



Economia Aziendale Online

Business and Management Sciences
International Quarterly Review

*STIMULATING TARIFF REGULATION AS AN
EFFECTIVE MECHANISM OF UTILITIES
ENTERPRISE'S MODERNIZATION*

Olena Dymchenko, Inna Sviridova, Ievgen Mozgovyi

Pavia, Settembre 2016
Vol. 7 - N. 2/2016

www.ea2000.it
www.economiaaziendale.it



PaviaUniversityPress

Electronic ISSN 2038-5498
Reg. Trib. Pavia n. 685/2007 R.S.P.

Stimulating tariff regulation as an effective mechanism of utilities enterprise's modernization

Olena Dymchenko, Inna Sviridova, Ievgen Mozgovyi

Abstract

The paper presents theoretical substantiation of methodical positions and practical recommendations to improve the investment attractiveness of housing by implementing incentive tariff regulation. A comparative analysis of the existing tariff and the proposed methods, in which the benefits of tariff regulation defines the method of return on invested capital, is presented.

Il lavoro analizza la fondatezza teorica delle posizioni di metodologia e I consigli pratici per migliorare l'attrattiva dell'investimento in abitazioni mediante l'implementazione delle politiche di tariffe incentivanti. Un'analisi comparativa delle misure tariffarie esistenti e i metodi proposti, in cui i vantaggi della regolazione tariffaria definisce il metodo di ri-attivare il capitale investito.

Keywords: heating system, tariff regulation, public-private partnership, attracting investment.

1 – Introduction

Today utilities enterprises remains one of the weakest links in the economy of Ukraine and is one of the main mediums of social tension. The main reason for this is that the industry is hopelessly behind in the implementation of market relations and upgrade fixed assets and technology. Here still dominated by state-owned utilities and companies that monopolized the provision of services.

The main objective of Housing is to meet the priority needs of livelihood of the population. There is a need to improve the quality of services and recal-

ulation tariffs for these services. Also for greater efficiency of its activities, the company need to be updated and funds projects considering energy efficiency.

One of the most important parts of the energy economy is heating. Thermal energy is widely used both in industry and in the housing sector.

Heating Industry has many problems that require immediate solution. However, realizing that they are mostly the result of a lack of funds or their inability to obtain timely. We offer primarily to draw attention to the process of tariff setting.

As a result of synthesis we obtain the following conclusions: the experience of Ukraine in this issue has certain deficiencies regarding certain aspects, in

Olena Dymchenko, DSc

O.M. Beketov National University of Urban Economy in Kharkiv, Ukraine, 12, Revolyutsii St., Kharkiv 61002, Ukraine
www.kname.edu.ua

E-mail: dymchenkoov@gmail.com

Inna Sviridova, PhD

National Technical University "Kyiv Polytechnic Institute", Scientific research Centre for Applied Sociology "SocioPlus", Ukraine

Ievgen Mozgovyi, Graduate student

O.M. Beketov National University of Urban Economy in Kharkiv, Ukraine, 12, Revolyutsii St., Kharkiv 61002, Ukraine
www.kname.edu.ua

E-mail: jack-mozgovoy@mail.ru

cities lacking a coherent long-term plan of the district heating system; does not have an element of how the image of heating enterprise; don't have a constant rate the investment allowance. However, the domestic heating system in Ukraine has some similarities with foreign systems. Thus, in our country, as in most European countries, apply bloc tariff scheme on experience of utility enterprise "Kharkiv heating systems" ("KHS") showed their significant advantages over single rate.

Therefore, there is a need for identifying problematic aspects in the enterprise, determination optimal tariffs for services and software investments to promote energy efficiency.

2 – Analysis of recent research and publications

Relevance of this investigation related to the fact that the traditional tariff policy of utility companies do not meet modern development objectives. Currently there is an insufficient number of references of Ukrainian origin in theoretical and practical aspects. Before the changes in methodological bases of calculation and fare thermal complex in terms of the RAB method (Regulatory Asset Base) proposed M.B.Egorov, O.T.Zotikov, K.O.Kirichenko, N.A.Kuhman, A.M.Medvid, S.I.Pavlova, E.A.Tregubova, S.V.Sashimi, I.A.Yuhimchuk and others.

Firstly, consumers will have benefit from the incentive regulation; also, companies will have incentives to reduce inefficient spending and improving the quality of service (Chief Scientific Expert management, 2012). The method of improving the process of setting tariffs for heating enterprises can be method of returning the invested capital (RAB).

Experts say that costs businesses and tariffs for services in their housing is unreasonably high. According to their estimates, the cost of housing may be reduced by 25 - 30% even with minimal investment. (Volyn, 2006). This area is very ugly to attract business and innovation, and therefore for effective modernization. It is clear that this problem did not come today and the need to attract investment in the housing sector was discussed years ago. Enterprises have lack of funds, attracting investment is problematic, because is lack of willingness of investors to carry out investments in the industry with low (often negative profitability).

Without increasing the profitability of investments is impossible, and therefore impossible and energy on higher level. That is a vicious circle: we need high profitability as a necessary condition for investment, and attract investment needed as a prerequisite for improving profitability (Dymchenko, 2009). Breaking this vicious circle was housing reform, reform program that identified the following key areas

(Ukraine Law "On State Program of Reform and Development Housing for 2009-2014", 2011): contractual relationships between consumers and service providers; de-monopolization of the industry and promote competition; implementation of innovative energy saving technologies and attract investment.

However, the expected changes have not happened. State housing and communal services for the period under review (2010 - 2014) is not only not improved, but continues to deteriorate. In addressing the problem of providing reliable operation of utilities and application modernization technology prevents inappropriate modern requirements tariff policy.

The tariff is a tool that should take into account the interests of consumers in the supply of inexpensive and quality of thermal energy and thermal energy producer interests and services from its transmission in order to compensate them for costs incurred, as well as provide an opportunity to get normalized profit from their activities while not infringing the interests of others (Dymchenko, 2009).

The aim of this work is to study the theoretical and methodical positions and practical recommendations to improve the investment attractiveness of housing by implementing incentive tariff regulation:

3 – RAB as a new system of tariff regulation in Ukraine

For better understanding the problematic aspects of the object of the study was the analysis of financial and economic activity of the "KHS". Describing the financial performance of the "KHS" will note that during 2009-2010 the company operated at a loss, while the net loss tends to increase. That there are negative trends that point to the need to implement measures to improve the economic and financial activity.

The analysis revealed the following facts: a large depreciation of fixed assets, lack of funding sources for their complete reconstruction or replacement; permanent receivables; a significant difference in the amounts accrued and actual income; the current pricing mechanism, which together results in loss-making business enterprises.

Therefore is quite natural that more practical driven mechanism, the use of which has led to the formation of fully transparent and reasonable tariff which combines the fun of interests of all stakeholders: investors, regulators, enterprises and consumers. A similar rate was obtained by applying the method of return on invested capital, which have proved to be good in the world.

Overall RAB tariff regulation system relatively young: it isn't twenty years yet. However, it has established itself as the most effective way of attracting investment in business activities. History RAB

launched in the UK in the early 1990s. The system was developed in the process of privatization and liberalization of the electric power complex electricity market. In Britain, the government has allocated 14 similar-size distribution companies. The system of tariff regulation based on the RAB proved effective: these companies have reduced their costs several times as a consequence - a serious reduction in tariffs by increasing investment in the sector. Therefore, the system is considered a model of RAB tariff regulation in the world, primarily for electrical distribution networks, water supply, heat supply and communication.

Implementation of incentive tariff regulation RAB-based method (Regulatory Asset Base) is long-term planning of the performance of the company (for a period of 2-5 years), constant value over a long period tariffs based indexing, the savings in the regulatory period remains the company, promotion improve the quality of services, promotion of investment. RAB-method successfully used in Europe and recently in Russia. Experience of Russia makes it impossible to talk about is definitely positive results from the fact that the introduction coincided with the beginning of the financial crisis. The instrument is stimulating tariff regulation system of benchmarking, which aims to promote greater transparency of the private partner.

Benchmarking is used for comparison in the world of business that are natural monopolies and work in water and sanitation, and heating. With this tool provided the transparency of their work and access to quality parameters functioning of enterprises - especially consumer services.

Exemplary in terms of attracting investment in the transition to RAB considered Romanian experience. In 2004, Romania attracted to reform regulation of distribution (electric and gas) networks Italian concern Enel and investment bank Credit Suisse. Reform was held for several years in its process involved hundreds of millions of dollars of investment and in 2006 at a joint conference of regulators EU countries, Eastern Europe and the CIS Romanian experience was voted the most successful (Bubenko et al., 2014).

However, the method of return on invested capital is not easy to use, while widely claimed beneficial effects of a new method for the quality of services provided, it is difficult to track and show (or thermal energy supplied or not). There is an assumption that the method of RAB is extremely profitable for companies that have obtained the necessary tool to increase gross revenue, respectively, and the tariff.

The basis of tariff regulation "KHS" RAB method is the principle of providing the necessary gross proceeds (NGP), which allows compensating the costs of their activities. Tariff for this company is established based on the above-mentioned revenue divided by total power consumers during peak hours. The planned power level in a year, as well as NGP,

established by the company and may differ from the actual. As a result, this type of revenue and stable throughout the year and cannot wake subject to fluctuations, for example due to a drop in the consumption of thermal energy. In 2006 for ME "KTM" continue to be the method of tariff regulation "cost plus", in which the average rate was established 69,97hrn./Gcal. Later from 2007, calculation is carried out using the method of RAB.

Term return the full amount invested assets is 20 years. Thus, based on the proposed recommendations, the first long term includes 3 years, second, third and fourth - 5 years. In the period of 2008-2010, full value of invested capital increased by the amount of investments that are included in the capital base. It is expected that at the beginning of the 4th term period (2020). Is capitalization of invested capital, since the gap between 2015-2019 and accordingly - profits on it with a permanent downward trend, and the level of wear - to increase. Depreciation on invested capital and assets will accrue in a linear fashion.

Saving operating costs arising if actual operating expenses, for the last financial year rose by a smaller magnitude than was provided regulators. Reaching saving operating costs UHV not reviewed, providing regulated organizations to benefit from economies of operating expenses by the end of the long-term regulation. To save on a regulated organization benefits from cost savings within five years after achieving the NSP, which is set for another long period of adjustment, increased by the amount of savings in operating costs over the long term that regulation indexed to consumer prices change according to these guidelines. Similarly, the calculation of tariffs for the next regulatory period is taken into account long-term savings from reduced energy consumption, including the loss of heat energy and water.

In the necessary gross proceeds are included beyond the control of costs, which are determined by the regulatory body, including:

- 1) costs for the services that are committed organizations that carry out regulated activities, calculated based on the rates established in respect of goods and services of these organizations;
- 2) the cost of rental property used for the performance of regulated activities, concession fees;
- 3) income tax and other mandatory payments and fees;
- 4) expenses for doubtful debts in accordance with the Principles pricing;
- 5) additional costs (income) associated with changes in legislation and (or) change of the regulated assets of the organization required for the regulated activities not taken into account when establishing baseline operating expenses.

Consequently, calculations were made tariff for heat supply based on return on invested capital. Above implementation period of the project is 20 years (2009-2028). In contrast to the results obtained were also predicted value rate calculated based on the current tariff methodology. According to the results of the dynamics of tariffs determined based on the method of return on invested capital and operating regulations, the following conclusions:

The tariff is calculated on the active method characterized by slightly changes. Thus, in the period from 2008 to 20011 years. Sharp growth rate for 310.23%. In 2012 although values above the specified value and is not reduced, but the growth rate has tended to decrease (-32.81%) in 2013. - Observed the opposite situation (+ 9.58%). In the period from 2013 to 2028 – a sharp increase in the tariff, which is the result of such factors as inflation.

The tariff is calculated by the method of return on invested capital, during the settlement period is characterized by a uniform increase. The main factors are as follows: in the period 2009-2013. - Inflation and attract direct investments in the amount of 591.14 mln.hrn.; in the following years - inflation. In addition, almost throughout the billing period the growth rate of the method of RAB tariffs are lower growth rates for the active method. In the period from 2013 can be seen approaching the values specified above growth rates resulting from incomplete excellence chosen method for predicting the value of the tariff, calculated according to current regulations.

In the period of 2009-2010 rates derived from the application of the method of return on invested capital have somewhat more importance than the rates calculated by active methods. This is due to attract new capital and the emergence of income for him. However, starting from 2011 the opposite situation, confirming the effectiveness of the Method RAB.

After analysis, it is clear that after 20 years of tariff reduction determined by the method of return on invested capital, in relation to the level of rates, calculated in accordance with valid methodology may be more than 50%.

Thus, the main advantage of the method to the active RAB method are: uniform tariff rate of growth throughout the period considered, including the period of implementation of investment programs; reduction of tariffs in relation to the level of current techniques, 4 years after the transition to this method.

RAB method is very time-consuming, and the difficulty was in determining the value of the investment framework. This is a key moment in the performance calculations. It is specified index is the basis for determining the result. An important fact is the fact that the method of calculation includes a large number of indicators and information not only domestic nature (fixed - costs), but also external (CPI).

The only thing left out of the calculations in finding the tariff - smoothing the necessary gross proceeds and its adjustment. This is because no actual performance parameters for calculating tariffs.

Another positive in this method is that there is no need to attract additional funds for liquidation of cash gaps. Since the regulation of tariffs by the amount RAB, return on invested capital and income to it during the implementation of the investment program of more spending on capital investment. Only in 2007 the situation was inverted. The value of the loan at the same time is 54.99 million plus interest for the loan in the form of 10% of his body (the latter paid the sum NSP).

Thus, the introduction of this method in Ukraine will be positive news for national distribution companies in general and for ME "KTM" - particularly since these actions help make companies more attractive for investment, which will positively affect the valuation of most organizations. Indeed, investors buy shares of profitable corporations' heat for sure that their cost over time will only increase, this is because these companies should always work steadily and should be well-projected revenues. It RAB will properly assess the business networking and investment opportunities, and it will push to start the process of investing in complex distribution without multiple growth of tariffs for consumers.

The system RAB - quite progressive method for the domestic economy, which will in the long run reduce costs in power and in accordance positively affect the rate and attract investment into the sector, and especially private, is one of the goals of reforming the industry. Since the energy sector of the country as one of the backbone industries of Ukraine's economy, which is essential to the national security system, i have one of the most technologically backward and economically inefficient, energy capacity almost never updated, even at the program level not resolved the issue replacement capacity that worked or spend its resources.

From above presented calculations and theoretical justification general conclusion - the new tariff system will bring tangible benefits to all interested participants.

4 - Conclusions

To illustrate the effect of the application in the ME "KTM" tariff, calculated based on RAB, were compared to rates obtained from current and new techniques. As a result, the rate gained by the method of return on invested capital, during the whole period is characterized uniform tendency to increase. And almost throughout the billing period the growth rate of the method of RAB tariffs are lower growth rates obtained by methods based on active and 20 years lower tariffs determined by the method of return on invested

capital, in relation to the level of rates, calculated in accordance with active method may be more than 50%.

Consequently, the use of RAB method is rational and appropriate. However, in Ukraine currently there are no conditions for the implementation of this project. So below are recommendations for the implementation of the method of return on invested capital:

First of all it is necessary to improve the legislative framework towards tariff, in this case, in the field of heating and develop the following regulations: Order harmonize regulation by switching to return on invested capital; Guidance on using regulation method RAB including: rules of the size of assets and invested capital and keeping their accounting rules calculate rate of return on invested capital.

In modern conditions, there is a serious obstacle to the implementation of the said method - the growth rate for bank credit. Development and coordination of local authorities long-term investment programs and business plans to reduce the cost of production of thermal energy, large-scale events which should be the reconstruction of the boiler.

He has conducted the annual audit permanent control over the use of investment funds according to their purpose and in the relevant legislation to punish energy companies for failure of obligations (disciplinary and criminal liability).

There should be established a separate committee that would deal with monitoring in the following areas: monitoring information for the consumption of fuel that is formed; monitoring documentation towards solutions on fares for thermal energy and transmission services in heat; monitoring information on actual consumption and costs for the reporting period, etc.

Training of specialists for the correct and effective application method is necessary.

Only under such conditions will be possible to use the method of RAB at the "KHS" that will allow in the future to bring to the field of power system in Kharkov. Additional investments and as a result - to provide seamless enterprise cash flow, return on in-

vested capital and income on it - investors quality services - consumers.

References

Bubenko P.T., Dymchenko O.V., Kashpur A.D. (2014), *Management system modernization and development of housing and communal enterprises. Monography*. Kharkiv, HNUMH.

Chief Scientific Expert management 10.05.2012. Online:
http://w1.c1.rada.gov.ua/pls/zweb_n/webproc4_1?pf3511=43113

Dymchenko O.V. (2009), *Housing and communal services in the reform process: analysis, design, management. Monography*. Kharkiv, KSAME.

RAB: the transition is necessary, *Business Russia*, No.12, [64-65].

Results of the Ministry of Regional Development in 2013. Block Housing. Online:
www.minregion.gov.ua.

Statistical Bulletin. Online:
<http://minregion.gov.ua/index.php?category=264BD%D1%8C&Itemid=173&lang=uk>

Statistical Bulletin. Online:
<http://www.1562.kharkov.ua/ru/tariff/index/>

Total information on the method of RAB. Online:
www.energsovet.ru.

Ukraine Law "On State Program of Reform and Development Housing for 2009-2014" approved by the Law of Ukraine of 11.06.2009, № 1511-VI, ordered the Ministry of Regional Development, Construction and Housing and Communal Services of 05.07.2011 № 104 (as amended in accordance with the order of the Ministry of Regional Development of 03.08.2011 № 136)

Volyn G. (2006), Analysis of Housing investment opportunities and industry, *East*, No.1, [40-43].