WAYS OF EFFECTIVE DEVELOPMENT: THE CASE OF THE UKRAINIAN TOBACCO INDUSTRY

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Abstract: This paper demonstrates how ways and means of effective development can be determined by analysis and benchmarking tools. It contains the results of efficiency study of Ukrainian tobacco companies, defining their key factors and growth potential to identify ways of improving the industry performance. A few key factors are examined for their impact on efficiency. Using analysis and international benchmarking the essential potential to reduce various inputs that provide considerable gain to the companies and enhance industry efficiency is determined. The recommendations that may be practicable for companies' management, present and potential investors, proprietors and regulative public authority are made.

Keywords: efficiency; improvements; international benchmarking; scale effect; profitability; potential growth; inputs reduction; benchmarks; tobacco companies; Ukraine.

INTRODUCTION

The manufacture of tobacco products in Ukraine has a 240 years old history which has led to the presence of the developed industrial base, infrastructure and also availability of the qualified staff in the country. The last 15 years' release of tobacco products in Ukraine occurs mainly on the basis of the volume of the imported raw material and import, on the average in ten times, exceeds tobacco export from Ukraine.

During the period 2001–2006 in Ukraine the constant growth of tobacco products, the volumes manufactured have practically doubled over six years. At the same time, the rate of economic growth in industry slowed down steadily, and in 2006 it was only 0.1%.

There are objective reasons for this:

- the domestic market comes closer to saturation.
- reduction of the country's population and, accordingly, the internal market volume.
- high rates of income growth of the population and reduction of unemployment rate, which have been observed during last few years, have

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led to statistical peaking of cigarette consumption among the European countries (at an annual income per person about 7000–8000 euro).

- other factors, which are slowing down the rate of cigarette consumption growth among the population, such as restriction of advertising, contraband, etc.

After independence, Ukraine has experienced expansion of the largest transnational tobacco companies 'Philip Morris', 'Reemtsma', 'British American Tobacco', 'JTI' and 'Gallaher Group', which hold controlling interests, accordingly, in Kharkov, Kiev, Pryluki, Kremenchug and Cherkassy tobacco factories. Other Ukrainian tobacco factories (Odessa, Dnepropetrovsk, Feodosiya, Kamenets-Podolskyi, Zhmerinka, Monastyryska etc.) have been gradually privatised by their workers. Many of them could not sustain the competition with the companies with foreign investments and in, due course, have stopped the manufacture of tobacco products. By the end of 2006 Odessa, Dnepropetrovsk, Kamenets-Podolskyi and Feodosiya tobacco factories have been recognised as bankrupt. The general share of the companies without participation with foreign capital, which have remained in the market, has fallen to less than 2%.

Research on the functioning of various aspects of the tobacco industry was done in different countries. They can be divided into four groups. The first is connected with the general and retrospective studies of the developmental tendencies of the world's regional and national markets of tobacco products (see, for example, in Budak and Lovrincevic, 2005; Zitzewitz, 2003; Van Liemt, 2002). The second concerns political aspects of the tobacco industry's functioning, and its regulation, and influence on society (see, for example, in Diamond, 2005; Ranson, 2000). The third considers performance and the development oftobacco manufacture in conjunction with the manufacture of food products and beverages (see, for example, in Goncharuk, 2007; Bhuyan and Lopez, 2006; Hanzl, 2000). The fourth includes studies of economic and managerial problems of the separate tobacco companies with the aim of profit maximisation (see, for example, in Asplund, 2007; Zantop and Kleiner 1995).

At the same time, till now there is no research on the Ukrainian tobacco manufacturing industry, regarding its efficiency and possible ways of improvement.

What is the efficiency of the Ukrainian tobacco companies today?

What are its defining factors and growth potential?

This paper is devoted to answers to these questions and also to search for ways of improving the sustainable efficiency of the Ukrainian tobacco industry by means of various analysis tools and benchmarking.

METHODOLOGY

Despite the lack of in-depth studies into the efficiency of tobacco product manufacturing, there are some studies of the efficiency in industry of tobacco cultivation in various countries: Obwona (2006), for an estimation of technical efficiency of small and average tobacco farms of Uganda, uses stochastic frontier analysis; Karagiannis and Sarris (2005) estimate the technical and scale inefficiencies of tobacco farms in Greece by using the parametric approach; Abay et al. (2004) obtained efficiency measures for Turkish tobacco farms by using the non-

parametric method of Data Envelopment Analysis.

We study the efficiency of tobacco product manufacture under the following scheme:

- an estimation of efficiency and a survey of the most effective and inefficient tobacco manufacturing companies
- construction of a matrix of efficiency-profitability and an establishment of the influence of major factors on the activities of the tobacco industry
- revealing of cost reduction reserves and potential growth of efficiency of tobacco companies.

For an estimation of the companies' efficiency it is proposed to use a widely known method, Data Envelopment Analysis (DEA) first offered by Charnes et al. (1978). DEA deals with the investigation of the complex object with a set of inputs and outputs and in the analysis of its activity in a functional environment. Efficiency, here, is defined as the quotient of division of the sum of all outputs by the sum of all inputs. It defines the value of efficiency for each investigated object, and is called the Decision Making Unit (DMU); and then, a comparison of supervision by the method of linear programming by using of various basic models and their variants is made. DEA selects from the whole set the efficient DMUs by construction of an efficiency frontier, and for others it defines a measure of their inefficiency. The criterion for revealing efficiency here is an achievement of Pareto efficiency. A detailed description of the history, models and interpretations of the DEA method is stated in Cooper et al. (2004).

The choice of the DEA method is predetermined by the following: it is the non-parametric method that does not demand the obvious specification of functional relations between inputs and outputs and statistical distribution of an inefficiency; unlike other benchmarking methods it does not demand assumptions of the behaviour of research objects; it allows to define effective and inefficient manufacture, calculate a quantitative measure of efficiency, build an effective hypersurface, and find reference (effective) industrial DMUs. Besides, this method supposes the simultaneous use of both cost and physical indicators that allows us to generalise numerous heterogeneous input and output parameters.

In connection with that production by the considered industry has a negative influence on human health, it has a limited circle of consumers, and its expansion is undesirable from the public point of view. Management of the companies cannot have a significant influence on the volumes of sales which, to a greater degree, are defined by external factors (dynamics of incomes of the population, government regulation, etc.). In such a situation, the basic issue of improving the efficiency of tobacco companies is to decrease their own expenses (inputs). Therefore, for a study of the efficiency of the tobacco industry's enterprises it is expedient to use input-oriented DEA models. In particular, for an estimation and ranking of the enterprise model DEA with super-efficiency and with Constant Return to Scale (CRS), offered by Anderson and Petersen (1993), will be used. For an estimation of the input reduction reserves the Slack- Based Model (SBM), offered by Ali et al. (1995) and Thrall (1996), and advanced by Tone (2001), will be used. The first of them will allow identification of the best enterprises in the industry and to estimate the efficiency of the companies from the point of view of their opportunities to influence inputs,

i.e., costing management. The second will ensure an objective quantitative measure for possible reserves of decrease in inputs into each enterprise and into the industry as a whole.

An estimation of the influence of the scale of production on the efficiency of the enterprise and the definitions of a scale effect on each of them the parameter of scale efficiency can be defined by the following ratio:

$$SE = \frac{TE_{CRS}}{TE_{VRS}}, \quad (1)$$

where TE_{CRS} is technical efficiency score for the CRS model and TE_{VRS} is the technical efficiency score for the Variable Return of Scale (VRS) model (for VRS model form see Banker et al., 1984).

From the point of view of division of the impact of external and internal factors on the companies' efficiency, the Efficiency-Profitability Matrix (EPM) first offered by Dyson et al. (1990) and advanced later by Camanho and Dyson (1999) and Todoroki and Carson (2003) will be used. The basic idea of the given method is the placement of the sample's firms in a bi-dimensional co-ordinate system, with their efficiency scores reflected on the horizontal axis and profitability values on the vertical axis, and their grouping into four quadrants: 'sleeping', 'stars', 'dogs' and 'duds'. From the hit of the firm in any particular quadrant it is possible to judge the general character of the influence of exogenous factors on its activity, such as government regulation, the environment, a level of business activity and public income, regional features etc. The EPM allows us not only to look at efficiency in two aspects and to present it in a two-dimensional view, but also enables us to receive the expanded notion about the efficiency of the analysed sample of the firms, and about its relative performance and potential development.

For more information on the possible financial prospects of the separate companies it is proposed to use the Bankruptcy Forecast index BF (Gramotenko et al., 1998; Philosophov and Philosophov 2002):

$$BF = \frac{WC}{TA}, \quad (2)$$

where WC is the working capital that equals an excess of current assets over current liabilities, TA represents the total assets of the company.

The given index (2) is one of the most powerful elements of the known Altman Z-Score model (Altman, 1983), predicting the probability of the company's bankruptcy and it can be used as an independent index for bankruptcy forecasting (Lyubinskaya, 2006). Its optimum value by expert evaluation should be not less than 0.26 (Ioda and Unanyan, 2001).

The use of the whole Altman's Z-Score model to study the Ukrainian tobacco companies will be inadequate because it lacks the following:

- Weight coefficients of each parameter of Z-function have been calculated on the basis of statistical data for the 22-years period, regarding bankruptcies of American firms and they do not match the Ukrainian conditions. For its use in Ukraine it is necessary to count the coefficients of the domestic statistics, but sufficiently large dynamic numbers are not present.
- In essence, it is possible to use the Z-Score only for the large companies which quote their the shares on the stock exchanges.

It is possible to receive an objective market estimation of the capital of such companies. The Ukrainian tobacco business is closed to players of the stock market, as the overwhelming majority of the enterprises on it are closed joint-stock companies.

THE DATA

The basic sample included ten tobacco factories whose total volume of manufacture in 2006 was more than 99% of all Ukrainian tobacco production.

Additional samples for realisation of international benchmarking include 16 large and medium tobacco companies in the USA, Russia, Great Britain, Spain, Sweden, Japan, India and Brazil.

The material cost, depreciation and number of employees are used as inputs. The net sales of tobacco products is used here as output. To make a comparative analysis of domestic and multinational firms, it is desirable that all inputs and output for the subsidiary enterprises take account of transfer pricing issues and allocation of shared overhead such as R&D.

Considering that the results of DEA are sensitive to errors in initial data, the annual reports of the companies, the reliability of which can be confirmed by the auditors, were used as a source of information. The descriptive statistics of the companies' sample is shown in Table 1.

THE RESULTS OF ANALYSIS

Estimation and ranking of efficiency

The results of an estimation of super-efficiency scores, scale efficiency and ranking of a sample of Ukrainian companies are reflected in Table 2.

The companies with foreign capital hold the first six places in a rating of super-efficiency. All of them have optimal scales of production and the influence of factors such as imperfect competition, government regulation, financial restrictions etc., on their efficiency is practically absent. The high efficiency of these companies is defined by their use of big capital, modern technologies, high level of manufacture's automation and the highly qualified personnel providing the large output at rather low specific production costs.

The most efficient company of considered sample is Philip Morris Ukraine. It considerably surpasses the competitors on all particular productivity measures:

- material capacity of production is below 6.5% than the average level in the industry

Table 1 Descriptive statistics for companies samples (in thousands SDR, except employees)

	Ukrainian tobacco companies			*Foreign tobacco companies*		
Variables	*Mean*	*Median*	*Stand. dev.*	*Mean*	*Median*	*Stand. dev.*
Material cost	42,348	19,797	57,944	3,523,217	381,454	7,722,552
Depreciation	2390	1168	3002	178269	38,089	335,886
Employees	492	422	449	20818	5504	43,687
Net sales	122,429	61,811	179,676	7,633,332	1,194,757	17,349,150

Table 2 Super-efficiency scores and scale efficiency for Ukrainian tobacco companies

Company name	*Number in rating*	*Super-efficiency score (%)*	*Scale efficiency*
Philip Morris Ukraine (PMU)	1	153.7	→
Tyutyun Impeks (TI)	2	116.1	→
B.A.T.- Pryluki (BATB)	3	98.4	→
Gallaher Ukraine (GU)	4	83.4	→
JT International Ukraine (JTIU)	5	75.3	→
Reemtsma-Kyiv Tobacco Factory (RKTF)	6	68.9	→
Lviv Tobacco Factory (LTF)	7	68.6	↓
Ukrainian Tobacco Company (UTC)	8	55.9	↓
Zhmerinka Tobacco Fermentation Plant (ZTFP)	9	54.9	↓
Krymtyutyun (KT)	10	49.9	↓
Average on sample		82.5	

- capital productivity is 28% above than average level in the industry
- labour productivity is 76.4% above than average level in the industry.

The second company ranked in terms of efficiency is Tyutyun Impeks. It has high capital productivity, exceeding the average level in the industry by 48.6%. However, the given enterprise cannot be a benchmark for other enterprises in the industry since it has rather high material capacity, exceeding the average level in the industry by 27.2%, and low labour productivity that almost concedes to the average level of the given measure in the industry almost by a factor of eight.

The high material capacity of production and low labour productivity is also peculiar to other enterprises with a tobacco-fermentation profile (among which the leader is Tyutyun Impeks). It is connected with the features of technological process and concerns a high share of hand work in comparison with cigarette manufacture.

The worst in a rating of efficiency appear to be tobacco factories and tobacco-fermentation plants owned by domestic proprietors. All of them have inefficient scales of production (decreasing return of scale) and external factors like rigid competition and financial restrictions exert influence essentially on them. The inefficiency of these companies is defined by the presence of the obsolete equipment and a material basis, chronic shortage of turnover, a lack of skilled personnel because of the low salaries offered, and non-competitiveness of production. The listed problems could be solved by investment injections and full updating of production basis; however, considering that their proprietors, in most cases, are physical persons – residents or small domestic enterprises which are not hold big capitals and strong credit capacity, the prospects of the further development of such enterprises are doubtful.

Factors of efficiency

For two-criteria estimation of the enterprises' efficiency of sample the EPM (Figure 1), in which levels of super-efficiency have been compared with the profitability of companies' operational activity, has been constructed. The horizontal boundary coincides with zero-level of the profitability.

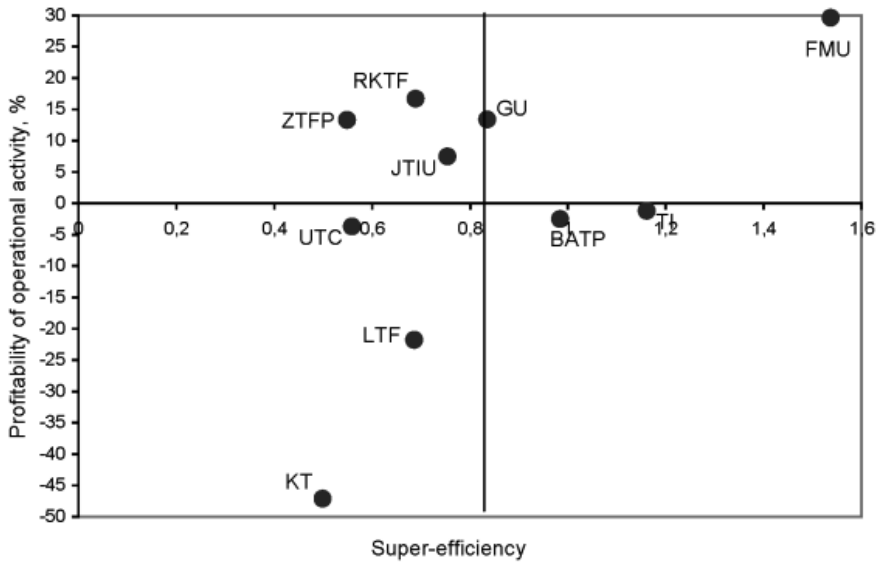

Figure 1 The efficiency-profitability matrix for Ukrainian tobacco companies

The vertical boundary is the average super-efficiency score of the sample (see Table 2).

As shown, in the first quadrant, i.e., in the 'sleeping' group, the three companies are Zhmerinka Tobacco Fermentation Plant, JT International Ukraine and Reemtsma-Kyiv Tobacco Factory. The given enterprises have low relative efficiency, but, owing to a great demand for their production and other positive factors regarding their internal and external environments. They have an opportunity, in the short-term perspective, to receive positive financial results and not to reflect on production efficiency, i.e., to shut their eyes to the low efficiency. However, any adverse market changes or other negative factors' strengthening in the long term can shake their position and shift them into the quadrant 'duds'; therefore, they should put the profit into development of manufacture and innovation, and become capable of raising their current level of efficiency.

JTIU and RKTF qualify as industry leaders on a labour productivity level and the basic problem concerning the growth of their efficiency is high material production capacity. Depending on the source of the given problem it can be solved in one of the following ways:

- replacement of the raw material supplier with the purpose of reducing purchasing prices and (or) transport charges
- replacement of expensive components of production by more economical components
- reduction of technological losses of raw material and materials, and also losses by wastage
- structural changes in production to increase the share of material-intensive production to arrest the reduction of more material-intensive share
- improvement of the enterprise's logistical system.

Unlike the other two companies in the 'sleeping' quadrant ZTFP has many

more problems with efficiency, for which decision significant investments into full modernisation of the enterprise are necessary.

In the second quadrant, i.e., in the group 'stars', the two companies are Gallaher Ukraine and Philip Morris Ukraine. High profitability is provided by both the market factors – stable high and growing demand for production in the market, and a high efficiency. But if PMU is the unconditional industry leader of all the considered parameters, GU essentially lags behind the leader on all key productivity measures: on labour productivity by 2.6 times, capital productivity – by a third, material capacity of production – by 10%. However, with high profitability, the given company can reduce this break, eliminating lacks and excessive costs on various processes of the activity.

In the third quadrant, i.e., in the group 'dudes', the three companies are Krymtyutyun, Lviv Tobacco Factory and Ukrainian Tobacco Company. Their unprofitability is combined with a low production efficiency that indicates the existence of serious problems in their activity. Character of the given enterprises is their organisational-legal form – all of them, unlike other analysed enterprises, are the public corporations. In the structure of the proprietors owning large share holdings, there are no large companies, capable of deploying or attracting significant investments. The basic problems, which are hindering the companies of this quadrant fom getting out of it and becoming profitable and efficient, are the following:

- unfavourable investment climate of Ukraine in connection with political instability
- increase in volumes of cheap contraband which is holding a section of the commodity market
- a rigid competition to large domestic and foreign manufacturers by unequal methods of influence on the market
- the obsolete and low productive equipment demanding frequent repairs and updating
- shortage of financial resources for updating a fixed capital and expansions of a turnover; the high cost of bank credits
- deficiency of qualified workers on a labour market, ageing of the staff, workplaces' unpleasantness because of the low salary
- growth of population's incomes
- inefficiency of the company management.

A way out of this situation for such enterprises can be the attraction of the big strategic investor who is able to solve the current problems – to achieve full modernisation, involve the highly skilled personnel and provide effective management. As shown by the experience of the other companies, one such variant can be a friendly merger with the transnational tobacco company. However, to realise such a variant there should be a mutual desire of the existing proprietors, who have shown their inability to provide effectiveness of tobacco business, and potentially effective investors. At the same time, considering the worsening financial position of such group's enterprises, which is reflected by the Bankruptcy Forecast Index, that for the Lviv Tobacco Factory is –0.14, for Krymtyutyun is –0.55 and for the Ukrainian Tobacco Company is –0.89. A change in these enterprises' proprietors through the mechanism of bankruptcy is possible in the near future.

In the fourth quadrant, 'dogs' have two companies: B.A.T.-Pryluki and Tyutyun Impeks. These enterprises, having a rather high production efficiency, have faced the problems, which are not allowing them to receive profit. For B.A.T.-Pryluki in 2006 there were falling volumes of manufacture (in physical units on 18.7%, in money terms on 10.1%) and growth of cost on the number of expense items: employee benefit costs have grown by 26%, administrative expenses – by 17%, selling expenses – by 22%. It is possible to explain such negative changes with the following reasons:

- As a result of the advancing growth of incomes, the prices of the above cigarettes and consumer preferences change as does the demand for production of the more high-priced segment – cigarettes of known brands with higher quality, hence, the demand for BATP production, which differs, with low prices and low quality.
- Poor quality of production and discrepancy on the part of the government standards lead to rejection of the production of BATP, in particular, in the beginning of 2007 according to the government decree regarding the utilisation or destruction of poor-quality or dangerous alcoholic drinks and tobacco products. The enterprise has destroyed 280,498 thousand cigarettes which is more than 15% of all of BATP's annual output for 2006;
- the enterprise reduces the manufacture of brands from the lowest price segment (without the filter, etc.) which are not experiencing a great demand.

The way out the current situation at the enterprises could be rebranding, reorientation towards output of better production marks, modernisation of the equipment and improving quality control service (introduction of Total Quality Management system or other known and well proved system of quality management, for example, Six Sigma).

Another completely different situation has developed at Tyutyun Impeks: the last four years' operational activity of the enterprise has been unprofitable under the incessant reduction of employee benefit costs. In 2006 the volume of output has grown in money terms at 8.4%; however, operating loss has grown by 20%. The basic sources of cost increase in 2006 were: growth of material inputs at 14% and other operating expenses at 84%. As a result of long-term unprofitable activity the share of own capital in total liabilities of the enterprise for the last 3 years has decreased from 29% to 6%. And today it is enough only for a covering of 20% of the fixed and intangible assets. More than two thirds (68%) all activities of the enterprise are financed by short-term credits from banks, and according to the dynamics of the Bankruptcy Forecast Index, which for three years has decreased from 0.05 to –0.06, any current problems of the company with selling can lead to its bankruptcy.

The analysis of the influence of the allocation factor of the enterprise on its efficiency has led to following conclusions:

- the most profitable the companies are frequently located in the megapolis, in the large industrial centres or near to them (Kharkov, Kyiv, etc.)
- the least profitable are frequently the enterprises remote from the basic industrial centres or metropolis, and on the country's periphery (Crimea, Lviv, Ternopil area etc.).

The allocation factor exerts tangible but not a key influence on the efficiency of

tobacco companies. The key factor here is the presence of the foreign investor and its financial ability, which is able to provide a high technological level of production, high level of salaries and efficient management. Correlation between super-efficiency scores and the sizes of the enterprises of sample has turned out enough high (0.733) and, according to Chaddock (1925), indicates a high degree of association. It means that large-scale tobacco companies have higher efficiency more often than the small or medium companies.

In the existing conditions Philip Morris Ukraine is the sole benchmark of efficiency for all enterprises in the industry. Its share of the market at the beginning of 2007 amounted 39.4%, in 2006 the average monthly salary was about $1200, and the accumulated depreciation was equal to 25.5% of the fixed capital value.

Potential growth of efficiency and international benchmarking

SBM and computer program DEAFrontier™ have been applied with the purpose of estimating the potential growth of the Ukrainian tobacco industry's efficiency, therefore, the reserves of inputs reduction for each company has been estimated. The results are presented in Table 3.

The greatest reserve of reduction is in the number of employees (more than one third of the total industry personnel – 1668 workers) that testifies to a significant gap in the labour productivity level of the benchmark firm (Philip Morris Ukraine) and other enterprises in the industry. The high reserve on depreciation specifies the presence of excessive fixed capital or a share of their unproductive part from which the enterprises can escape on reaching the benchmark level of capital productivity.

An almost zero reserve of material input reduction testifies to the insignificant gap in the level of the capacity of production material between the efficient and inefficient enterprises of industry. This circumstance does not allow us to draw a conclusion on how effectively raw materials are used in the Ukrainian tobacco companies.

In this connection we had carried out an international performance benchmarking process in which alongside of ten Ukrainian, 16 large and medium tobacco companies of the USA, Russia, Great Britain, Spain, Sweden, Japan, India and Brazil also were analysed. From the results it has been established that on the efficiency frontier there were six companies: two American (Vector Group PLC and UST Inc.) and one from Great Britain (Imperial Tobacco Group PLC), Japan (Japan Tobacco Inc.), Russia (Dontabak) and Ukraine (Philip Morris Ukraine). As was found out, Ukrainian industry leader Philip Morris Ukraine exceeded (on 10.1%) the level of efficiency of its proprietor Altria Group Inc., and also is the benchmark not only for the domestic tobacco companies, but also for many foreign companies, for example, Indian ITC Limited, Spanish Altadis SA, etc.

Table 3 Potential growth of efficiency and reserves of inputs reduction of the Ukrainian tobacco industry

Reserves of inputs reduction (%)			
Material cost	*Depreciation*	*Employees*	*Potential growth of efficiency (%)*
0.1	11.8	33.9	26.7

International benchmarking has allowed to expand the reserves of possible inputs reduction and potential growth of efficiency of the Ukrainian tobacco companies:

- for material cost from 0.1% to 9.4%
- for capital input from 11.8% to 19.0%
- on the personnel from 33.9 % to 41.5%
- potential of efficiency's growth from 26.7% to 40.4%.

Thus, the domestic tobacco companies have a substantial reserve of input reduction on all investigated resources that provides a high potential for the growth of their efficiency. The achievement of the specified parameters is possible by the study and introduction, by the domestic companies, of best foreign practices and activity experiences. The benchmarks most suitable for implementation of benchmarking have been established for each of the Ukrainian companies (Table 4).

Since carrying out competitive benchmarking in a home market is a highly complex problem, as the majority of the companies here are direct competitors and are not interested in the growth of efficiency of other market participants; the more preferable variant for the majority of the domestic tobacco enterprises is carrying out international benchmarking. At the same time, considering that many of them are the elements of the transnational corporations competing among themselves in the international markets, in Table 4 foreign benchmarks were selected on condition of no crossing of competitive firms' interests.

The implementation of international benchmarking is expensive and inaccessible to the Ukrainian companies from the lowest efficiency rating (see Table 2), being potential bankrupts. An optimal variant from the point of view of preservation of competition in a home market and increase of efficiency of the Ukrainian tobacco industry is their acquisition of a firm-benchmark, for example, by the Imperial Tobacco group, or by apparent industry outsiders like Krymtyutyun, Zhmerinka Tobacco Fermentation Plant and Ukrainian Tobacco Company, or a merger with benchmark-firm, for example, Dontabak and Lviv Tobacco Factory.

Table 4 Optimal benchmarks for Ukrainian tobacco companies

Company name	*Foreign benchmark*	*Domestic benchmark*
Philip Morris Ukraine	–	–
Tyutyun Impeks	Dontabak	Philip Morris Ukraine
B.A.T. – Pryluki	UST Inc.	Philip Morris Ukraine
Gallaher Ukraine	UST Inc.	Philip Morris Ukraine
JT International Ukraine	UST Inc., Imperial Tobacco Group	Philip Morris Ukraine
Reemtsma-Kyiv Tobacco factory	UST Inc.	Philip Morris Ukraine
Lviv Tobacco factory	Dontabak	Philip Morris Ukraine
Ukrainian Tobacco company	Imperial Tobacco Group	Philip Morris Ukraine
zhmerinka tobacco fermentation plant	Imperial Tobacco Group	Philip Morris Ukraine
Krymtyutyun	Imperial Tobacco Group	Philip Morris Ukraine
Average potential growth of efficiency after benchmarking implementation (%)	40.4	26.7

Other variants for improving industry efficiency are absorption of the most inefficient companies by Philip Morris Ukraine. However, the given variant can negatively affect the degree of internal market competition in which, after such absorption, the number of players will be considerably constricted; therefore, it can be considered only when other variants fail.

Thus, implementation of international benchmarking and adaptation of best practices and experience of the specified benchmarks in the activity will allow the Ukrainian tobacco companies to implement improvement in quality, competitive capacity of production and level of production efficiency at a world-class level.

CONCLUSIONS

From the results of the analysis of efficiency and the ways of effective development of the Ukrainian tobacco industry it is possible to draw the following conclusions.

- The proprietors' structure exerts the most tangible influence on the efficiency of the tobacco companies: the most effective are the companies with participation with large foreign capital (transnational tobacco groups), which have optimal scales of production, enough capital, modern technologies, a high level of manufacture's automation and the qualified personnel that provide a large volume of output at relatively low specific production costs. Other companies do not sustain the competition because of insufficiency of financial caability, obsolete equipment, poor quality of production, inefficiency of management, etc.
- Allocation influences the tobacco companies' efficiency: the most profitable frequently are the companies located in megapolis, in the large industrial centres or near to them; the least profitable frequently are the enterprises which are remote from the basic industrial centres and metropolis, and are on the country's periphery.
- Size exerts an essential influence on the efficiency of the tobacco companies: larger companies more often have higher efficiency than small or medium companies.
- There is a big reserve of growth of efficiency in the industry due to the reduction in the number of personnel (equals 1.7 thousand workers) mainly because of the significant gap in the labour productivity levels between the Ukrainian tobacco companies;
- International benchmarking has allowed the expansion of reserves of possible input reduction (materials, a fixed capital and the personnel) and the potential rise in the growth of efficiency of the Ukrainian tobacco companies (up to 40.4%).
- The suggested ways of the potential use of the growth of efficiency of Ukrainian tobacco companies are connected with the use of both their internal ability (rebranding, reorientation to output of better production marks, modernisation of the equipment and improving a work of quality control service, etc.), and the successful experience and resources of the concrete foreign companies (benchmarks) through the tools of cooperation, mergers and acquisitions. Considering the depth of financial, economic and managerial problems of some the Ukrainian tobacco enterprises from the point of view of efficiency, the best variant will be their friendly acquisition by the large foreign company (group).

BIOGRAPHY

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