EVALUATING EFFICIENCY OF

LOCAL PUBLIC EXPENDITURES IN UKRAINE

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Abstract

This paper deals with applying Tiebout approach to evaluate efficiency of local public expenditures in Ukraine. It is shown that two main factors hinder efficiency of local public expenditures in Ukraine, restrictions on fiscally induced mobility of households and businesses, and centralization of budget decision making process. Immobility of households and uniformity of services suggested by local governments prevent consumers from satisfying their demand preferences. Concentration of budget decision making process at the central level induces lobbying for biased overexpansion of local public expenditures in Ukraine.

INTRODUCTION

Currently in Ukraine there is growing interest in local government finance. Several explanations are possible. One follows directly from the argument that local governments stay closer to consumers, to satisfy their demand for primary public services such as preschool and secondary education, and health care. Another explanation is decentralization trends in the Ukrainian political system and growth of regional elites. Increasing importance of the local public sector calls for higher efficiency in allocating resources and providing public services.

The paper deals with Tiebout's model of local public expenditures and its implications for efficiency of local public expenditures. The Tiebout model suggests a mechanism for revealing demand preferences for local public goods that ensures efficient provision for public goods by local government. The Tiebout hypothesis states that people reveal their demand preferences for local public goods by moving to the locality with tax and expenditure patterns that satisfy better their desires.

The Tiebout model is based on several assumptions and leads to various implications. Dowding, John and Biggs (1994, 768) define the assumptions and implications of the Tiebout model as the set of Tiebout effects. The presence of these effects can be considered as conditions for achieving efficiency of local public expenditures. Therefore, applying

Tiebout model to Ukraine and investigating relevance of Tiebout effects can allow to evaluate efficiency of Ukraine's local public expenditures.

Section 2 of the paper defines objectives of the welfare state and budgetary policy in relation to Pareto's positive concept of efficiency. Section 3 presents Samuelson's theory of public goods and shows that Samuelson's conditions for Pareto efficient provision for public goods lack demand revealing mechanism. This mechanism suggested by Tiebout to reveal demand on local public expenditures is discussed in Section 4. Finally, Section 5 deals with Tiebout effects and their relevance in Ukraine. Conclusions are in section 6.

Analyzing the relevance of Tiebout effects in Ukraine can allow to evaluate efficiency of local public expenditures and to determine factors that prevent achieving this efficiency. In particular, we can infer about fragmentation of public sector, assigning expenditure responsibilities between central and local government, pricing mechanism for local public goods. Moreover, applying elements of public choice theory, it can be shown that centralization of budget decision making process leads to distortions in allocating local public expenditures.

THE WELFARE STATE AND BUDGETARY POLICY

The recently adopted Ukrainian Constitution declares that Ukraine is the social state. This Constitutional term reveals Ukraine's orientation towards implementing patterns of the welfare state successfully established in the European and North-American countries. Although words "social state" and "welfare state" have become of common use in policy debates, both of them lack exact definition and tend to have rather broad meanings. For instance, Nicholas Barr (1992, 742-747) relates the concept of the welfare state to government activities in providing welfare services including poverty reduction, social protection, education, health care and food, housing, public transportation.

The government intervenes in provision for these goods to correct market failures, which are the main economic theory arguments for the establishment of the welfare state. The rationale for the existence of the welfare state institutions follows from imperfect competition, external effects, cost-declining industries, public goods, missing markets, undefined property rights. Whenever some of these market inefficiencies occur, welfare state institutions are designed to offset them. Consequently, the basic and most important objective of the welfare state is to provide efficiency when the market fails (Barr 1992, 747).

Efficiency is probably one of the most frequently and widely used concepts in economic theory. Economic processes, dynamic and static equilibria involving allocation of the scarce resources are evaluated from the viewpoint of their efficiency. Therefore, implicitly the term efficiency has both a positive and a normative sense, or is and ought aspects, in other words. One of the main debates in welfare economics refers to discrimination between positive and

normative efficiency. [1] The contribution of Vilfredo Pareto was the formulation of the positive definition for efficiency that provides the basic framework for the analysis of economic interaction.

Pareto defines the following optimum condition, which is known as the Pareto optimum: "…the position of maximum ophelimity (welfare) to be one from which it is impossible to move a very small distance, in such a way that the ophelimity (welfare) of the individuals except for some which remain constant, all increase or decrease" (op.cit., Blaug 1996, 573). Allocation is Pareto efficient if no individual can be better off without the other individual being worse off.

As Blaug emphasizes (1996, 577), in deriving optimum conditions Pareto deliberately evades any interpersonal comparisons. He focuses on intrapersonal welfare comparisons assuming that each individual acts independently being the best evaluator of his level of welfare and ignoring levels of welfare of other individuals. For instance, in two-individual case one individual can possess everything and the other can gain nothing. Such an allocation is Pareto efficient since the richest individual is worse off sharing wealth with the poorest individual.

Positively defined efficiency cannot coincide with equity that implies normative considerations. It can be shown that there exists infinite set of Pareto efficient allocations and correspondingly infinite set of income distributions. Equity could be a criterion to discriminate between different Pareto optimal allocations. However, equity cannot be defined positively in Pareto tradition since it requires interpersonal comparisons. As a result, the Pareto optimum condition is not sufficient for the social welfare maximum since it neglects equity criteria.

Securing equity and justice in distribution is another important function of the welfare state in addition to ensuring efficiency. The welfare state acts as an entity that implements interpersonal comparisons and imposes distributional constraints on the behavior of independently welfare maximizing individuals. Efficiency, as a rule, refers to provision for public and mixed goods, and equity relates to income redistribution.

Budgetary policy can be viewed as the main instrument for the welfare state implementation; consequently, objectives of the budgetary policy follow from the objectives of the welfare state. Musgrave and Musgrave (1989, 42) define that the goals of budgetary policy are, first, to deal with efficiency in allocation and provision of public goods and to control externalities, and, second, to secure fair income distribution.

Performance of the welfare state functions implies development of relevant institutions. The core institutions are central and local governments. Implementation of the welfare state requires optimal assignment of efficiency and equity functions between these two levels of government. It results in certain patterns of central and local public expenditures determined by the voting for central and local budgets. These patterns should promote efficiency in resource allocation and equity in income distribution.

[1] See Blaug (1996)

Public expenditures in Ukraine can be broadly classified into four groups, expenditures on social security; expenditures on providing public services (education, health care); expenditures on economic activity of the government, and expenditures on bureaucratic activities of the government. [2] Expenditures on social security and welfare refer to income redistribution functions of the welfare state. Expenditures on education, health care and other public services can relate to public good provision. Expenditures on government economic activity include subsidies designed to control externalities and to deal with efficiency in cost-declining industries. In the case of local government, this category of public expenditures mostly constitutes spending on municipal infrastructure. Finally, the rest of public spending go to support legislative, executive and judicial bodies.

Local public expenditures are considered later from the viewpoint of positive Pareto efficiency in provision for local public goods. Local public goods are defined (Weimer and Vining 1992, 89) to have spatially limited consumption benefits. In Ukraine, local budgets provide pre-school and secondary education, health care and municipal infrastructure. Although these goods may not fit precisely properties of pure public goods, government provides these goods as if they are public taking into account positive externalities generated by consumption of these goods (Cullis and Jones 1998, 51-52). As a result, education and health care are provided in the same amount for all individuals. Quantities of their provision are approximated by the amounts of corresponding expenditures of local budgets.

SAMUELSON'S THEORY OF PUBLIC EXPENDITURES

The theory of public expenditures is based on the concept of public goods that was formulated in the Italian, German and Scandinavian literature in the late nineteenth century . [3] Then it was developed by Samuelson in his *The Pure Theory of Public Expenditures* (1954).

Samuelson points two core features of public goods that differ them from private goods. These features are non-rivalry and non-excludability in consumption. According to Musgrave and Musgrave (1989, 43-44) non-rival consumption implies that marginal cost of allowing additional user to consume a public good is zero since consumption benefits for the individual do not fall when other individuals join the consumption of the good. Consumers tend to pay zero price for the public good. Yet although marginal cost of consumption of the public good is zero, marginal cost of its production or provision can be larger than zero. Such discrepancy in unit costs of consuming and producing public goods generates failure of the market to provide these goods. The other crucial characteristic of the public goods is their non-excludability. Possibilities to subtract an individual from consuming the public good

[2] See, for example, Act of Verkhovna Rada (Ukrainian Parliament) "On Structure of the Budget Classification", July, 12, 1996, # 327

[3] See review of these ideas in Head (1990 (1974)).

tend to be limited due to, for instance, their spatial location (Musgrave and Musgrave 1989, 44).

Non-rivalry and non-excludability in consumption of public goods result in the situation when all individuals consume the same amount of a public good although different individuals value differently this good. Therefore, total demand for a public good can be presented as vertical summation of individual demands, while total demand for private goods is the horizontal summation of individual demands (Musgrave and Musgrave 1989, 46). Correspondingly, efficient allocation of the public good can be derived from the equality of the *sum* of marginal benefits from the consumption of the public good by different individuals and the marginal cost of public good production. Another way of presenting the same result is to consider the marginal rate of substitution between a public and a private good instead of marginal benefits and the marginal rate of transformation instead of marginal cost (Head 1990 (1974), 178).

Samuelson formulated conditions for Pareto efficient allocation of public goods as the equality of summation of marginal rates of substitution between private and public goods for different individuals and marginal rate of transformation between private and public goods (Varian 1996, 612):

$$\sum_{i=1}^{N} MRS^{i}_{jk} = MRT_{jk}$$

for *i*th individual, *j*th private good and *k*th public good.

In order to secure the efficient provision of a public good individuals' marginal benefits from consuming the public good should be known. Revealing demand preferences for public goods is an important threshold in implementing efficiency in public good provision. Since each individual is allowed to consume the same amount of the public good regardless the extent to which he values this good, individuals do not reveal their true willingness to pay for the good. Individuals that have high willingness to pay for the public good tend to free ride, that is to avoid paying the actual value they assign to the good (Musgrave and Musgrave 1989, 44). As a result, the summation of marginal benefits from consuming the public good can be less than the marginal cost of its provision and Samuelson's conditions do not hold.

TIEBOUT'S MODEL OF LOCAL EXPENDITURES

An interesting addition to Samuelson's theory of public expenditures was made by Charles Tiebout, who focused his attention on local public expenditures. While Samuelson concludes that Pareto efficient provision for public goods fails due to the lack of demand revealing

mechanism, Tiebout (1990 (1956)) suggests such a mechanism for local public goods. This mechanism is known as Tiebout's hypothesis:

> [A]t the local level various governments have their revenue and expenditure patterns more or less set. Given these revenue and expenditure patterns, the consumer-voter moves to that community whose local government satisfies his set of preferences (Tiebout 1990 (1956), 568).

Consumers "vote with their feet" to move to communities where provision for local public goods is consistent with their demands. As a result:

> There is no way in which the consumer can avoid revealing his preferences in a spatial economy. Spatial mobility provides the local goods counterpart to the private market's shopping trip (Tiebout 1990 (1956), 573).

Tiebout's hypothesis stems from following assumptions (Tiebout 1990 (1956), 569).

1. "Full mobility of households and businesses

2. Perfect knowledge of revenue and expenditure patterns of local governments

3. Large number of jurisdictions

4. Employment motives for changing residential locations are ignored. It is assumed that households live on dividend income

5. Externalities between communities are not considered

6. Each community/jurisdiction possesses fixed endowments of resources. Since resource is fixed, there should be optimum size (number of residents) of community that allows for local government to minimize average costs of provision for public goods

7. Communities below the optimum size tend to attract new residents, while communities above the optimum size tend to disattract new residents. Communities at optimum size should keep its number of residents constant."

Assumptions 6 and 7 can be related to production efficiency of local governments, that is, to operation at minimum average costs. Tiebout's model implies that efficiency in government production is given, while consumers adjust their residential locations to achieve consumption efficiency. Meanwhile, production efficiency can be considered as the result of competition among jurisdictions to attract or disattract new residents. Therefore, assuming that community has fixed resources both production and consumption efficiency rests on mobility of households and businesses.

IMPLICATIONS OF THE TIEBOUT MODEL

The assumptions of the Tiebout model cannot necessarily hold in reality. In particular, households and businesses may not be perfectly mobile due to institutional restrictions, lack of housing, and lack of employment opportunities. Revenue and expenditure patterns may not be easily observable. Finally, people can decide to move taking into account employment considerations instead of searching for satisfaction of their demands for local public goods.

Meanwhile, these assumptions are the part of the Tiebout model. Whether they hold or do not hold can imply consequences for efficiency of local public expenditures. If assumptions are true, we can expect that Tiebout's demand revealing mechanism works. Consequently, Samelson's conditions for efficient provision of local public goods hold. Then we can conclude on efficiency of corresponding local public expenditures. The same argument refers to implications of the Tiebout model. Tiebout's hypothesis is valid if we observe the consequences of demand revelation due to households' mobility that are predicted by the model. Some of these results are income and preference homogeneity within communities, tax pricing of local public goods, growth of property values in communities that provide higher quality of services. [4] Dowding, John and Biggs (1994) define both assumptions and implications of the Tiebout model as Tiebout effects.

Analyzing the relevance of Tiebout effects in Ukraine can allow to evaluate efficiency of local public expenditures and to determine factors that prevent achieving this efficiency. In particular, we can infer about fragmentation of public sector, assigning expenditure responsibilities between central and local governments, pricing mechanism for local public goods. Moreover, it can be shown that centralization of budget decision making process leads to distortions in allocating local public expenditures.

Fiscally Induced Mobility and Fragmentation of the Public Sector

Costless mobility of households is the crucial assumption of the Tiebout model. In Tiebout's analysis mobility of households and businesses are fiscally induced. In other words, the main incentives to migrate are tax and expenditure patterns suggested by local government. Other incentives for households' mobility such as employment opportunities and family ties are ignored.

Nevertheless, labour mobility can be positively correlated with fiscally induced mobility. Greater labour mobility should imply larger fiscally induced mobility. Moreover, perfect labour mobility can be a preliminary condition for the fiscally induced mobility. When labour mobility has led to equalization of wages among different communities, employment

[4] See review of empirical evidence in Dowding, John and Biggs (1994).

opportunities are not incentives for mobility anymore. Fiscal incentives become the main motives for further migration.

In Ukraine, institutional restrictions are imposed on labour mobility and prevent fiscally induced mobility of households. Although requirements of permanent residence (*propiska*) to get employment outside the permanent residency have been slightly relaxed, *propiska* is still an important obstacle for perfect labour as well as fiscally induced mobility. Other disincentives for households to move are lack of employment opportunities throughout the country and lack of housing.

Businesses can be more mobile than households, searching for better local taxation patterns and higher levels of municipal infrastructure. Taxation and spending on municipal infrastructure can be stronger incentives to move for businesses than for households. Businesses are also sensitive to registration procedures set by local governments. Number of new registered businesses is expected to be larger in jurisdictions where local governments provide easier and less costly registration.

Another assumption of the Tiebout model is a large number of jurisdictions. This implies fragmentation and decentralization of the public sector. A large number of jurisdictions with different tax/service packages can be the Tiebout counterpart of goods variety in a private market. Facing the variety of revenue and expenditure patterns households can select the locality where their demand preferences are satisfied better:

> The greater the number of communities and the greater the variance among them, the closer the consumer will come to fully realizing his preference position (Tiebout 1990 (1956), 569).

A large number of jurisdictions enhances households' mobility between jurisdictions for several reasons. First, a variety of tax/service packages for households suggested by numerous jurisdictions creates incentives for fiscally induced mobility. Second, smaller communities imply shorter distances to move from one community to another and, consequently, lower costs of mobility. Therefore, fragmentation of the public sector is considered to be efficient.

Meanwhile, there is a trade-off between consumption and production sides of efficiency that results in optimal size of the local community. Efficiency in consumption due to Tiebout's mobility is more likely to be ensured in small size communities. On the contrary, production efficiency that implies minimization of average costs of provision for public services can be achieved in large size communities. Usually infrastructure requires large fixed costs; therefore, local governments that invest much in infrastructure are interested to attract residents to minimize per capita costs. As a result of trade-off between consumption and production efficiency, fragmentation of public sector does not imply that each household can set its own community. Fragmentation occurs until the optimal size of the community where demand is revealed and average costs are minimized is set.

In Ukraine, the Law on Local Self-Government adopted on May, 21, 1997 states sufficient degree of nominal fragmentation of public sector. A primary unit of local self-government in

Ukraine is a local community. The system of local self-government includes local communities of villages, towns, cities and districts in large cities. The local community of a territory unit (village, town, city, district in a large city) sets its government. However, "mutual interests of a group of local communities are represented by district and oblast governments" (Law on Local Self-Government in Ukraine, 1997). The latter statement implies that decision making process is actually centralized at oblast level directly subordinated to central government.

Central government's guidelines for elaboration of local budgets create uniformity of local public expenditures across Ukraine. For instance, standard deviation of per capita expenditures on education in 1997 was 0.0096, standard deviation of per capita expenditures on health care was 0.0099 (see *Appendix 6*).

Welfare losses from the lack of variety in amounts of public good provision across the country can be presented by the following diagram adapted from Cullis and Jones (1998, 293). Suppose there are two localities A and B. The demand schedules for representative residents of these localities are correspondingly D_A and D_B. D_M is a demand schedule of the median voter. Marginal costs of public good provision are assumed to be constant. The central government sets unique amount of public good Q_M where marginal benefit from consuming the public good derived by the median voter is equal to marginal costs of public good provision. As a result, individual A loses because she pays higher price for the public good than she is willing to pay for Q_M. Individual B loses because he consumes less amount of the public good than he prefers. These losses are shown with shaded triangles. If each locality is allowed to set amounts of public good provision Q_A and Q_B correspondingly, welfare losses are eliminated.

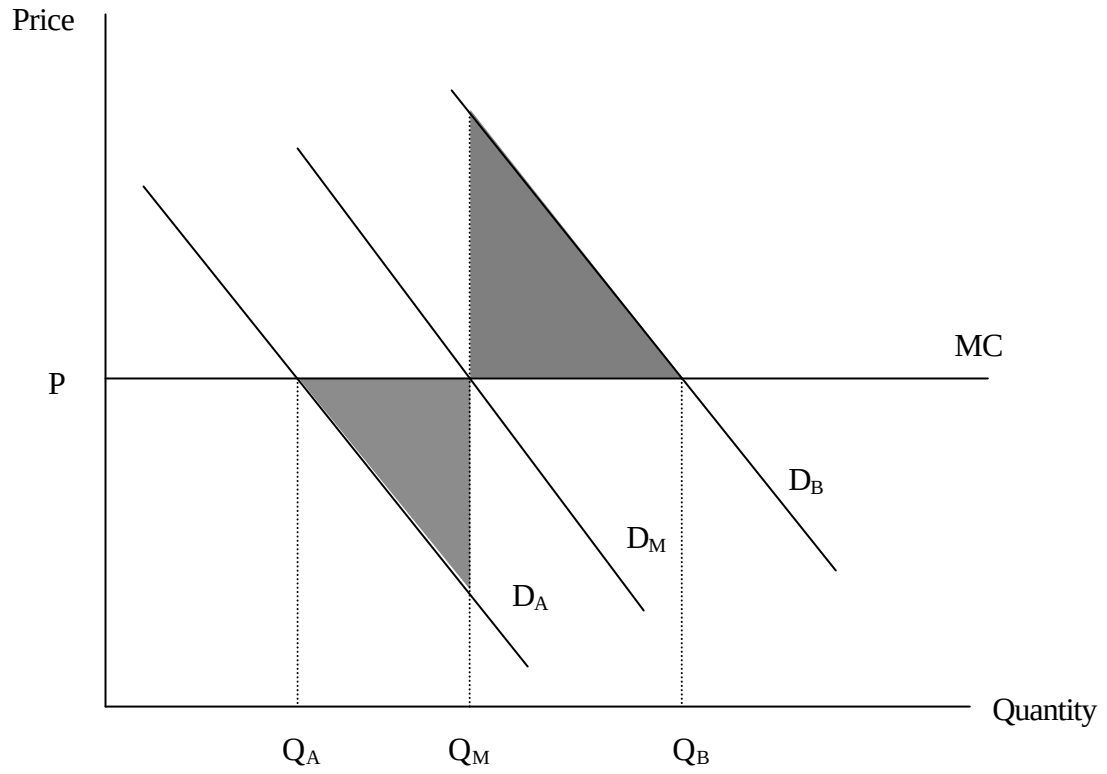

Diagram 1. Welfare losses from the centralization of public good provision

Fragmentation and decentralization of the public sector in Ukraine should increase efficiency of Ukraine's local public expenditures. Decentralization implies that each locality sets its levels of providing public goods that satisfy demands of its representative resident. Variety of expenditure patterns promotes fiscally induced mobility that results in sorting households with the same demand preferences in the same locality. Consequently, welfare losses from centralization are eliminated. Moreover, local governments can compete with each other by suggesting variance in tax/service packages to attract residents to minimize average costs of public good provision.

Assigning Expenditure Responsibilities

One implication of the Tiebout model is that moving to a locality that satisfies better consumer's preferences results in income equalization within the community (Dowding, John and Biggs 1994, 771). Moving to a locality that better satisfies consumers' desires leads people with same demand preferences residing in the same community. Since demand preferences are a function of the price of the public good and household income, homogeneity of demand preferences implies homogeneity of income within the community, given that the price of the public good, that is a local tax, is set by local government. Moreover, under assumption of households' mobility aggressive income redistribution policies attract poor households and disattract rich households (Cullis and Jones 1998, 304). This reinforces income homogeneity within communities.

Consequently, local government should avoid performing income redistribution functions. Equity aspects should be dealt with by central government redistributing income from high income localities to low income localities. In France, 91.8% of general government expenditures on social security and welfare is financed by central government, 84% in United Kingdom, 79% in Germany and 78% in U.S. (see *Appendix 1*). In contrast, in Ukraine central government bears 18.2% of social security expenditures, while the rest 81.8% is financed by local governments. In Ukraine, one third of local public expenditures is used to finance social protection programs (see *Appendix 2*). Such a large share of local public expenditures on social security and welfare contradicts the Tiebout implication on income equalization within communities.

Local governments should be responsible for provision of so called local public goods that "benefit a clearly limited geographic region" (Ahmad, Hewitt and Ruggiero 1997, 30). In other words, local public goods should have limited spillover effects in other communities. Local public goods include classic examples of streetlights, police services, fire protection services.

Local governments are usually assigned to provide for primary and secondary education and health care. Provision of primary, secondary education and health care at the local level can be justified as it allows for true revelation of demand preferences for these services. Moreover, benefits of these services are mainly consumed by the residents of the locality. These services are closer to consumers by definition and community monitoring of schools and hospitals increases efficiency of their operation (Ahmad, Hewitt and Ruggiero 1997, 41). On the other hand, Ahmad, Hewitt and Ruggiero (1997, 41) point out that higher levels of education should be financed by the central government due to nation-wide externalities exhibited by higher levels of education.

In Ukraine, local governments are assigned to provide for primary and secondary education, for health care and municipal infrastructure (see *Appendix 3*). In particular, local governments are responsible for financing 74.8% of general government expenditures on education, 92.1% of expenditures on health care and 96.5% of expenditures on housing sector and roads (Ministry of Finance, 1996). About two thirds of Ukraine's total local public expenditures go to providing for primary and secondary education and health care. Meanwhile, the share of expenditures on housing sector and roads from total local public expenditures in Ukraine was less than 4% in 1997 (see *Appendix 2*).

Inefficiency of local public expenditures in Ukraine occurs due to lack of income homogeneity as a result of restrictions on fiscally induced mobility. Consequently, spending of local public sector is overexpanded since local governments bear expenditures on social security and welfare. By mobilizing resources for social protection, local governments in Ukraine understate expenditures for development of municipal infrastructure.

Pricing of Local Public Goods

According to Dowding, John and Biggs (1994, 778) the Tiebout model suggests an implicit pricing mechanism that ensures efficiency in the provision for local public goods. Moving to a new community, a consumer-voter faces a set of local public expenditures together with a set of local taxes. While making a decision to move, the consumer-voter compares his reservation prices for local public goods provided by a specific community with the level of taxes in this community. Therefore, the local tax can be considered as the price for a local public good. Cullis and Jones (1998, 313) also suggest user charges as pricing mechanism for local public goods.

In Ukraine, the levels of local taxes for households and businesses do not differ across jurisdictions. Most local government revenues originate from personal income tax and enterprise profit tax collections. The rates of both taxes are fixed by corresponding laws and cannot differ across regions. Some differences can be due to differences in income levels across communities, but they are not expected to be significant. As a result, the provision for local public goods in Ukraine lacks a pricing mechanism to ensure its efficiency.

Furthermore, following from the argument for pricing of local public goods, per head local tax should be equal to average costs of public good provision, as suggested by Dowding, John and Biggs (1994, 777). Average costs of public good provision can be approximated with per resident local public expenditures. Local public goods can be divided into two groups, local public goods for households (education, health care) and local public goods for businesses (municipal infrastructure). Local taxes paid by households should be equal to average costs of provision of households' public goods (per capita expenditures on education, health care), while local taxes paid by businesses should be equal to average costs of provision of businesses' public goods (per capita expenditures on infrastructure).

If pricing mechanism for local public goods works, personal income tax collections by local budgets in Ukraine should be approximately equal to expenditures on education and health care. Similarly, enterprise profit tax collections are expected to be equal to expenditures on municipal infrastructure. However, in reality, expenditures on education and health care are significantly exceed personal income tax collections, while expenditures on municipal infrastructure are much lower than enterprise profit tax collections (see *Appendix 4*). As a result, households pay less tax than average costs of households' local public goods, whereas businesses pay more tax than average costs of businesses' public good provision.

Distortions in tax pricing of local public goods stimulate activities to avoid them. For instance, schools and hospitals set unofficial user charges for their clients thus increasing price of local public goods for households. Businesses lobby for enterprise profit tax exemptions decreasing price that they pay for municipal infrastructure. These lobbying efforts contribute to welfare losses to the society, as predicted by Holcombe (1988, 365).

Distortions in pricing of local public goods in Ukraine can be eliminated by decentralizing taxation system. Allowing local governments to suggest variable local tax rates can create efficient tax pricing mechanism for local public goods. Another way to enforce this mechanism is to permit local governments to impose user charges for local public services.

Lobbying for Overexpansion of Local Public Sector

In Tiebout's model, demand preferences of consumers are revealed by people's "voting with their feet". Musgrave and Musgrave (1989, 68) state political process as the mechanism of demand revelation. These two mechanisms of demand revelation can allow to discriminate between local public goods and national public goods. Since levels of provision of central public goods do not differ across communities, the only way to reveal demand for them is voting for the budget, an integral part of the political process. As a rule, the central budget is adopted by the highest legislative authority in the country, supposing representing different interest groups.

It is expected that voting for the budget leads to successful demand revelation if all interest groups have equal bargaining power. However, different interest groups can have different bargaining powers. In particular, some interest groups are more easily to be mobilized and

organized than others (Musgrave and Musgrave 1989, 108). Some interest groups possess larger financial and political resources to push their decisions. As Musgrave and Musgrave (1989) point out, interest groups with larger bargaining power tend to inflate their budget requests by concealing the true value they are willing to pay for requested services. As a result, they bargain to pay for certain services less than they truly value it, thus free-riding on other taxpayer groups.

Unequal bargaining powers of different interest groups create representative distortions in voting for public spending. Demand preferences of interest groups with large bargaining powers cannot coincide with the demand preferences of a median voter. Leviathan hypothesis suggests that "the agents of the government (bureaucrats and politicians) impose their own wishes on the public" (Musgrave and Musgrave 1989, 99). Musgrave and Musgrave (1989, 101) state that having larger bargaining power, bureaucrats and politicians vote for overexpansion of public expenditures to obtain higher salaries and to reinforce their power. This overexpansion of public expenditures is biased since objectives of bureaucrats (according to Musgrave and Musgrave (1989, 101), maximizing size of their bureau) do not represent objectives of consumers-voters (maximizing benefits from public good consumption) (Musgrave and Musgrave 1989, 101).

In Ukraine, as a result of centralization of the budgetary process levels of local public expenditures are subject to representative distortions and Leviathan bias. Amounts of local public expenditures and subsidies from central to local budgets are heavily lobbied by regional elites that have different bargaining powers at the Parliament and central government. Expecting lobbying, the Ministry of Finance primarily understates amount of expenditures of oblast budgets, while the regional elites tend to overstate amounts of expenditures (see *Appendix 5*).[5] For instance, in 1995 through 1997 amounts of local public expenditures lobbied by regional elites tend to exceed levels imposed by the Ministry of Finance. In addition, actual amounts of local public expenditures were close to those stated by regional government, and even in 1995 they exceeded the levels lobbied by regional elites.

Representative distortions and biased overexpansion in public spending due to lobbying by regional government bureaucrats can be presented with diagram 2 (adapted from Cullis and Jones (1998, 316). Assume there are two goods, a public good and a size of bureau. The public good is more preferred by the consumer-voter, while bureaucrats prefer more the size of their bureaus. Preferences of the median voter and bureaucrats are presented correspondingly with indifference curves IC^C and IC^B. The initial budget constraint is the amount of local public expenditures LPE_0.

Suppose bureaucrats put their lobbying efforts on overexpansion of local public expenditures by requesting either larger planned amounts of local budget expenditures or subsidies from the central to local governments. Budget constraint shifts from LPE_0 to LPE_1. The optimal consumption point for the consumer-voter would be now C_1 with larger increase in the amount of the public good and smaller increase in the size of bureau. However, bureaucrats exploiting their position impose their will on consumers-voters by

[5] I am grateful to Ivan Dimitriev for suggesting this point

allocating local public expenditures according to their optimum B_1 with larger increase in the size of bureau and smaller increase in public good provision.

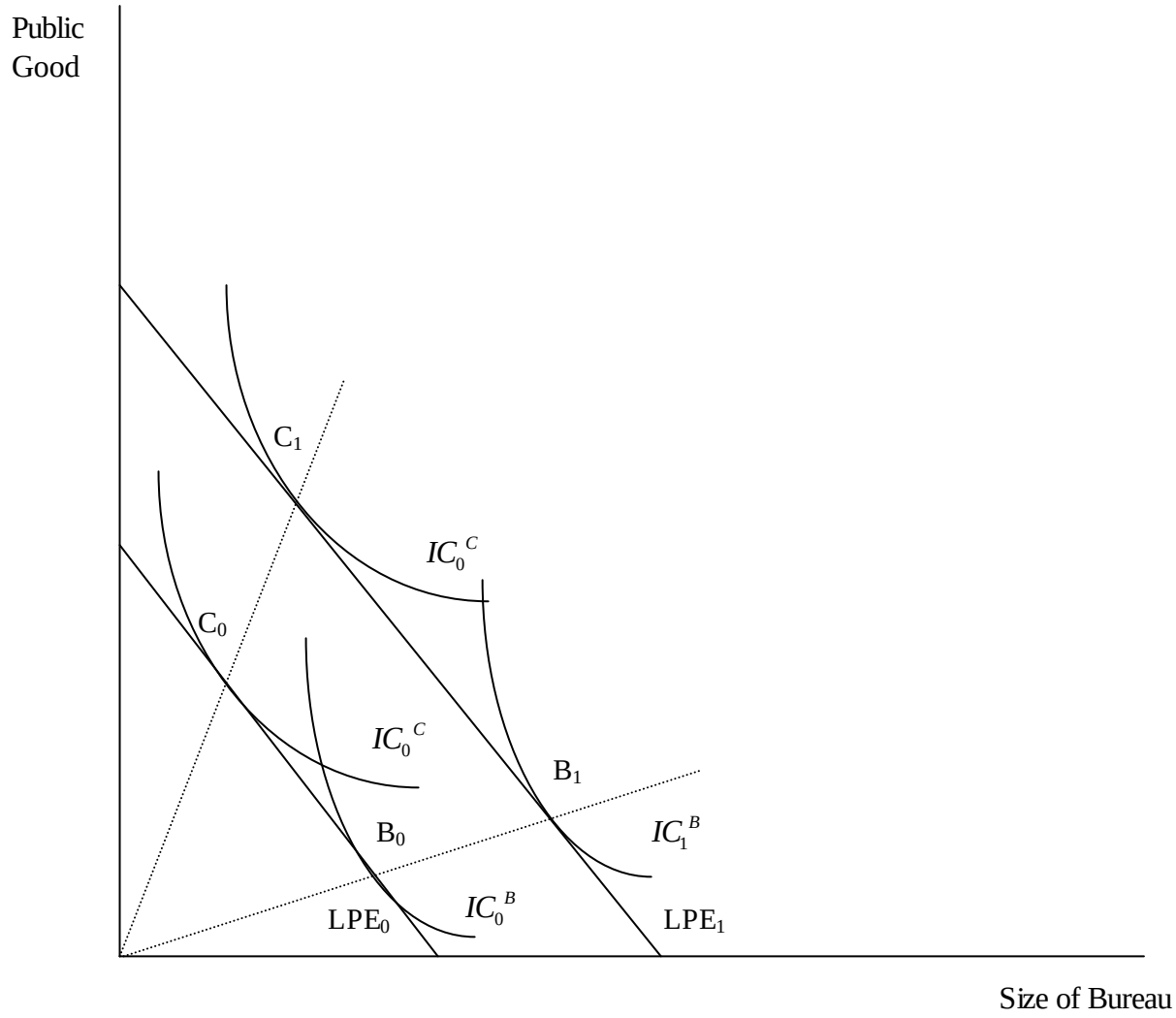

Diagram 2. Biased overexpansion of the public sector

Empirical evidence for Leviathan hypothesis in Ukraine can come from large variance of total local public expenditures across Ukrainian oblasts. The standard deviation of per capita total local public expenditures in 1997 across 27 oblasts was 0.09 (see *Appendix 6*). This result suggests that politicians and bureaucrats from different Ukrainian oblasts have different bargaining power to influence central government's decisions on the amount of oblast public expenditures and subsidies to local budgets.

Large variance of total per capita local public expenditures across different Ukrainian oblasts supports the hypothesis on biased overexpanstion of local public expenditures. As

can be seen, per capita expenditures on education, health care and social security are almost constant across Ukrainian oblasts. (Their standard deviations are 0.01, 0.01 and 0.02 correspondingly). Therefore, most of variance in total local public expenditures should be explained with variance in the rest of local public spending. [6] Rest of local public spending can be related to the size of bureau. [7] They include salaries and benefits to bureaucrats (expenditures to support legislative, executive and judicial bodies) and transfers to government-supported industries that actually allow bureaucrats to extend their power. The latter result can be referred to a "flypaper effect", when "money sticks where it hits" (Cullis and Jones 1998, 321). In other words, additional local public spending lobbied by regional bureaucrats from the central government are used by regional bureaucrats for their own benefits.

Overexpansion of local public expenditures lobbied by regional bureaucrats and politicians violates Tiebout's assumption on fixed endowments of resources of local communities. As a result, local governments facing this "soft budget constraint" have a lower incentive to achieve optimum size and to minimize costs. Overexpansion of local public expenditures can be considered as X-inefficiency.

CONCLUSIONS

Applying Tiebout model to analyzing local public sector in Ukraine demonstrates considerable inefficiencies of Ukraine's local public expenditures. Two main reasons can be suggested for explaining these inefficiencies, centralization of budget decision making process and restrictions on mobility of households and businesses.

Central government's guidelines for elaboration of local budgets create uniformity of expenditure patterns across different local communities. Lack of variety in local public expenditures suggested by local governments is a disincentive for fiscally induced mobility of households and businesses. Fiscally induced mobility of households is also limited with restrictions on labour mobility, scarce employment opportunities across the country, and shortage of housing.

Immobility of households leads to inefficient allocation of local public expenditures. The Tiebout model predicts income homogeneity within local communities thus allowing local governments to avoid social security and protection expenditures. In contrast to developed countries, local governments in Ukraine bear large share of expenditures on social security and welfare. Meanwhile, expenditures on municipal infrastructure are significantly understated.

[6] Sum of variances of per capita expenditures on education, health care and social security explains only 11% of variance in total per capita local public expenditures (see *Appendix 6*).

[7] Expenditures on municipal infrastructure can be ignored due to their miserable amount in 1997.

Uniformity of local tax rates across local communities in Ukraine prevents tax pricing mechanism for local public goods. Households pay less tax than per capita expenditures on services that are important for households, whereas businesses pay more tax than per capita expenditures on municipal infrastructure, that are important for businesses. As a result, school and hospitals set unofficial user charges for their clients, while businesses lobby for tax exemptions.

Centralization of budget decision making process results in biased overexpansion of local public sector. Local government bureaucrats and politicians lobby for inflated amount of local public expenditures and subsidies from the central government. They exploit their power to allocate extra local public spending to increase the size of their bureaus. Consumers-voters are worse off for being provided less quantities of public goods than they would prefer under given overexpansion of local public spending. In addition, overexpansion of local public expenditures can be considered as government X-inefficiency.

Efficiency of local public expenditures in Ukraine can be enhanced by promoting fiscally induced mobility of households and businesses, and by decentralizing the budgetary process. Larger fiscally induced mobility allows consumers to satisfy better their demand preferences. Decentralization implies variety of tax and service packages suggested by local governments. Variety of services improves satisfying demand preferences by consumers. Variable local tax rates should let tax pricing mechanism for local public goods to cover average costs of their provision. Finally, decentralization should impose hard budget constraint on local governments to eliminate their X-inefficiency and biased overexpansion of local public expenditures.

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Appendix 1

Assignment of Expenditure Responsibilities Between Central and Local Governments *(% of general government)*

	Social security and welfare		Education		Health	
	Central government	State and local governments	Central government	State and local governments	Central government	State and local governments
France	91.8%	8.2%	75.3%	24.7%	97.0%	3.0%
Germany	79.0%	21.0%	1.0%	99.0%	74.4%	25.6%
United Kingdom	84.0%	16.0%	12.7%	87.3%	100.0%	0.0%
United States	78.0%	22.0%	4.2%	95.8%	50.5%	49.5%
Ukraine*	18.2%	81.8%	26.2%	73.8%	8.1%	91.9%

*Average for years 1995 and 1996

Source: Ahmad, Hewitt, and Ruggiero (1997, 38 -39); Ministry of Finance of Ukraine

Appendix 2

Structure of Local Public Expenditures in Ukraine in 1995 - 1997
***(% of total local public expenditures*)**

	1995	**1996**	**1997**
Social security and welfare	29.0%	28.1%	27.6%
Education	**23.8%**	**25.3%**	**27.7%**
Health	**25.1%**	**25.0%**	**26.1%**
Economic activity	4.1%	2.8%	1.4%
Housing sector and roads	7.9%	6.5%	3.8%
Other expenditures	10.5%	13.3%	13.4%
Total expenditures (excluding intergovernmental transfers)	**100.0%**	**100.0%**	**100.0%**

Source: Ministry of Finance of Ukraine

Appendix 3

Assignment of Expenditure Responsibilities Between Central and Local Governments in Ukraine *(% of general government)*

Expenditure	**1995**		**1996**	
	Central government	Local governments	Central government	Local governments
Social security and welfare	16.7%	83.3%	19.6%	80.4%
Education	25.2%	74.8%	27.1%	72.9%
Health	7.9%	92.1%	8.3%	91.7%
Economic activity	82.2%	17.8%	88.5%	11.5%
Housing sector and roads	3.5%	96.5%	3.9%	96.1%

Source: Ministry of Finance of Ukraine

Appendix 4

Comparing Tax Collections and Expenditures of Local Budgets in Ukraine in 1997, *thousands of hryvnia*

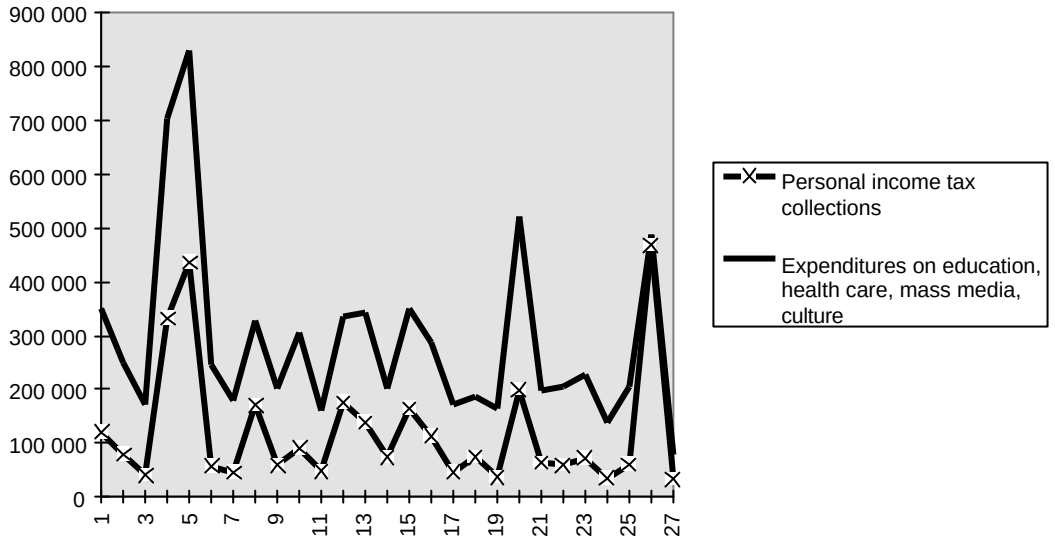
Oblast	Personal income tax collections	Expenditures on education, health care, mass media, culture	Enterprise profit tax collections	Expenditures on municipal infrastructure*
Crimea	121 075	349 883	134 049	63 108
Vinnytzka	79 140	250 896	87 475	31 141
Volynska	39 914	170 742	36 304	22 358
Dnipropetrovska	332 119	704 525	561 144	167 553
Donetzka	436 289	831 337	684 907	111 259
Zhitomirska	57 702	246 266	76 027	34 756
Zakarpatska	45 631	178 209	32 833	18 471
Zaporizka	170 360	327 311	276 837	45 249
Ivano-Frankivska	59 463	200 590	124 434	23 732
Kyivska	90 481	307 218	142 325	29 600
Kirovogradska	48 475	159 718	38 764	27 608
Luhanska	176 107	334 933	233 410	83 802
Lvivska	138 782	344 220	254 331	47 243
Mykolaivska	73 102	201 622	153 637	39 189
Odeska	164 396	349 444	245 008	69 501
Poltavska	112 954	289 154	375 207	41 626
Rivnenska	47 033	173 169	93 049	19 759
Sumska	73 795	186 579	171 654	22 446
Ternopilska	37 125	166 056	45 044	10 875
Kharkivska	199 504	520 060	558 130	68 664
Khersonska	63 792	198 490	66 758	29 616
Khmelnytzka	59 087	206 402	95 226	23 476
Cherkaska	71 866	226 589	160 160	23 675
Chernivetzka	35 169	136 801	38 729	14 678
Chernihivska	60 226	205 423	103 441	27 689
City of Kyiv	468 809	488 849	968 334	273 262
City of Sevastopol	33 109	77 906	34 905	10 452

* including expenditures on economic activity, government investment and budget credits

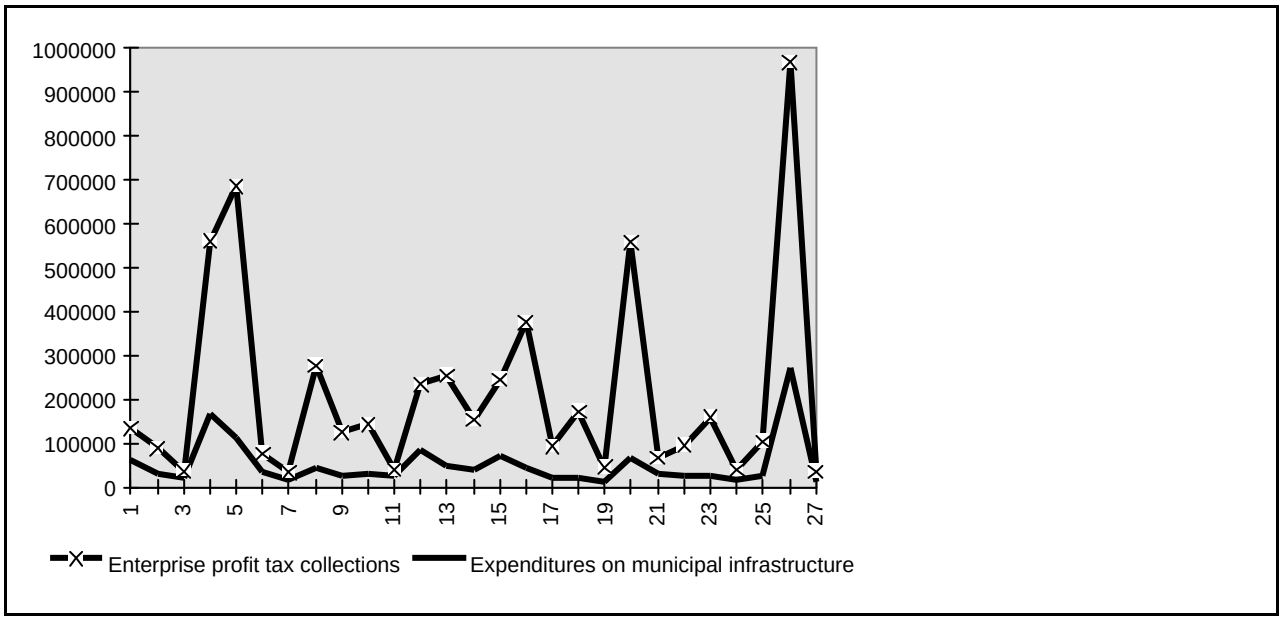
Source: Ministry of Finance of Ukraine

Appendix 4 (continued)

Comparing Personal Income Tax Collections and Expenditures on Education, Health Care, Mass Media and Culture of Local Budgets in Ukraine in 1997, *thousands of hryvnia*



Comparing Enterprise Profit Tax Collections and Expenditures on Municipal Infrastructure of Local Budgets in Ukraine in 1997, *thousands of hryvnia*



Appendix 5

Overexpansion of Local Public Expenditures in Ukraine

	1995	**1996**	**1997**
Amount of local public expenditures planned by the *Ministry of Finance* (thousands of hryvnia)	7,273,073	11,273,180	10,888,485
Amount of local public expenditures planned by *local governments* (thousands of hryvnia)	8,983,945	12,886,671	13,484,040
***Actual execution* of local public expenditures** (thousands of hryvnia)	9,546,549	11,760,924	13,750,018

Source: Ministry of Finance of Ukraine

Appendix 6

Per Capita Local Public Expenditures in Ukraine in 1997, *hryvnia*

Oblast	Per capita expenditures on education	Per capita expenditures on health care	Per capita expenditures on social security	Total per capita local public expenditures
Crimea	0,076	0,075	0,044	0,260
Vinnytzka	0,064	0,066	0,062	0,228
Volynska	0,085	0,067	0,037	0,228
Dnipropetrovska	0,092	0,087	0,137	0,380
Donetzka	0,075	0,081	0,085	0,291
Zhitomirska	0,090	0,071	0,082	0,288
Zakarpatska	0,077	0,054	0,049	0,215
Zaporizka	0,074	0,079	0,057	0,282
Ivano-Frankivska	0,068	0,059	0,058	0,222
Kyivska	0,084	0,070	0,043	0,240
Kirovogradska	0,066	0,059	0,054	0,233
Luhanska	0,053	0,064	0,068	0,236
Lvivska	0,061	0,058	0,060	0,215
Mykolaivska	0,080	0,064	0,066	0,283
Odeska	0,068	0,061	0,048	0,239
Poltavska	0,079	0,082	0,102	0,345
Rivnenska	0,073	0,065	0,046	0,222
Sumska	0,066	0,064	0,077	0,242
Ternopilska	0,072	0,061	0,057	0,220
Kharkivska	0,087	0,077	0,127	0,338
Khersonska	0,078	0,072	0,056	0,251
Khmelnytzka	0,070	0,063	0,069	0,237
Cherkaska	0,080	0,064	0,095	0,277
Chernivetzka	0,079	0,057	0,044	0,218
Chernihivska	0,075	0,070	0,053	0,246
City of Kyiv	0,085	0,087	0,104	0,658
City of Sevastopol	0,093	0,088	0,097	0,332
Mean	**0,076**	**0,069**	**0,070**	**0,275**
Variance	**0,000**	**0,000**	**0,001**	**0,008**
Standard deviation	**0,010**	**0,010**	**0,026**	**0,089**

Source of data: Ministry of Finance

Appendix 6 (continued)

Covariance Matrix of Per Capita Local Public Expenditures

	Per capita expenditures on education	Per capita expenditures on health care	Per capita expenditures on social security
Per capita expenditures on education	9.22 E-05	5.44E-05	0.000111
Per capita expenditures on health care	5.44E-05	9.71E-05	0.000164
Per capita expenditures on social security	0.000111	0.000164	0.000684

Sum of variances of per capita expenditures on education, health care and social protection is 0.000849, while variance of total per capita local public expenditures is 0.007845.