different Tax Regulations

1. The assessment of Standard Tax Value

In the Federal Republic of Germany, a piece of farm land can be valued in four different ways. For commercial purpose, land valuation is based on the *common value* or *market price* of land. The economic valuation, e.g. for inheritance purpose, is based on the *value of returns*. For taxation purpose, *Standard Tax Value* or *acquisition value* are applied.¹

¹ E. E. Lipinsky, "Farm Land Property, Legal Regime, Fiscal Regulations, and Land Mobility in the Federal Republic of Germany," paper prepared for International Workshop on the Agricultural Real Estate Market and Land Prices: Universal International Menendez Pelayo, Seville, Spain, Sept. 24-26, 1986, PP.12-19.

(1) Market value

The market value of land is the value which is freely negotiated on the land market. When land must be purchased or expropriated for any public purpose, the value is the market price. In the case of land acquisitions related to city development or reconstruction schemes, the common value is the market price before planning. Price informations are provided by the county land price reporting committees.

(2) Production value or value of returns

The economic valuation, e.g. for inheritance purposes, is based on the *production value*, or *value of returns*. The calculation of the production value is based on the net profit. The laws of the different states prescribe, by which factor the profit must be multiplied in order to get the correct capitalization. This factor varies among the states between 18 and 25, i.e. it is assumed that the returns to capital invested in farming vary between 5.55% and 4%.

Based on the average net profit published in the Green Report for 1984/85 (173 DM/ha X 18 or X 25 respectively) the average value of returns per hectare is 3,114 DM/ha or 4,325 DM/ha respectively as compared with the average market price of 38,629 DM/ha.

(3) Standard Tax Value² (see Table 1)

A. Standard Tax Value derived from market values

The Standard Tax Value is the common value at the key date (January 1, 1964) given by the Assessment Act³. It applies to all non-farmland without buildings and to non-farmland with buildings if the material value method is used, i.e. separate evaluation of land, buildings, and other ingredients.

B. Standard Tax Value derived from production value or rental value

a. Non-farmland

The production value (rental value) of non-farmland is calculated on the basis of the prevailing annual gross rent, which is regarded to represent

² E. E. Lipinsky, "Land Valuation and Land Taxation in West Germany", paper prepared for the Board Meeting in Bonn 1988.

³ Bewertungsgesetz, V.16. 10. 1934, BGBI.1, V.30. 5. 1985, S. 845.

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Table 1. A Comparison to System upon Assessment of Taxable Value in Germany and Taiwan

Item	Taiwan		Germany				
classification of land or property	agriculture land (non-urban land included)	non-agriculture land	agriculture and forest property		land property		enterprise property
tax unit	agriculture land	non-agriculture land	farm-land	farm-house	land with building	land without building	enterprise land*
assessment of taxable value	average yield (net yield)	market value	production value	rental value	material value	market value	material value
taxable value or Standard Tax Value	standard tax amount (Fu-Yen)	Announced Land Value (also as the Announced Current Land Value)	economic value (farmland) + farmhouse value [S.T.V.]		common value [S.T.V.]	common value [S.T.V.]	common value
announced date or Key date of last main assessment	announced year: 1944	announced date: 1.7.1987	Key date: 1.1.1964, but were first applied since 1.1.1974.				

* enterprise land is only a part of enterprise property.

Source: Ai-Ching Yen, "A Comparative Analysis to System upon Assessment of Taxable Value in Germany and Taiwan" (in Chinese), in Proceedings of the Symposium on the Land Value Appraisal, the Chinese Institute of Land Appraisal, January, 1990, pp.38-39.

an interest rate of 7% to 13% depending on the location. Subsequently, the annual gross rent is multiplied by a factor from 14.28 to 7.69. The resulting value shows the total rental value of the land, buildings and all appliances on the land. This rental value applies to all land bearing apartments for rent, stores, offices, one- or two-family house; including farm house.

b. Farmland (economic value)

The production value of farmland is not derived from net profit but from the potential productivity, i.e. the annual net profit which can be achieved on a farm by orderly husbandry, free of debts, and with paid non-family labor (principle of objective assessment of production). The production value is defined as 18 times the annual net profit of the farmland.

The production value of the individual farm is assessed by a procedure of comparison (see Figure 1). For the purpose of comparison, valuation bases were selected by the financial authorities on the national, state and

Figure 1. The Bases for Deriving the Comparative Values (Vergleichswert) of Agricultural Land Use in the Standard Tax Value Assessment (Einheitsbewertung) System

Proceeding steps	explanations
1. The sum of the yield index number from – crop land (field) – grass land (pasture)	the result of soil assessment (contained in real estate register book) verification for the results of soil assessment: deductions for grass land, heavy soil, extremely light soil, morass soil, soil change. Further deductions for losses of parcels of land, cleaning of ditches, dangers causes, as well as “influences” of the natural production conditions caused by cultivate activities and other means.
2. The sum of the adjusted yield index number (bereinigte Ertragsmeßzahl)	deductions or additions for economic conditions which differ from the “average”: inner communication condition, outer communication condition, farm organization in respect to land use system and amount of stocks, difficulties to apply modern technology, farm size, building conditions, damages caused by industry.
3. Interlocutory sum (Zwischensumme)	additions or deductions for regional price and wage conditions which differ from the “average.”
4. farm index number (Betriebsmeßzahl)	divided by the area for agriculturally used land in ha (building sites is included).
5. farm index number per unit (Betriebszahl)	additions or deductions for land tax duties and drainage costs differing from the “average.”
6. Comparative index number (Vergleichszahl)	multiplied with 37.26 DM
7. per ha value (Hektarwert)	multiplied with the area for agriculturally used land in ha (building sites is included).
8. the comparative value for agriculturally used land (Vergleichsért)	

Source: M.Köhne, R.Wesche, Die Besteuerung der Landwirtschaft, Eugen Ulmer GmbH & Co., 1982, S.68.

county level. The ideal farm is the best agricultural enterprise with the highest land classification in the whole nation.

The farms representing the valuation bases were assessed first. Then the individual farms were assessed by comparison. The results of this assessment are expressed in relative terms by index figure. The production value for individual farm then is calculated by multiplying the index figure expressed in percentage by the maximum production value of the ideal farm which applies to index 100.

The assessment of farm land is based on the results of a *soil quality assessment* and on a system of correcting additions and deductions. The soil quality assessment treats cropland and grassland separately. The assessment of cropland is based on *soil texture, genesis, and development*. Nine different texture classes are distinguished in the estimation of crop land. In judging texture, the condition of the whole profile is considered. Five kinds of parent material are recognized. Seven "states of textural development" in mineral soils were classified, state 1 representing the best and state 7 the most unfavourable situation. These states of development included content of organic matter, depth of the soil, influence of water, and so on. From these three factors (soil texture, origin, and state of development), a soil index number is derived in the field appraisal system. The soil number of 100 is the best soil quality. The others express the net profit in relative terms which shows the gain on land with the respective soil quality.

The soil assessment is based on the presumption of normal climatic conditions with an annual precipitation of 600 mm and a mean annual temperature of 8 degrees C in flat areas. Deviations from these normal conditions are adjusted by additions or subtractions to the soil number: the last numbers are called *cropland numbers*. By multiplying the cropland number with the size of the field, one arrives at the yield index of the field. This figure is registered in the cadastre.

Grasslands are similarly assessed by the grassland appraisal system. This system differs from the soil assessment system, most emphasis being given to *soil type, kind, and climatic and water conditions*. Through a procedure of correcting additions and deductions, a *grassland number* can be achieved. The grassland number is multiplied by the size of the field

in order to get the yield index. The results of these surveys are registered on soil maps and registration book.

All yield index figures of a farm are then added and adjusted according to particular natural and economic production conditions. The result is the farm number which divided by the farm size in hectares gives the index number per hectare in percentage. The multiplication of this index number by the maximum production value of the ideal farm (37.26 DM/ha) gives the average production value per hectare of the respective farm. The special average production values are fixed for land carrying special cultures like hops, asparagus, grapes, or fruit trees.

So far we have discussed the fixing of the part of the Standard Tax Value referring to farmland, which is also called "economic value". Because the assessment of a farm consists of economic element and farmhouse element, its Standard Tax Value will be the economic value of the farmland plus the rental value of the farmhouse. The rental value is calculated from an assumed local rent as described above.

(4) Acquisition value

The "*acquisition value*" is the land value which is applied to calculate the profit which appears when farmland is transferred or transfer to an heir. The transfer of farm property into private property results in a change of the basis for evaluation, from value of return to market value. The result is a substantial value increase which from the fiscal point of view is taxable income. The intention of introducing the acquisition value was to protect farmers against this taxation. Therefore, the acquisition value was set substantially higher than the Standard Tax Value. In 1970, when the acquisition value was introduced, it was fixed at 4 times the yield index times 2.

2. The application of Standard Tax Value by different tax regulations

The following taxes referring to farmland apply the Standard Tax Value as the tax bases: (see Table 2)

(1) Land Tax

Land Tax is a local tax. The basis for taxation is the Standard Tax Value, which

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Table 2. A Comparison to System Upon Farmland Taxation in Germany and Taiwan

Item	Taiwan		Germany			
tax type	Farmland Tax ¹	Succession Tax ²	Land Tax ³	Property Tax ⁴	Succession Tax ⁵	Income Tax ⁶
tax objective	agriculture land (non-urban land included)		farm (farmland and farmhouse included)		farmland	
tax base	standard tax amount (Fu-Yen)	half of the Announced current land value	Standard Tax Value (S.T.V.)	the sum of Standard Tax Values for all kinds of property deduct the total amount of liability	Standard Tax Value or value of returns	Net gains from sales (or transfer) of farmland
allowance	—	1) from NT.\$250,000 to NT.\$2,000,000 according to the degree of relationship between the inherits and deaths 2) the value of the farm should be summed to value of all inherit property	—	1) single person: 70,000DM 2) married couple: 140,000DM 3) each of their children: 70,000DM	1) from 3,000DM to 250,000DM according to the degree of relationship between the inherits (I – IV class) and deaths 2) the value of the farm should be summed to value of all inherit property	1) economic value of a farm is less than 40,000DM 2) the off-farm income of a part-time farmer is less than 24,000DM (single) or 48,000DM (couple) any person who fits the case, can get 9,000DM allowance
tax rate	amount of collection: less than 27 kg/Fu Yen	2% ~ 60%	for farmland: 1) basic tax figure: 0.6% 2) township 270%	1) natural person: 0.5% 2) legal person: 0.6%	I: 3 ~ 35% II: 6 ~ 50% III: 11 ~ 65% IV: 20 ~ 70%	22% ~ 56%

Source: 1) Land Tax Low (R.O.C.), Amended on 30.10.1989.
 2) Inheritance and Donation Tax Law (R.O.C.), Amended on 19.6.1981.
 3) Grundsteuergesetz, (GrStG), Vom. 7.8.1973.
 4) Vermögensteuergesetz, (VStG), Vom. 14.3.1985.
 5) Erbschaftsteuer-und Schenkungsteuergesetz, (ErbStG) Vom. 17.4.1974..
 6) Einkommensteuergesetz, (EStG), Vom. 15.4.1986.

is the production value of the farmland, or its value of returns. Therefore, we can say that the farmland tax is a tax on proceeds (Ertragssteuer).

The actual Standard Tax Values were reidentified as the common value on the key date of January 1st 1964. The renewed values were applied on Jan. 1st 1974. The Standard Tax Values applied until December 31th 1973 were first assessed for the value on Jan. 1st 1935.

When the Parliament had to decide about the new Standard Tax Values of farmland, the Committee for Food and Agriculture proposed a reduction of the maximum net return by 51%. The committee argued that the identified maximum profit was influenced by subsidies and by support prices which might be reduced in the future. Another argument was that the calculation was based on the assumption of relatively low wage rates for family farm labour. After reduction

the maximum production value/ha was set at DM 3,726. — compared to the average purchase price of DM 12,000. — published for 1964.

The Land Tax is calculated from the Standard Tax Value. The law says that the basic tax figure (Steuermeßbetrag)⁴ of farmland is 6‰ of the Standard Tax Value. The councils of the townships/towns decide about the rate (Hebesatz), i.e. which percentage of the basic tax figure of the farmland should be the Land Tax.

The rate varies substantially. It is the highest in small rural townships and the lowest in townships with substantial tax incomes from non-agricultural enterprises. On the average, it is about 270%. The annual Land Tax paid by farm owners is about 1.6% of the total Standard Tax Value of German agriculture in 1964.

(2) Property Tax

Property Tax is a state tax. The rate is 0.5% of the taxable property of natural persons, and 0.6% of legal persons. Exempted from the tax are the Standard Tax Value of the properties up to 70,000 DM for single person or 140,000 DM for married couples, and 70,000 DM for each of their children.

Due to the assessment of the farm property at a particular low Standard Tax Value and due to the exemptions mentioned above only owners of exceptionally big farms have to pay Property Tax. For example, the owners who owns below 37.5 ha of farmland with highest Standard Tax Value (3,726 DM/ha), or 66.3 ha of farmland with the average Standard Tax Value (2,109 DM/ha) are exempted from the tax.

(3) Succession Tax

Succession Tax is a state tax as well. It is a progressive duty and the rates increase with the distance in relationship as well. In general, in the case of inheritance of a farm the value is either the Standard Tax Value or the value of returns. Tax exemptions are provided. Therefore, also Succession Tax becomes due only when very big farms are inherited, or when a farm is auctioned at the occasion of inheritance.

⁴ Basic tax figure for non-farm land 3.5%
one family house 2.6% for the first DM 75,000.
two famili 3.5% for the rest
two families house 3.1%

see § 15 of the Land Tax Law (Grundsteuer gesetz), Vom 7.8.1973, BGBI. I, Vom 14.12.1976, S. 3341.

(II) Income Tax Regulation Concerning Sale of Land

Income Tax is a national tax, the percentage of the distribution to the tax revenue is 42.5% for federal, 42.5% for state and 15% for local. In principle, all net gains from sales of land or from other transfers of land, i.e. from the status of farm property to the status of private property, are taxable incomes. The net gain is the difference between the sales price or the common value (i.e. the market value) and the book value of the farm property reduced by the costs of alienation. Sellers of farmland are exempted from Income Tax when they reinvest the gains either in their old farm or in a new farm within two years.

In order to encourage farmers who want to quit farming to sell their lands, special regulations provide for amounts exempted from tax for those selling small farms. Sellers of farms with a Standard Tax Value of farmland (Wirtschaftswert) up to 40,000 DM can get tax deduction. These are farms from 10 ha to 50 ha depending on the quality of soil. In order to give part-time farmers the chance of taking advantage from the tax deduction as well, their off-farm income must not be higher than 24,000 DM (single) or 48,000 DM (couple) respectively, all sellers fulfilling these conditions are exempted from Income Tax for net profits up to 90,000 DM. (see Table 2)

The same preferential treatment is given to a farmer who abandons his farm. When a farm is left and e.g. the land is rented out parcel by parcel, in fiscal terms the farm property is transferred into private property. The profit resulting from this transfer is subject to Income Tax. However, if a farmer sells his farm except the house and some pieces of land, the transfer of the retained farm property into private property is tax free.

If a farmer transfers his farm to one heir and gives some pieces of land to the retreating heirs, a transfer of farm property into private property takes place as well. In this case, an amount of 60,000 DM exempted from tax can be claimed by each retreating heir provided his taxable income does not exceed 24,000 DM (single) or 48,000 DM (couple) respectively.

Farmers who fulfill the same income criteria also enjoy a tax deduction if the proceeds from the sale of a piece of land are used to pay off debts. Due to a special regulation for the period between 1986 and 1988 the amount free of tax covers up to 90,000 DM net profit from alienation of farmland.

All these exemptions from Income Tax are necessary today in order to protect

farmers from heavy taxation inspite of the provision made by introducing the "acquisition value". The reason is the tremendous increase of land prices.

III. Characteristics of the Taxation System in Taiwan

For the purpose of increasing the farmland mobility, the Land Value Increment Tax (LVIT) of farmland has been abolished since 1983. Recently, in 1988, the central government exempt the farmers from Farm Land Tax (FLT) in order to increase their farming income. Therefore, farmers in Taiwan are free from land tax. Since the FLT collected in kind has been prolonged for many years, it is worth while to examine its role effect on structure change in Taiwan agriculture.

(I) The Structure of Tax Base and Tax Rate

According to the Land Tax Law (Article 22), on the following lands that are still being used as farmlands, there may be levied a Farm Land Tax.

- (1) The lands that are classified by city planning as agricultural zone and protective area for agricultural use only.
- (2) The urban lands that are being used as farm lands as long as the public facilities have not been completed.
- (3) The urban lands that are being used as farm lands because the restriction is placed on the use of them as building sites according to law.
- (4) The urban lands that are being used as farm lands when they cannot be used as building sites according to law.
- (5) The urban lands that are being used as farm lands because they are reserved for public facilities according to city planning.
- (6) The non-urban lands that shall be used as farm lands.
- (7) The non-urban lands that have not been valued.

"Collection of land tax in kind" is one of the features for the existing FLT system. Since Taiwan is the rice production area, tax payments are made in rice in principle. In case the lands are not suited for producing rice, the taxes could be paid in cash as the equivalent amount to the rice values.

All registered lands used for agricultural production are classified into 8 categories according to its utilization and nature. Each category of land is further

graded by its productivity. The average “gross yields” were assessed by land survey. While determining the standard “net yield” for each class, the costs of fertilizer, seed, water irrigation, hired labor wages, and 20% of rental income were deducted from the gross yield. The adjustment for 20% of rental income was made because of the rental disparity. Then each grade of each category was assigned to a unit of standard tax amount (Fu-Yen).

Lands related to crop cultivation could be divided into two kinds: paddy field and upland field. They both are classified into 26 grades in accordance with annual productivity respectively. The tax rates are progressive, ranging from 2% to 3.6% for paddy land, and from 1.6% to 3.1% for upland field. The yield and tax for each grade of paddy and upland field were assessed in 1944. Since then, the assessments have not been changed. (see Table 3)

However, the conversion rate for collection in kind has altered a lot since 1944. It was raised from 8.85 kg. per unit in 1946 to a maximum of 27 kg. in 1968. But since 1977, the government has reduced it to 13 kg. in order to lessen the farmers’ tax burden, and thereby to increase their income. The amount of unhulled rice collected by the government in recent 40 years are shown in Table 4.

Another feature for the existing FLT system is “compulsory purchase of rice”. During the 1950s, the purchase and collection of rice was at a price relatively lower than the market price. However, the purchase price of rice has been raised to access to or even higher than the market price under the consideration of improving farmers’ income.

In the light of land tax regulation, the rates for FLT collection and compulsory purchase of rice are:

(1) Genral Land (Self-Cultivated Land) 13kg. of grain per Fu Yen levied every year: during the 1st period, 8 kg.; and 2nd period, 5 kg.; accompanied by a compulsory purchase of 35 kg. of the same crop by the government: during the 1st period, 26 kg., and 2nd period, 9 kg.

(2) Three-Seven-Five Retained Farm Land (Tenanted Land) 10 kg. of grain per Fu Yen levied every year: during the 1st period, 6 kg.; and 2nd period, 4 kg.; accompanied by a compulsory purchase of 17 kg. of the same crop; during the 1st period, 10 kg.; and the 2nd period, 7 kg.

Because the agricultural management became unprofitable, the central government has exempted the farmers from 2nd period tax since 1977, and even

Table 3. Yield and Tax for Each Grade of Paddy Fields and Upland Fields Estimated in 1944

unit: Kg/chia, Yen/chia, %

Land Grade	Minimum Yield	Maximum Yield	Average Yield	Paddy Field		Upland Field	
				Rate (%)	Tax	Rate (%)	Tax
1	1,305	1,415	1,361	3.60	49.00	3.10	42.20
2	1,198	1,304	1,251	3.50	43.80	3.00	37.50
3	1,097	1,197	1,147	3.40	39.00	2.90	33.30
4	1,002	1,096	1,049	3.30	34.60	2.80	29.40
5	913	1,001	957	3.20	30.60	2.70	25.80
6	830	912	871	3.10	27.00	2.60	22.70
7	753	829	791	3.00	23.70	2.55	20.20
8	680	752	716	2.90	20.80	2.50	17.90
9	613	679	646	2.80	18.10	2.45	16.80
10	550	612	581	2.70	15.70	2.40	13.90
11	493	549	521	2.65	13.80	2.35	12.20
12	440	492	466	2.60	12.10	2.30	10.70
13	391	439	415	2.55	10.60	2.25	9.30
14	346	390	368	2.50	9.20	2.20	8.10
15	305	345	325	2.45	8.00	2.15	7.00
16	268	304	286	2.40	6.90	2.10	6.00
17	235	267	251	2.35	5.90	2.05	5.20
18	204	234	219	2.30	5.00	2.00	4.40
19	177	203	190	2.25	4.30	1.95	3.70
20	152	176	164	2.20	3.60	1.90	3.10
21	131	151	141	2.15	3.00	1.85	2.60
22	112	130	121	2.10	2.50	1.80	2.20
23	95	111	103	2.05	2.10	1.75	1.80
24	80	94	87	2.00	1.70	1.70	1.50
25	67	79	73	2.00	1.40	1.65	1.20
26	56	66	61	2.00	1.20	1.60	1.00

Source: Taiwan Provincial Food Bureau.

Table 4. The Amount of Unhulled Rice Collected for Every One Yen of the Farm Land Tax

unit: kg./Fu Yen

Period	Legal Level	Actual Amount of Collection	
		Owner-cultivated Land	Tenanted Land
1946	21.6	8.85	8.85
1947-49	21.6	11.505	11.505
1950-58	21.6	14.16	14.16
1959	21.6	19.824	19.824
1960-61	21.6	14.16	14.16
1962-66	21.6	19.37	14.16
1967	27.0	26.35	17.65
1968-72	27.0	27.00	18.30
1973	27.0	26.35	17.65
1974-76	27.0	22.00	17.00
1977-88	27.0	13.00	10.00

Source: Taiwan Provincial Food Bureau.

announced that the collection of FLT would be repealed and come into effect in 1988. Nowadays, the purchase prices of japonica and indica rice are raised to 18.8 Yen and 17.8 Yen per kg. respectively. These measures have shown some significance for increasing agricultural production and farmers welfare.

(II) Functional Analysis for FLT System

The FLT system has been implemented nearly 40 years. By various means of collecting land tax in kind, some special merits could be stated below:

- (1) The government may control the supply of rice and thus retain the stabilization of its price.
- (2) In-kind taxes provide the treasury with a kind of insurance against the adverse effects of inflation, so its payment tends to be rather stable.
- (3) The farmers understand and accustom to the existing system quite well, so they

can compare their tax with that on neighboring farms and estimate the tax burden in kind.

- (4) In case of calamities, farmers can recover from that easily since exemption shall be given according to the regulation.
- (5) The present system permits greater flexibility in the tax assessed, because that the conversion rates may change in accordance with the economic circumstances; therefore, the tax revenue is more elastic with respect to changes in income.

However, some problems caused by the FLT system could be found:

(1) Taxation in Kind is Inconvenient to the Tax Payers.

Because of the in-kind tax, farmers first have to hire someone to move the grains to the appointed storage to accept examinations. If the grains do not meet the severe requirements, they must be replaced immediately. This often caused a lot of misunderstandings, conflicts between taxpayers and taxcollectors.

In Prof. Yin's distinguished study, 780 farm families were interviewed to find out their responds to the taxation system. As shown in Table 5, about 40% of the farm families stated that the present system is "inconvenient for tax payment", and 22% expressed that "examination requirements are too severe". This might prove that most of the farm families do not satisfy with the present system because of levying in kind.

(2) Taxation in Kind is Difficult to Administer.

In order to collect in-kind tax, it is necessary to construct the storage, hire the storage keeper, and bear the risk of depreciation therein. This is the main reason why cost of FLT collection is relatively high as compared with other kinds of taxes. (see Table 6)

Table 5. The Farmers Responce Toward the Present FLT System

farm families	satisfied	inconvenient	the examination is too severe	tax burden is too heavy	tax should be paid in cash	no comment	total
numbers	185	310	170	11	15	89	780
percent age	23.7	39.8	21.8	1.4	1.9	11.4	100

Source: Chang-Fu Yin. Impact of Rutal Land Price Appraisal and Reporting on Agricultural Economy, Graduate School of Land Economics, National Chengchi University, 1979, p.32.

Table 6. The Percentage of Tax Collecting Cost in 1988

Region	Item	unit: %										
		Grand Income Estate & Commodity			Securities		Business Stamp Licence		Harbour Construction		Farm Land Value	
		Total	Tax	Gift Tax	Tax	Transaction	Tax	Tax	Dues	Tax	Tax	Land Value Increment
Taiwan Province		2.1	3.0	3.9	1.3	1.3	3.3	4.9	3.7	1.4	19.3	4.1
Taipei City		1.1	0.9	0.7	0.4	0.9	3.2	1.7	1.1	—	28.8	1.9
Kaohsiung City		1.8	3.0	1.8	0.8	1.6	1.7	2.8	1.7	—	29.4	2.1
Taiwan Area		1.7	1.8	2.3	1.2	1.0	2.4	3.1	3.0	1.4	19.4	3.2

Source: Yearbook of Tax Statistics, Republic of China (1988), Department of Statistics, Ministry of Finance, Feb. 1989, pp.354-362.

(3) Compulsory Rice Collection and Purchase May Impede the Structural Change in Land Utilization.

Since payment of the tax on paddy field is required to be made in rice, this would drive the farmers to plant staple crop and finally result in rigidity for farm land utilization. The problems were especially stinging as the measures of present system were accompanied with the rice fertilizer barter system, rice production loans and rice guaranteed price etc.

(4) The Tax Imposed on Self-Cultivated Land is Heavier than that on Tenanted Land.

As mentioned above, the annual tax duties are: 13 kg. per unit for self-cultivated lands, 10kg. per unit for tenanted land.

Obviously, the provision is quite contradictory to the policy of "Land-to-the-Tiller" since the conversion rate for the former is higher than that for the latter. It was probably prescribed under the consideration that the farm land rent was fixed at 37.5 percent of the main crop annual yield assessed in 1949.

Although the fixed rent has an incentive effect in stimulating additional output, it is very unprofitable to the landlord whom is the taxpayer. However, the discriminatory treatments between selfcultivated land and tenanted land are in contradiction to the principle of equity in taxation.

(5) The Tax Imposed on Paddy Field is Heavier than that on Upland Field.

From Table 3, we know that there is no difference between paddy field and upland field in average yield. But, the tax rate for the former is higher than that for the latter. Again, this would arise the problem of discriminatory tax rate on lands with same yield.

(6) The Present Tax Assessment Based on 1944 Cadaster is Out of Date.

Owing to technical improvement and intensive use of land, agricultural productivity has greatly increased as a whole since Taiwans' Recovery. Besides this, differential land improvement in different areas have been taken for years. To continue the assessment based on notional yields in 1944 is a source of inequity.

The above-stated problems arise because of continuation of the old system without updating reforms. However, would it be suitable to repeal the FLT

or to replace it by Land Value Tax (LVT) so as to attend the dominant purpose of optimum land use? This should be reconsidered with deliberation in the following pages.

IV. Impact of Taxation Systems on Agrarian Structure in German Agriculture

(I) Impact of Taxation Systems on Structural Change in German Agriculture

In Germany, the different tax regulations described above encourage the land owners to stick to their land property. Therefore, the amount of farmland which changes ownership annually is very small. The total transfer of ownership and possession corresponds roughly with the transfer by the change of generations. It amounts from three to four percent of the total farm land. About 1.5% of farm land changes ownership annually by inheritance, and about the same amount changes possession through land lease. Only about 1% of the farmland is sold annually.

Different reasons are decisive for the fact that land mobility is so small. An important factor is the prevailing owner preferring to operate in agriculture. Thanks to the low taxation based on the Standard Tax Value, the manifold political-economic preferential treatments of agriculture, the farmers are able to escape the economic adjustment pressure for a relatively long time. Only very seldom farmers who have not yet reached retirement age decide to give up farming for reasons of economic adjustment. As a rule, farms are closed down when the children judge the economic situation of the father's farm insufficient and decide to take another occupation. The decline of the number of people employed in agriculture takes place because many possessors of small farms are not replaced by a successor when reaching the retirement age.

The reluctance to give up farm land property is in particular due to two legal regulations. One is the land assessment at the Standard Tax Value which is mentioned before, the other is the strict land use planning and land use control. The assessment at the Standard Tax Value results in a substantial reduction of the land property value against its market value. Therefore, investments in farm real estate mean reduction of Property Tax and Succession Duty. It means for a farm

land owner that the tax burden related to his land property is extremely low.

The strict land use planning and land use control provide reliable conditions through the clear division between farm and forest land and land open for construction on a medium term basis. Therefore, the demand for building sites is restricted to the respective areas fixed by the plan. Due to this local restriction of demand, the mobility of farm and forest land is reduced. But a total exclusion of land speculation cannot be reached even by a strict land use plan. Along the boundaries of the actual construction area the land owners wait for an extension of this area and stick to their land property particularly tight.

Closely related to this are the effects of the Land Transfer Act. In general the Land Transfer Act does not block land mobility. The law allows a broad interpretation of its regulations and a very flexible application. Due to the far reaching exclusion of non-farmers from buying the price level remained relatively low. Therefore, however, the sale of farm land of low quality or remote locations is not very attractive to land owners. On the other hand, in places of better quality the demand for land by farmers displaced by urban and industrial development is sufficient- because of the limited supply- to lift the price far above the value of returns. The readiness of displaced farmers to pay rather high prices can be explained by the Income Tax regulations which provide for tax exemption of net profits from alienation of land if the proceeds are used for acquisition of replacement land.

(II) Impact of Farm Land Taxation Systems on Structural Change in Taiwan Agriculture

As we mentioned before, the central government in Taiwan repealed the FLT and the announcement came into effect in 1988. This is certainly one of the good news to all of the farmland owners, because they can reduce some production cost every year resulted from the exemption of the liability to FLT. However, the repealing of FLT may cause some significant problems, such as inequity in tax burden and the inefficiency of agricultural land use.

Firstly, equity is known as one of the criteria for taxation. As far as equity is concerned, any property that is able to produce income should pay the tax. Farmland is like other land for nonagricultural use, which can produce income for the owners; therefore, agricultural land should be taxed as other category of

land, it should not be exempted from tax merely because of the low income of the farmers in comparison with the income of other landowners. If the government intends to increase the farmers' income, the fundamental way is to support the agriculture sector to improve the agrarian structure rather than to exempt the farmers from FLT so as to achieve the tax equity among all landowners.

Secondly, with regard to the efficiency of agricultural land use, the repealing of FLT will reduce its impact upon agricultural land use and the achievement of enlargement for farm size. The Article 26-1 of the Equalization of Land Rights Act 1986 provides that private agricultural land as identified uncultivated land is prescribed a time limit within which it should be cultivated; otherwise the Waste Land Tax (WLT) may be levied at 100 to 300% of the liability to FLT. The repealing of FLT in 1988 means that the imposition of WLT, the surtax of FLT, will be abolished thereby. Consequently, to be free from the land tax will create a very profitable environment for the land speculators to convert their farmland into urban land use, in particular to the agricultural land located in the suburban area. It is because there is no excess cost for holding the unused farmland; in other words, the government has let-off two important measurements from promoting agricultural land use.

Thirdly, the serious problem for the agriculture sector in Taiwan is too small scale of the farm size (average 1 ha.). Because of the small size, the farm income are low and it leads to the difficulty of farm mechanization. Therefore, to enlarge the farm size is the current objective of agriculture sector of Taiwan. To reach this goal, the Article 28 of Agricultural Development Act 1983 (ADA, 1983) provides that the liability to the FLT will be exempted for 5 years for the enlargement part, if the family farm acquires farmland from the neighbors by way of exchange or purchase in order to enlarge the farm scale or facilitate its farming, but the aggregation of farm area cannot be more than five ha. Furthermore, "if the family farm is inherited by only one of the family members with farming ability, the Inheritance Tax, Gift Tax will be exempted and the successor can enjoy 10 years exemption from the FLT," this is made clear by Article 31 of ADA, 1983. Because the government decided to repeal the FLT from then on, the above incentive to encourage the enlargement of farm size will disappear thereafter.

Fourthly, the land resources in Taiwan are very limited; approximately two-third of the island are mountains and the cultivated land is only 900,000 hectares. Today, the island accommodates over 20 million people; and in terms

of the agriculture productions, the farmland area is not enough to provide foods for the great bulk of the population. In recent decades, the government has tried his best to encourage the farmers to reclaim the agricultural marginal land, such as mountainside, aboriginal reservation, riverbeds, polders, etc. Under the Article 18 of ADA, 1983, it provides that individual farmer, cooperative farms, farmers' organizations or agribusiness organizations are entitled to use the land developed by them, without paying any rent to the government and they can own the said land after continuing to use it for five years and moreover, they are eligible for exemption from to FLT for eight years from the beginning of using the land. Again, following the repealing of FLT, the government will lose one of the effective measures to encourage farmers to develop the agricultural marginal land.

Finally, in general, the conversion of land from agriculture use into non-agriculture use should be strictly controlled in Taiwan. However, there is an unknown amount of farmland which has been illegally transferred into non-agriculture use. As to this illegal changing of land use, the authorities still have no effective measures to punish and prevent the owners from this illegal conduct except for the rejection to the owners application for conversion of land use. Consequently, the owners contemned the law will suffer from the inconveniences, eg. lack of the public facilities such as water, electricity and gas supply for non-agriculture use. Since the government announced that FLT will be repealed, then the illegal users of farmland will be exempted from the land tax, also. It is not fair to the people who obey the law.

Therefore, the repealing of the FLT is neither a worthwhile action to promote the farmland use nor the best way to increase the farmers' income. To reach the objective of increasing the farmers' income, the government should improve the farming structure rather than tax relief. From the point of view of the improvement in agrarian structure, the light taxation system upon the farmland in Germany is better than the exemption from the FLT in Taiwan.

Moreover, as above mentioned, the Article 45 of the Equalization of Land Rights Act 1986 (the same as the regulation of ADA 1983) prescribes that the farmland under the agriculture use are transferred to the cultivating farmers and keep them for agriculture use continuously, shall be exempted from the Land Value Increment Tax (LVIT). In this case, the sellers of the farmland must not pay Income Tax for their net profits also.

By this way, it is expected to encourage the farmers of small farm size to sell out their farmland to increase the land mobility, but the results are not very desirable. Because the market value of farmland usually is too high and the farmers' effective demand for the farmland is very small. On the other hand, the market value of farmland, in general, is going up continuously and most landowners hold the prosperous outlook for the land market in the future. Therefore, the supply of the farmland also very few.

On the whole, the policy of tax exemption for farmland transfer in order to achieve the aim of increasing the land mobility was not so effective.

V. The Recommendation to the FLT System Reform in Taiwan

As we above discussed, it is not proper for the government to repeal the collection of FLT, since it might mislead farmland utilization and thus obstruct the structural change in Taiwan agriculture. Therefore, in principle, it would be advisable to improve the FLT system in order to facilitate structural change in land use and retain the achievement of agricultural growth.

1. Tax Base Should be Reassessed on the Basis of Production Value (Return Value).

The present Farmland Announced Value (FLAV) assessment is based on market value rather than return value or production value. Since the market value include the expectancy value, it is normally higher than rental value. Although the announced values of farm lands are often underestimated, they are still greater than their returns values. If the farm land tax is levied on annually beyond its productivity, it might depress the farming activities and hinder further structural changes in agriculture. In spite of the tax basis, we might adjust tax rates downward to lessen farmers' tax burdens. Nevertheless, the problem of inequity is not solved yet. As we learned from German expirience, it might be probable to establish the standard farms (valuation bases) system to assess the production value of the individual farm.

2. Tax Payment May be Made in Kind or in Cash.

In recent years, the FLT has lost its importance by levying in kind: (1) The living standard has greatly improved because of the rapid economic development, so the consumption of rice gets less while that of other crops, fish, livestock products gets more. (2) In the light of the former reason and technical improvements, Taiwan is now facing the problem of overproduction. (3) The quantity actually purchased under planned rice purchase program, started from 1974, is more than that of FLT in kind collected.

Based on these considerations, the public interest in the collection of FLT in kind has been declined. However, the present system is well understood by farmers, who are accustomed to prepare rice for tax payment.

In order to avoid any handicap resulting from system reform, the taxpayer may choose between the two means of payment to accommodate himself to circumstances.

3. Equalization of Taxes on Self-Cultivated Lands and Tenanted Lands.

From previous discussion, we know that levying a heavier tax rate on self-cultivated land than on tenanted land is inadequate because of its contradiction to the Land-to-the-Tiller policy. In order to eliminate inequity for taxpayment between two kinds of land owners, it would be better to equalize taxes on self-cultivated lands and tenanted lands. That is, whatever the tenure is, the tax rate employed should be the same.

4. FLT and Water Irrigation Fee Should be Levied Regressively in Accordance with Farm Size.

To enlarge farm size is one of the important measures to promote structural changes in agriculture smoothly. In order to encourage the enlargement of farm size positively, it would be proper to impose tax on lands regressively as the farm size exceeds certain amount. For example, any self-cultivator who owns farm lands less than 2 ha., shall pay FLT at the rate equivalent to basic rate; if the lands are more than 2 ha. but less than 3 ha., the FLT shall be levied at the rate equivalent to 90 percent of the basic rate; if the lands are more than 3 ha., the FLT shall be levied at the rate equivalent to 80 percent of the basic rate. Such rates structure, however, would result in tax inequity at marginal rate, since it employs a single

progressive tax rate. For example, there are two pieces of paddy lands at the same grade, but tax on land of 2.95 ha. is heavier than land of 3 ha.

The Water Irrigation Fee is another kind of the production cost except FLT. The collection of such fee may imitate the method of FLT as mentioned above. This might be explained as mass trade discount. Furthermore, in order to calculate the total areas of each farm, the landownership classification in the implementation region may be county (hsien) is needed. This task shall increase the administrative cost. However, landowners may be permitted to declare the area of his taxable (chargeable) lands, then the government (Water Irrigation Association) shall collect taxes (fee) in accordance with the reporting farm size.

VI. Conclusion

From preceding discussions, we know that the light taxation system upon the farmland in Germany is better than the abolishment of the FLT in Taiwan, since it might mislead farmland utilization and thus obstruct the structural change in agriculture for the latter. It might be helpful, at least in the short-run, to recommend the system reform upon FLT in Taiwan: (1) tax base should be reassessed on the basis of production value, (2) tax payment may be made in kind or in cash, (3) equalize the taxes on self-cultivated land and tenanted land, (4) FLT and Water Irrigation Fee should be levied regressively in accordance with farm size. In case that the strategies are put into practice, we may expect some achievements on farmland use and agrarian growth.

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