

# **Master Research Report**

## **Case study of Professional Sound Equipment Industry in Ukraine**

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## *Abstract*

This work is a study of Sound Equipment Industry in Ukraine within the context of transition from centrally planned to market economy. It discusses structural changes which take place in this connection, possible sources of growth and those factors that have harmful effect on the development of the industry in particular and industrial sector in Ukraine as a whole. It also formulate some policy implications necessary to deal with existing problems and to promote future development.

## *Introduction*

I. The purpose of present Master Research Paper is to study the market of Professional Sound Equipment in Ukraine. The example of this particular industry will be used to investigate the evolution of industrial organization in Ukraine since independence. The purpose of the work is to show how the structure of the industry has changed, what achievements has been made which proves that it has good potential and strong prospects for future development, and what problems exist that have harmful effect on Ukrainian industrial sector as a whole, and Sound Equipment Industry in particular. The work will be concluded with some policy implications necessary to deal with existing problems and to facilitate the development of industrial sector in Ukraine.

The work begins with description of the industry, including categories of products, technological process and analysis of the market. The evolution of the industry will be shown which before 1990 was presented solely by big state enterprises but present-day consists primarily of small private businesses. Possible explanations will be given why old enterprises can not survive in the market and why newly created firms are so flexible in matching the conditions of the market.

The work will widely employ the knowledge and methods of analysis from microeconomics and industrial organization. Particularly, survivor method will be used to assess efficient scale of production. The work will also contain comparative analysis of cost structure of two firms currently operating in the industry, small private firm and big (former state) enterprise, in order to show the advantage of small business that creates good prerequisite of its successful

operation in the market. It will be shown how the small firm makes its production highly adaptable to different levels of production. It helps firms to survive in contemporary unstable economic environment. Some aspects of strategic behavior in the market will be discussed and illustrated by examples (vertical integration, technique to avoid problems of opportunistic behavior, pricing policy).

Another purpose of the work is to identify those factors that does not allow successful development of this particular industry, as a part of Ukrainian industrial sector, that distort the market and push enterprises into shadow market. It will be shown in the work that improper government policy bears all the responsibility for the existing problems. Imperfections of tax system are considered in the first place. Existing tax system discourage enterprises from conducting fair business and creates conditions under which firms prefer to go to the black market or to close down. Another harmful factor for which government is responsible is existing administrative barriers on the way of developing small businesses, such as problems of registration, imperfections of system of licensing, excessive interference of supervisory bodies into the activity of enterprises).

Finally, some policy applications will be suggested to deal with existing problems and promote the development of small business in Ukraine.

## *Part I Description of the Industry*

We are intending to focus our attention on the operation of the industry which produces professional equipment for sound reproducing and reinforcement. Two main categories of products are manufactured by enterprises of the industry:

- Professional Show Equipment
- Professional Industrial Equipment

The first category include such products as acoustic systems (full range speaker systems, enclosures, horns), audio mixers, loudspeakers, power amplifiers, stabilizers, cross-overs, compressors, equalizers, test equipment and accessories. <sup>1</sup>

Professional Industrial Equipment includes linear transmission systems for internal and external use. It is designed to reproduce vocal (speech) frequency range and consists of only one loudspeaker. <sup>2</sup>

This division of products on two categories has impact on our understanding of the market. From consumer point of view the above mentioned two categories of products belong to different markets (music sound reproduction has nothing in common with communication systems at enterprises or, say, systems of reproducing sound in airports and railways). However, from producer point of view these products belong to the same market, because the same inputs and similar technology are used for their production. They can be seen as just different modifications of the same products. Also, the prices for the corresponding products

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<sup>1</sup> See Appendix 1 for samples of products.

<sup>2</sup> See Appendix 3 and Appendix 4 for samples of products.

of the two categories tend to move together giving support to the assertion that they belong to the same market (necessary, but not sufficient condition).

These observations are made in order to explain our approach to the analysis of the industry operation: in our discussion of general problems we will not distinguish between the two above mentioned categories of products keeping in mind that typical enterprise operating in the industry is multiproduct; however, for simplicity and reliability of our analysis it will make sense to narrow the topic and to consider only one category (and even particular kind of product) about which we can be sure that market is correctly specified.

## ***Part II Evolution of the Industry since independence***

In the former Soviet Union Sound Equipment Industry was presented solely by highly concentrated state enterprises, which were not numerous. In Ukraine:

- “Mayak” Workshop (Kyiv)
- Korolyeva Plant
- Radio-Workshop (Kyiv)
- “Electroceramica” (Bila Tzerkva)
- Several enterprises in Hzitimir

Outside Ukraine:

- LOMO Workshop of Optical and Mechanical instruments and devices (Leningrad, Russia)
- Research and Production Center “NIIRA” (Leningrad, Russia)

- Popova Radio Equipment Plant (Russia)
- Radio-equipment Plant (Bryansk, Byelarus)
- Altay Radioelectronic Plant (Russia)
- Transmission Equipment Workshop (Slavograd, Russia)
- Radio Equipment Plant (Kustanay, Kazahctan)

Starting from 1990 industry has become a subject of fundamental changes. Old state enterprise could not operate in the way they did before because their links with former partners were broken, and despite their large size these enterprises were not vertically integrated, so they could not assure supply of inputs and could not sell their products in the market, especially if these products were intermediate. Additionally, with substantial cut of government subsidies they were unable to afford their high transaction costs. The major reasons for high transaction costs were highly specialized physical assets and difficulties in structuring contracts with partners (on the one hand, enterprises did not have experience in structuring their contracts because in the previous planning system there was no need for this, and on the other - it become extremely difficult to enforce contracts because of underdeveloped financial system and absence of necessary legislature).

This situation has given rise to creation of small enterprises of the new type.<sup>3</sup> Initially, small enterprises began to emerge as either the “satellites” of big state enterprises, or as independent enterprises but which widely used spare parts and elementary base produced at state enterprises. At the very first stage of their existence newly created small enterprises were not

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<sup>3</sup> There are different definitions of small enterprise. Usually two criteria are used: number of employees and size of production output. In our discussion we will rely on the first criterion, because the second can vary significantly. By small enterprise we understand enterprise with the number of employees not more than 10 people.

involved in very diversified kinds of activity. They primarily were assembling units which were able to perform very narrow range of functions. But at this first stage of their development they managed to use their advantages over big state enterprises to create capacities necessary for their future development as full-range producers with impressive array of products and production capabilities. The following factors were in favor of newly created small enterprises:

### **1. Loss of manageability of big enterprises**

New schemes of work management was not launched yet, but the old ones which were practiced in planned economy already did not work. Consequently, discipline at big enterprises were declining. Newly created small enterprises had an advantage in this respect because their administrative staff consisted primarily of 5-10 people.

### **2. Development of Black Market**

Due to economic disorder and improper tax policy black market started to develop with a great pace. Almost all enterprises if they wanted to survive had to some extent to be involved in shadow activity, particularly, to make some part of their transactions in cash. Otherwise they could get bankrupts quickly not because of their bad performance, but because of bad circulation of non-cash money in the economy, misleading government regulations, unstable legislative base and excessive tax burden.<sup>4</sup> In this situation small enterprises which did not use big physical stock and numerous employees had more room for maneuver.

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<sup>4</sup> The argument will be extended in Part V of this work

### 3. **Easiness of implementing technical innovation at small (typically privately owned) enterprises.**

Implementing of technical innovations at big enterprises faces several serious problems.

**The first problem** is the problem of incentives. Potential authors of innovations have not enough incentives to make them. The reason is that under the existing system of patents they can not defend their rights on the invention. Procedure of obtaining patents is troublesome, and even if you manage to obtain patent at a reasonably low cost there is no way to enforce your exclusive use of innovation. Consequently, most innovations are not registered at all, but instead they are directly implemented in production. It is evident that if enterprise is small and privately owned there is some sense to implement innovation without making it public. By doing this you can lower your costs of production or improve quality of the product and, consequently, increase compatibility in the market. It is not, however, the case as far as big enterprise is concerned. A lot of people are aware about the peculiarities of production process, and that increases the risk of disclosure the essence of innovation to the competitors.

**The second problem** is the problem of inertia of big enterprise. Each time you try new methods of production you bear the risk that performance of the enterprise will change for the worse, not for the best. Theoretically attractive idea may prove totally wrong in practice. Big enterprises with their great number of employees are less eager to expose themselves to such a risk. They always try to secure themselves by using the services of Research Institutes or by having their own R&D departments. This approach is completely justified in stable economies: the procedure of proper research steps, followed by necessary testing procedures provide guarantees of proper quality of the product and safety of its manufacturing process. But this approach is almost out of work in transitional economies where firms are oriented on obtaining short-run profits, and nobody wants to finance costly research which may or may not

bring results in the future. Small, privately owned enterprises are free from these inertia problem. They are more likely to take the risk associated with implementing technological innovations, because in the case of unsuccessful outcome their loss will be smaller, and because the time path from the idea till its implementation is much shorter.

The above mentioned factors led to the following two processes going simultaneously:

- Big enterprises intensively exploited their main advantage in the market - huge physical capital and raw materials stock. Without making serious efforts to reorganize enterprise and find sources of future development they could survive by selling equipment and raw materials to small enterprises. By doing this they created the illusion of keeping their position in the market, but in reality they made their future operation impossible. Although not the subject of present discussion, it should be mentioned that this situation was a result of rent-seeking behavior of *Industrial Nomenclatura* (managers of big enterprises)
- At the same time small private enterprises continued to establish themselves in the market. They bought used equipment from big state enterprises and organized their own production of all the necessary inputs.<sup>5</sup> In many cases they managed to do such modifications of old outdated equipment that allowed to use it efficiently. During several years small enterprises has become familiar with almost all list of products which former were produced only at big enterprises.

Present situation is definitely not in favor of big enterprises. Their stock of raw materials is exhausted, cheap credits are almost unavailable, and they have to play under the same rules as other firms. But they are not ready for this. First of all, reorganization of big enterprises

requires significant financial resources and can not be done without credits. Additionally, big enterprises find themselves out of the qualified labor force. This is a consequent result of their policy oriented on obtaining immediate profits at the expense of selling equipment and raw materials. Most qualified personal left these enterprises either at their own will (official salary was very low, and directors did not share with employees their profits from selling equipment and raw materials, because these operations were mostly illegal), or were sent to involuntary leave without allowance. Also, large organizations are often quite unresponsive to new circumstances.

As far as small private enterprises are concerned, there are no serious constraints to their successful activity except tax system the harmful effect of which will be discussed later in this work.<sup>6</sup>

### ***Part III Efficient Plant Size***

In the previous part of the work we described the process of Sound Equipment Industry transformation from state sector into competitive industry represented by small private firms. However, we did not specify, what is efficient plant size in the industry. One way to measure economies of scale is to use Stigler (1968) approach. According to Stigler, “if a particular plant size is efficient, eventually all plants in the industry should approach that size”.<sup>1</sup> This is called survivorship method.

Currently Sound Equipment Industry in Ukraine is presented by 36 firms, the whole list of which is presented in Appendix 7. Among them 27 are Ukrainian manufacturing firms and 9 -

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<sup>5</sup> For more details see Part IV, 1.

dealers of foreign firms.<sup>ii</sup> As becomes clear from interviewing representatives of Ukrainian manufacturing firms, most of them have about 5 employees and produce (sell) two sets of audio equipment a month.<sup>7</sup> Each set, on average, consists of two acoustic systems and two amplifiers. If we do not distinguish between these products, we can say that efficient scale of production is 4 units a month, or 48 units a year.

It should be mentioned that survivorship method reveals the efficient plant size only in a case if all firms have similar cost conditions. Otherwise it can only reveal the range of efficient plant sizes.

Although this method is not precise, it nevertheless gives the idea about efficient plant size. This simple analysis supports the assertion that small enterprises currently prevail over big enterprises in the market of Sound Equipment in Ukraine.

## ***Part IV Economics of the small private firm***

### **1. Cost structure (advantage over big state enterprise and the sources of this advantage)**

In this section we will move from general discussion to specific example of small private firm which operates in Sound Equipment Industry to demonstrate its cost advantages over big enterprise and analyze the sources of these advantages.

We will consider the small private firm “Horn” which operates in the market since 1985 and has come through all the steps from simple assembling unit till multiproduct enterprise which

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<sup>6</sup> See illustration of this statement in part IV of this work.

<sup>7</sup> Representatives of firms were interviewed either during the Exhibition “Sound. Light. Stage”, 1-3 May, 1998, or by telephone interview, April 1998.

can produce wide array of products which the market of sound equipment requires.<sup>8</sup> Officially this firm is a satellite of a big (former state) enterprise “REC” (Radio-Electronic Company), which produces both categories of products manufactured in the industry - professional show equipment (variety mixers, amplifiers, acoustic systems) and professional industrial equipment.<sup>9</sup> However, small enterprise is completely independent in its production process and almost independent in its market activity. Relations between two enterprises exist as long as they are mutually beneficial. The main interest of small enterprise - to obtain administrative support, by which primarily accounting and reporting to different state control agencies is understood. It constitute a serious problem for small enterprises to meet the requirements of all state documents which regulate business activity in Ukraine. Legislative system is unstable and very much confusing which makes activity of enterprise highly unsecured. Small enterprise with its limited staff can not afford keeping the books in such bad circumstances. It is much easy to do for big enterprise (the cost of keeping large accounting unit is dispersed). Big enterprise also has its interest in having small enterprise as its vertically integrated unit - it can avoid supply problems and can by inputs from small enterprise at lower than market price.

As it was already mentioned, both “REC” and “Horn” are multiproduct firms. But for the reliability and simplicity of our analysis it makes sense to narrow the topic by considering only one direction of their activity - manufacturing of linear transmission systems (category of professional industrial equipment). As it can be seen from scheme 1 (see Appendix 2), manufacturing of linear transmission systems is only one direction of activity of Radio-Electronic Company. To produce linear transmission system “REC” requires three

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<sup>8</sup> See List of the Firms (Appendix 7)

<sup>9</sup> See List of the Firms (Appendix 7)

components: (i) amplifiers for the purposes of linear transmission, (ii) acoustic systems for linear transmission and (iii) horns. It is clear from the scheme, where the first two components come from, but it is not the subject of our discussion. We are interested in looking at the role of small private firm “Horn” in this process. The firm is responsible for assembling horns (which consist of dynamic heads of loudspeakers, matching transformers and main body) and producing different inputs (spare parts) which are used in main body manufacturing.<sup>10</sup>

It is reasonable to concentrate on production of horns, because there is definitely separate market for horns, and it is easy to find some big state enterprise which specializes in production of horns. For comparison we choose big (former state) enterprise “Teleradiosvyaz” (Kharkov).<sup>11</sup> Products of two firms (how they look like) are presented in Appendixes 3 and 4.

As it can be seen from description of the technical characteristics of products, small private enterprise produce horns which are not second (and according to some characteristics is even super) in quality as compared to big enterprise.<sup>12</sup>

Our next step will be to look at the cost composition of both firms. The first criterion will be the cost of inputs which are used in the production of horns (calculation is made for 1 unit of product). As it can be seen from Table 1 and Table 2, two firms under consideration use inputs which bear similar functional load, but are different in their design and material from which they are made.<sup>13</sup> As a result of these differences small private firm has significantly lower cost of inputs used for the production of one horn than big enterprise has (\$35.234 for “Horn” against 45.772 for “Teleradiosvyaz”). The price of inputs which are used for our analysis already include in itself the price of material used, the price of energy used, transportation

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<sup>10</sup> For the list of inputs see Table 1, Appendix 6

<sup>11</sup> Address: Kharkov, Ac Pavlova 82. For description of the product see Appendix

costs and the cost of labor for its manufacturing. Therefore, we can make an effort to analyze the sources of advantage we observe. So, the question arises: What are the sources of the advantage we observe?

#### (1) **Different spare parts and materials used**

- Spare parts used in the production cycle of “Horn” are made from plastic whereas spare parts used in the production cycle of “Teleradoisvyaz” are made from expensive non-ferrous metals. Supply of plastic from numerous local enterprises is stable and cheap relatively to non-ferrous metals. Additionally, production cycle with usage of plastic do not require much space and large-scale equipment which consumes a lot of metal and energy.
- In the case of “Teleradiosvyaz”, cobalt magnets are used for manufacturing of loudspeaker heads. But cobalt magnets are expensive and supply of them can be unstable. For the same purpose “Horn” uses ferroalloys, which are less expensive and easily available in the market. The logical question arises, why big enterprise can not choose the better opportunity for its production cycle as small enterprise does. The answer is that big enterprise is very much dedicated to its technological chain. It is costly to make changes in technological chain, when there are a lot of large-scale equipment and a lot of people attached to their working places.
- Because in the case of “Horn” all the main parts are made from plastic, there is no need to paint the final product. Instead, special artificial dye-stuff is added to plastic. This is less expensive way to coat the product which additionally proves the better quality (under no conditions the coating material can be deteriorated and the final look of the product changed)

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<sup>12</sup> See Appendix 5 for Technical Characteristics of the Products

<sup>13</sup> See Appendix 6 for comparing the costs of inputs

- Packaging material used by “Horn” is less expensive (polyethylene instead of cardboard)

(2) **Affordability of supply** (closely connected with the previous factor).

As it was already mentioned, “Teleradiosvyaz” uses deficit materials and bear the costs connected with breaking down supply links.

(3) **Peculiarities of assembling process.**

When plastic moulding is used for spare parts manufacturing, less work is required for assembling horns. Thus, in the case of “Horn”, only one part is produced which is the main body - voice tube. In the case of “Teleradiosvyaz” six parts perform the same function - main voice tube (outward), inward voice tube, splitter, reflector, base and diffuser holder. Consequently, we can say that in the case of “Horn” less manual work is required for assembling the product.

(4) **Transportation costs.** In the case of “Horn” transportation costs are lower, because the final product has less weight.

(5) **Cost of energy**

“Horn” do not use large-scale equipment which big enterprise uses. Consequently, it can save energy. However, there is one interesting aspect of this problem. Actually, small enterprise buys equipment from big enterprises (not necessarily operating in the same business), that is, it buys equipment which is not suited for energy saving. However, due to the implementation of technological know-how the firm can use it in completely different way and make it work efficiently.

As it can be seen from upper considerations, cost advantage of small firm over the big one stems primarily from the idea of using specialized equipment for plastic moulding which due to technical and technological innovation is best suited for solving the problems of production

process. It make sense to discuss the essence of innovation in more details and explain why it can only be applied at small enterprise.

It is necessary to say that technology of plastic large-scale casts production is not in practice neither in Ukraine nor in the countries of the former Soviet Union. Plastic moulding is used usually for the production of small things. Why this occurs will be clear from the discussion of three possible options which exist in using plastic moulding machines.

#### Option1: Small powered machine (up to 10 kilowatts)

Small powered machine provides small capacity of injection of liquid plastic into machine (up to 250 cm<sup>3</sup>) resulting in short processing period (approximately 20 seconds). Consequently, such a machine can produce great batch of details (about 1440 per working day), requires small space and consumes little energy. The necessary element of moulding process is designing of special forms which are called castings. Casting for small capacity machine is cheaper and has less weight, which facilitates the process of moulding (no special equipment for lifting the castling is required). Additionally, because the same operation is repeated a lot of times, automation can be introduced into the process.

#### Option 2: Middle powered machine (up to 50 kilowatt)

Middle powered machine provides greater capacity of injection of liquid plastic (up to 500 cm<sup>3</sup>) resulting in greater processing period (approximately 5 minutes). Such a machine can produce smaller batch of details (about 96 per working day), and, consequently, requires more space and more energy. Castling suited for such a machine is heavier than in the previous case and require special mechanisms for lifting and moving the detail. Automation is less desirable because less uniform operations are made.

### Option 3: High powered machine (100 kilowatt and higher)

High powered machine provides the greatest capacity of injection (up to 2000 cm<sup>3</sup>) resulting in great processing period (up to 20 minutes). It can produce very few details (approximately 24 per working day), requires a lot of space and consumes a lot of energy. Castling is extremely heavy and can be lifted and moved only with the aid of special mechanisms.

Now, equipped with this knowledge about moulding machines, we can understand, why plastic moulding is not widely used in production of horns. The average weight of the product is 1500 grams. It is considered large-scale (massive) detail for moulding process. Only machines of the third category can afford manufacturing of such a details. Consequently, it is necessary to bear all the costs connected with the use of high powered machines (renting of the space, high costs of energy consumed, bulky mechanisms, expensive castling, etc.). These costs could be justified only in a case of high demand for the final product. However, specificity of the market for horns dictates that only about 5000 horns can be sold per year. But if the batch of product is small, the high production costs can not be covered by the price of the product.

The secret of success of small private enterprise is that it has found a way to use small powered machine for the production of large-scale details. It actually uses machine of 15 kilowatt for manufacturing details which weights 1500 g. This machined has been bought from the enterprise which produces polyethylene. There it was used as a machine of continuous action. The trick is that the firm has found a way to modernize the machine in such a way as to make it work in cyclical regime. It allows (i) to load more liquid plastic (injection capacity

increases) and (ii) to reduce electricity consumption significantly. This is in short the essence of innovation which entails significant reduction in costs.

From the above discussion we can conclude that small private firm has lower variable costs.<sup>14</sup>

Without penetrating to much into calculation of fixed costs, it can be said that big enterprise has definitely higher fixed costs (more space requires higher rent payments, bulk equipment entails higher maintenance costs, casting is more expensive, etc.), which can not be justified because only small batches of product are demanded in the market.

Taking into account that the market price for horns fluctuate insignificantly around \$60 per unit (different modifications have different prices), it become evident that small private firm has competitive advantage over big firm - it can either make higher profits if it sells at \$60, or it can drive its rival out of business by selling at a price which is higher than its average cost, but lower than the average cost of the big firm.

## **2. Strategic behavior in the market**

Previous discussion was focused primarily on one aspect which creates comparative advantage of small firm in the market - its ability to use technical and technological innovation in order to lower its costs of production. Now we will concentrate more on another aspect - strategic behavior of small firm which contribute to its success.

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<sup>14</sup> In our discussion variable costs consist of costs of inputs (in which energy costs, transportation costs and labor costs are already incorporated) and assembling costs (price of work which should be done in order to put spare parts together)

### (a) Vertical integration

As it was already mentioned, small private firm “Horn” is vertically integrated with bigger enterprise “REC”. We have touched upon the subject what kind of mutual interest keeps these two firms together. Now we will discuss this in more detail.

Production of horns (and not only horns, but all the other items belonging to sound equipment industry) is highly specialized. Consequently, there is a risk that if either the buyer or the supplier will not meet its obligations before the other side, the latter will suffer great losses. This is the argument in favor of vertical integration. Let’s see how it works in the case of “Horn” and “REC”. The two firms have an agreement between themselves according to which “Horn” has to produce for “REC” a negotiated batch of horns (or another intermediate product which is used in production of “REC”) and sell it at a discounted price. “REC”, in turn, has an obligation to buy all the negotiated quantity and to provide administrative support to “Horn” during all the period of the contract. Such a negotiation is in the interests of both firms. “Horn” benefits from it because (i) it is guaranteed that its product will be sold, and it should not bear the costs of advertising it in the market (ii) it has no trouble with carrying financial transactions and making accounting reports. “REC” benefits from negotiation by (i) having guaranteed supply of inputs, (ii) buying at a discounted price. Because “Horn” officially is considered to be the subsidiary of “REC” (although with its separate account), it is possible to avoid government price controls, taxes and regulations (the flow of products between the two units looks like selling to itself).

Another argument in favor of vertical integration is that “Horn” can perform the role of Research and Development Unit for “REC”. Due to its excessive experience in designing and

constructing castles for plastic moulding, at can suggest to “REC” new kinds of spare parts which can be used in its production process instead of spare parts previously made from metal. Due to this “REC” can reduce its costs connected with designing and implementing in production those details (for example, sophisticated drawings are not necessary any more).

#### **(b) Technique used to avoid problems of opportunistic behavior**

Although “Horn” is vertically integrated into “REC”, beyond the scope of its obligations before “REC”, it is free to conduct its own activity in the market. In its independent activity “Horn” also faces the problems connected with specificity of its assets and products it manufactures. So, it must employ some technique which would allow to avoid problems of opportunistic behavior. This technique is in accordance with economic theory which says: “Where there is asset specificity, both firms may benefit if the buyer owns the specialized production equipment that the seller uses (Williamson 1975). Ownership by the buyer diminishes the incentive for opportunistic behavior on both sides.”<sup>iii</sup> We will illustrate how this idea works in practice in the case of “Horn”.

As it was already mentioned, to produce plastic moulding, special forms (castling) are required. They can be very sophisticated and should be designed for each specific product separately. Technology of their design and construction is created by the firm and kept secret. The castling is expensive as compared to the price of the product. The costs of its creation could be justified only if high enough quantity of product is sold. Now imagine that some firm makes the order for a batch of plastic details. Manufacturer (“Horn”) has to design and built the castling for the production of these details. In this connection both partners face the risk of the opportunistic behavior of the other side. Thus, “Horn” faces the risk that the firm that

orders the product will for some reason refuse to buy it. In such a case “Horn” will incur losses because of uncompensated costs connected with design and building of that castling. On the other side, the firm that orders the product faces the risk that “Horn” will produce more details than it is negotiated and sell them in the market. The ordering firm does not want its detail to be copied and does not want additional competition from “Horn”.

In order to avoid the problem of opportunistic behavior, the following technique is applied. The ordering firm (1) sets its requirements for the final product, (2) negotiate with “Horn” the quantity it will buy in some time in the future, (3) pays the price of castling. After that the castling is considered to be a property of the ordering firm, although the firm actually does not need it. What it really needs is to have its rights reserved. After that “Horn” can use the castling exclusively for the production of the negotiated quantity of details. Now there are two possibilities. The first possibility is that the ordering firm meets its obligations and buys all the quantity negotiated. In such a case it can decide what to do with the castling. It can either keep it for the future use (preserve its exclusive rights on it), or sell it to “Horn” (if it does not care about competition, and if “Horn” is interested in this). The other possibility is that ordering firm for some reason can not meet its obligations and buy the product. In such a case its exclusive rights on the castling does not reserved any more. “Horn” can use the form for its own purposes. Ordering firm still remains the owner of the castle, but the castle can work only as the element of production process at “Horn”.

### **c) Pricing policy**

Pricing policy of the firm is flexible and depends on three main factors:

- competition in the market
- macroeconomic situation (stability of currency in the first place)
- government policy (tax rate, registration, regulations of activity, etc.)overall

In a period from 1990 till 1996, when state enterprises had huge stock of products, they dictated the price in the market. Consequently, the firm kept its price in compliance with this price. Then, in 1996-97, as the stock of state enterprises became exhausted, demand for the products of small enterprises jumped up, and so did the market price. However, 1997-98 was marked with sizable inflow of foreign products, especially products from U.S. and Korea. In order to compete with imported goods, it is necessary to lower the price and to improve the quality. With technological innovations which “Horn” implies in its production process, these two tasks are not in contradiction. Really, there is much room for lowering the price because of effective costs structure, and those factors, that allow to lower the costs, at the same time work to improve the quality of the product.

Let’s go back to those three factors which determine pricing policy of the firm and can have direct effect on its viability. We have shown that “Horn” does not fear competition, due to its efficiency it has enough room to lower the price, so the factor of competition does not undermine its presence in the market. We can also speak about macroeconomic and monetary stability in Ukraine, so the second factor seems to have no harmful effect on the activity of the enterprise. However, as far as government policy towards business is concerned, it can destroy any potentially viable and profitable production. This problem will be discussed in the next section of this work.

## ***Part V Analysis of Government Policy***

The purpose of this section is to show that the main factor that does not allow successful development of business in Ukraine is government policy.

The topic is well developed in the book “Small Business in Ukraine”, written by the group of authors - politicians, parliamentarians, economists <sup>iv</sup>. Although concentrating primarily on the problems of small business in Ukraine, the book rises problems which are common for all business units, does not matter, small or large. In our further discussion we will widely use information and ideas presented in this book.

### **1. Tax Policy**

Tax policy is a central problem which has the most harmful effect on the development of business in Ukraine. As Dmitry Lyapin mentions in his article “Problems of Tax System in Ukraine”, tax system should play a dual role in the economy - fiscal and regulative. <sup>v</sup> The former consists in filling the budget, and the latter - in making indirect effect on different sectors of the economy. The problem of tax system in Ukraine is that it is oriented solely on performance of its fiscal role. The priority of balanced budget target is always claimed by government officials. They actually do not take into account the state of the economy, which is exhausted and needs mild tax climate, at least for the period of its restructuring. Instead, currently practiced tax system is characterized by high tax rates and tough punitive measures. According to General Scheme of Taxation (January, 1, 1997), presented in the above mentioned article, about 90% of firms' income are taken from them in taxes. In order to

enforce tax payments, the government introduces more severe punishment for tax evasion and strengthen tax inspections (at the expense of the budget, of course, which it wants to fill). Moreover, according to current system, incomes of tax inspectors are directly related to the amount of fines that are imposed on enterprises in case when tax evasion is detected.. Therefore, tax inspections are interested in having dishonest or incompetent tax payer. If we take into account that tax payer is almost always incompetent because of sophisticated and conflicting demands of current legislature (for the beginning of 1997 general questions of taxation were regulated by 61 legislative norms, VAT - by 101, profit tax - by 65 and excise - by 50 norms correspondingly), it becomes clear that tax inspections possess unlimited power over enterprises. It is evident that existing system is in favor of corruption, development of shadow economy and discouragement of honest entrepreneurs from economic activity.

When applied to small business, situation becomes even worse. No difference is made between large and small enterprise regarding book-keeping. A huge number of accounting reports is required which small enterprise can not afford. If such situation persists, even potentially viable enterprise would go out of business or into shadow economy.

In the previous parts of this work we have showed that small enterprises have competitive advantage over big enterprises in Sound Equipment Industry. They are economically viable. But they will not be able to realize their potential unless tax policy changes. Introduction of fixed consolidated tax may be one possible solution. It would allow to simplify accounting system, to reduce the number of obligatory accounting reports and secure the activity of small enterprise.

## 2. Administrative Barriers

Another obstacle which enterprises face in Ukraine is existing administrative barriers, that is, obligatory procedures and rules, which are set by laws and regulations. Volodymyr Musychuk, in his article “Administrative Barriers on the Way of Development of Small Businesses” lists the main barriers which have harmful effect on the development of small businesses in Ukraine.

<sup>vi</sup> They are as follows:

- problems of registration;
- problems of licensing;
- excessive interference of supervisory bodies into the activity of enterprises (excessive number of inspections)
- rent-seeking behavior of government officials.

All administrative procedures require a lot of special documents and consumes a lot of time for their drawing up. Besides, the size of fees which are taken from enterprises in the process of registration, licensing, etc. is put in correspondence with the minimum allowance of citizens and depends on the sphere of economic activity. Permanent changes in the size of minimum allowance entails permanent changes in the size of registration fee. Instability and inconsistency of laws and regulations lead to the necessity of re-registration or renewal of licenses, which complicates the activity of enterprises and withdraws additional money from them.

Theoretically, administrative costs should be equal for all enterprises, but in reality they vary significantly for different categories of enterprises and regions. Consequently, uneven conditions of entering the market are created. Very often registration bodies by their own

initiative complicate administrative procedures by requiring from firms additional information (documents) and supplying the same documents into different agencies.

Excessive interference of supervisory bodies into the activity of enterprise takes the form of state racket: systematic inspections (the true goal of which is rent seeking) harry enterprises and deplete their financial resources. Besides, the attention of business people is systematically drawn from their main activity.

Functioning of small business in such a conditions is very problematic. The government conducts deceitful policy towards small businesses. On the one hand, it claims promotion of small businesses as its major goal, but on the other - creates highly hostile economic environment in which even potentially viable enterprises can hardly survive.

### **3. Policy implications**

The prospects of successful and sustainable reform process in Ukraine is wide open. Whereas macroeconomic and monetary stability is achieved, signs of successful structural reforms of big enterprises are weak resulting in slow down of industrial activity, dramatic rise of unemployment and reduction of tax yield. In this situation the government should realize the importance of small business. Enterprises operating in small business can play the role of driving force for the exhausted Ukrainian economy. They can help to fill the budget, to diminish social instability in the society by keeping labor force employed and to provide supply of goods and services the demand for which can not be satisfied by big enterprises. Additionally, for some industries, as it was shown in present work, small enterprise may well be not the temporary solution, but the optimal size of production (the interests of producers

and consumers are better served when the industry is vertically integrated and decentralized at the same time, that is, presented by numerous small enterprises that produce specialized product and closely interact with each other). So, the necessity to promote the development of small business is quite evident.

Fortunately, promotion of small businesses does not require much effort from the government. The only thing required is to eliminate hostile economic environment.

The first thing which should be done is revision of tax policy. Tax burden is definitely too high, which is extremely harmful for poor economy, because income is unfairly distributed between “good” to “bad” enterprises through the subsidy programs. Money taken from well functioning enterprises in the form of taxes and given to ineffective enterprises (the existence of which is justified by the claim that they are strategically important) in the form of subsidies are lost for the society because they are not used by the former for their growth and are wasted by the latter. Besides reduction of tax burden, in appliance to small business tax reform should also have another goal - to simplify the system and make it transparent and affordable. Introduction of fixed consolidated tax for small businesses would be a good thing to do.

Another important policy goal should be to revise the system of administrative rules and eliminate all the barriers which discourage fair business activity and encourage rent-seeking behavior from the side of government officials.

## *Conclusions*

By studying Sound Equipment Industry in Ukraine in its dynamic within the context of transition from centrally planned towards market economy we have observed the tendency of greater survival and more efficient operation of small enterprises, which take advantage in the market over big (former state) enterprises due to their more active implementing of technical and technological innovations, which leads to more effective costs structure, and due to their learning and implementing of new patterns of strategic behavior in the market (new - for Ukrainian economy, because these patterns are well described by western economic theory). The conclusion can be made that small enterprises which operate in Sound Equipment Industry are potentially viable and can help the economy to overcome difficulties connected with transition period. However, government policy is not well suited for the promotion of business. Improper tax policy and administrative barriers work to create hostile economic environment in which potentially viable enterprises could either die or go into black market. Therefore, tax system revision and elimination of administrative barriers are crucial things for the further development of Sound Equipment Industry and industrial sector in Ukraine as a whole.

## *Endnotes*

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<sup>i</sup> **Perloff, Jeffrey M. and Carlton, Dennis W.** Modern Industrial Organization. 2<sup>nd</sup>. ed. University of California at Berkely. 1994, p.67

<sup>ii</sup> **Degtyar, M.A. (Director of Firm “Horn”).** Personal interview. April 1998.

<sup>iii</sup> Ibid., p.19.

<sup>iv</sup> Small Business in Ukraine. Kyiv: Association for the Development of Private Entrepreneurship of Ukraine “Unity/Ednannya”, 1997

<sup>v</sup> **Lyapin, D.V.** “Problems of Tax System in Ukraine”, Small Business in Ukraine, Kyiv: Association for the Development of Private Entrepreneurship of Ukraine “Unity/Ednannya”, 1997, pp.38-41

<sup>vi</sup> **Musychuk, V.T.** “Administrative Barriers on the Way of Development of Small Businesses”, Small Business in Ukraine, Kyiv: Association for the Development of Private Entrepreneurship of Ukraine “Unity/Ednannya”, 1997, pp.59-63