

Electrical Rate Policy during the Dictatorship. Lisbon and Oporto (1936-1976)

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Abstract

The aim of this paper is to contribute to today's discussion on Government's implication on electrical rate systems. We show the progressive centralization in the regulation of electric rates that was in force during the 'Estado Novo' and the effects of certain policies that produced different lifestyles, in what regards the use of energy in the two main Portuguese cities (Lisbon and Oporto). Finally, we explain why, from the demand point of view, today's electrical rate system (used since the nationalisation, c.1975) isn't more "social", as it was announced, than the former regressive rate system used during 'Salazarism'.

Le but de cet article, c'est de contribuer à la discussion sur l'intervention du Gouvernement sur la détermination du système tarifaire électrique. Nous montrerons la centralisation progressive qui s'est vérifiée dans la régulation des tarifs d'électricité, telle qu'elle a été appliquée pendant le 'Estado Novo', et les effets que ces politiques ont produits – notamment, des moyens de consommation d'énergie différents, dans les principales villes portugaises (Lisboa et Porto). En terminant, nous mettrons en évidence que le système tarifaire en usage depuis la nationalisation (c. 1975) n'est pas, en fait, plus "social" que le système de tarifs dégressifs utilisé pendant le 'Salazarismo', comme on a essayé de le faire croire, à l'époque.

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Introduction*

From an economic point of view, the electricity rates are not set by the market – law of supply and demand- but they are part of the so called “natural monopolies”, which are generally regulated by the State (Samuelson and Nordhaus, 1999, 159-160; 307-309). In the case of Portugal it can be said that during Salazar’s Dictatorship, the type of regulation turned, with the course of the years, into a progressive centralization. The rate matter within this centralization has two characteristics: in the first place, the possibility to use regressive rates, authorized by the Government in 1936, tied to its increasing concern in consumers interests; secondly, a change in the State institution negotiating tariffs with the distribution company (1942), rendered previous contracts void.

The rate policy adopted in the context of this centralized regulation – born during the war and kept in force in the postwar period – produced significant alterations in the use of domestic energy. The combination of subsidized rates and fines for over-consumption generated a path dependence respect of certain energies. Whereas in Oporto electricity was spread as the principal domestic energy, Lisbon used both gas and electricity.

With the arrival of democracy electricity companies were nationalized and unified. At the time, the rate policy was altered in an effort to eliminate the differences between cities and to impose rates that better reflected the production costs. The government adopted tariffs that were presented as if being more socially oriented than the regressive ones, but in essence they were similar to those of the Salazar period.

1. Tariffs in the initial period

According to João Figueira, the contracts of concession in the late 19th century stated that every Municipality was to determine the tariffs applied to consumers. As a consequence of this, there was great proliferation of rates, changing from one Municipality to another depending on various factors (i.e. type of energy, schedule of use, etc.). At that moment, contracts did not take into consideration the "updating" of tariffs, even when production costs increased considerably. In the 20s – time of pronounced inflation (1918-1925) – several legal dispositions that contemplated the possibility of altering the tariffs established in the contracts arose, all seeking to correct the increase in exploitation costs

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(Figueira, 2000)². Then, in 1936 a new legislation tending to unify criteria in relation to tariff regulation is enacted. In the arguments of the decree 27.289, on November 1936, the Government shows its concern for domestic consumers, attempting to protect them against the abuses of the big distributors. That is clearly the spirit of the decree: « (...) The small consumer depends, almost entirely, on the distributor who supplies him; and if the latter does not give the needed malleability to its tariffs, the consumer is left with no choice but not to consume. And this carries its consequences. » (Decree n ° 27.289, Introduction).

The text underlines the fact that to protect domestic consumers and to allow some "progress", cheaper tariffs are necessary so that consumption can be extended to other domestic uses. To achieve this goal, the decree authorizes the use of **regressive tariffs**. These tariffs seek to spread electricity for the use of other domestic applications, beyond the lighting. Regressive tariffs are based on the following assumptions: 1. There is a certain quantity of kWh (depending on the divisions of a house) that is destined to the lighting and that is invoiced in the first stage; 2. Some kWh are used by the domestic appliances of low and medium consumption (i.e. iron, refrigerator, vacuum cleaner, washing-machine), paying less than the previous one; 3. Finally, the remaining consumption, which hypothetically corresponds to the use of domestic appliances of high consumption (i.e. stove, water heater, heating), is invoiced in the third stage (cheaper than the previous ones). Definitely, the regressive tariffs reward any consumption that surpasses the lighting one. This means that every kWh consumed for the use of domestic appliances (2 ° and 3 ° stage) will have to cost less than that consumed for lighting (1 ° stage). In other words, the aim is to "modernize" the Portuguese homes by promoting the use of electric energy. This tariff scheme that stimulates consumption (since marginal cost is lower than average cost) will be in force between 1937 and the nationalization of the companies of electricity in 1975-6³.

This decree was not an isolated action: from the mid 30s onwards, the electricity rates - within the general politics of the State - recover an important role in the economic policy during the *Salazarism*⁴. It was not just a matter of pricing the product according to its cost. Its social role was much more important: that of altering the patterns of consumption in

² The author, who asked to make clear that his work is in progress, authorized this quote.

³ In Lisbon the application of regressive tariffs that generate a drop of the average cost of electricity for domestic consumers, happened only since 1951. See, Bussola (2004). Chapter 2.

⁴It was established that the price of electricity should vary according to the uses: the productive activities (industry and agriculture), should pay lower values than average. For this to happen the consumers had to pay higher values.

order to achieve the desired society. The Minister of Economic Affairs expressed eloquently this point of view when he announced the fall of the third stage for domestic consumption in Lisbon: « (...) A system of tariffs can not consist solely on a price scale destined to remunerate the provided electricity; it must also promote the consumption and orientate it in the most advisable way. » (*O Século*, 11-3-1951, 6).

To summarize, the tariffs were recovering a fundamental role for the Government in the national economy planning: on the one hand, redistributing the national wealth according to the sectors that were intended to benefit from it; on the other hand, orientating the consumption. Though the productive activities were a priority for the Government, in the postwar period, domestic tariffs of electricity were increasingly low. The adoption of regressive tariffs⁵ (stimulator of consumption) and not progressive ones (inhibitors of consumption) demonstrates that domestic consumers were favored. It is evident that the actions of the State depend on the interests of the different forces. The applied tariffs depended fundamentally on the influence of three actors: the government, the distribution companies and the consumers.

2. Towards a centralization in the regulation (1936-1942)

Two fundamental moments: Oporto and Lisbon.

There are two fundamental facts in the history of domestic consumption of electricity, in Portugal, which show an increasing intervention of the government in tariff regulation. Firstly, the signing of the contract (1938) by the Municipality of Oporto (in charge of the gas and electricity distribution in the city) and the energy supplier companies (*União Eléctrica Portuguesa* [UEP] and *Companhia Electro-Hidraulica de Portugal* [CEHP]). Secondly, the obligation that any tariff alteration must be approved by the Minister of Economic Affairs (1942), regardless of the clauses established in the contracts.

Oporto

In March 1936 the *Junta de Electrificação Nacional*⁶ [JEN] was created, dependent on the Department of Public Infrastructures and Communications, whose first president was Ferreira Dias. One of the powers of this Board was to study and evaluate the necessary measures for the country electrification. In this way, the Board supported the adoption of *European Country Tariffs* (as Ferreira Dias called the regressive tariffs) as a way to promote the extended use of electricity

⁵ The periods during which the regressive tariffs were applied are, 1948-1977 in Lisbon, and 1939-1977 in Oporto.

⁶ Can be translated as: National Board of Electrification.

(Brito, 1998, 208). Though the first experience in the use of these tariffs took place in Lisbon in 1937, it was the successful Oporto example since 1939 what all cities wanted to imitate.

Along the year 1936 in Oporto and Lisbon similar tariffs were implemented for domestic consumers (1\$89/kWh). The recently created Board had contributed in the formulation of the previously mentioned Decree 27.289 that authorized the application of regressive tariffs. The *Serviços Municipalizados de Gás e Electricidade* [SMGEP], dependent on the Municipality of Oporto, was in charge of the distribution of the electricity bought to the UEP. Since the contract between the SMGEP and the UEP would end by the middle of 1939, negotiations were made for the signing of a new one. As Ferreira Dias reports, in 1936 the Municipality put the provision of energy out to tender. The only offer presented in December 1936, though it meant a reduction of the price between 5 and 18 %, was not satisfactory for the SMGEP. It was for this reason that the Municipality asked for the intervention of the Board in the negotiations. Since this institution did not have legal authority to intervene, it put a series of conditions to the Municipality to negotiate the contract, which, in fact, meant a delegation of powers:

« 1^a The Municipal Chamber had to shut down the previous tender.

2^a The Municipality had to accept the contract being negotiated by the Board with the possible suppliers.

3^a Any advantage obtained by the new contract in relation to the previous one would be destined to benefit the tariffs of low tension, according to a plan elaborated by the Board. » (Brito, 1998, 285).

According to Ferreira Dias, these conditions were formulated orally and were not registered in the official paperwork. His own statement on these conditions shows that during that period it was still the local power (Municipality) who negotiated with the private companies, and that the Board did not possess real power (nor legal) to intervene. The delegation of power resulted in the transformation of the Board in a mediator, or rather, a representative of the Municipality. The contract that ensued from the intervention of the JEN stated that all energy sold to the final consumers with regressive values had to be acquired by the Municipalized Services with like values. The result was the setting, from 1939 onward, of regressive tariffs for the domestic consumers with the lowest values in the country. The consumption *per capita* went from 14kWh/year to 330kWh/year between 1940 and 1954 (when the renegotiation of the contract was to take place)⁷. The average cost of the kWh paid by consumers transformed Oporto into a role model (see graphic n°1).

⁷ The consumption *per* consumer (homes with electricity) gives a more realistic idea of the evolution of the domestic consumption: 98kwh/year (1940) to 2154kwh/year (1954).

For reasons stated above, it is not possible to consider the JEN as owning the attributions of a contemporary regulatory body. Its role as mediator, or representative, is due to the delegation of power by the Municipality. Thus it will be necessary to wait for the energetic crisis during the Second World War to see a State institution adopt characteristics of a regulatory body in tariff questions.

Lisbon

The “*Contracto para o fornecimento de gás e energia eléctrica à cidade de Lisboa*”, signed in 1928, by the Municipality of Lisbon and the *Companhias Reunidas Gás e Electricidade* [CRGE], stipulated that the duration of the contract must be of 50 years. The contract was in force up to the nationalization of the company in 1975. It was the principal tool that organized the gas and electricity exploitation in Lisbon. An innovation respect to the previous contracts can be found in articles 37° to 40° that establish the type of tariffs and its periodic updates. The highest tariff for lighting must be calculated from a formula that depends on the following variables: 1. Salary of the workers of *Central Tejo*; 2. Cost of the coal in *Central Tejo* (coal + freight + exchange rate) (Contract, 1928, 37°-39°). Applying the formula, the tariff was raised to Esc.1\$89,6/kWh in October 1929. As a consequence of this increase the so-called “strike of the consumers” took place, led by the Lisbon Trade Association. This provoked that, in the future, any attempt to apply the formula had to face the resistance of the Municipality of Lisbon.

In September 1931 in view of the denial of the Municipality to apply the tariff formula, the company lodged an appeal to the Arbitral Court, which was declared favorable to the company. Nevertheless, the increase was postponed. In the report made in Brussels for the period of 1935, the conclusion was that, on the one hand, an increase might provoke another “strike of the consumers” and, on the other hand, the negotiations for the Municipality to allow the application of the contractual formula had failed (CRGE/ABP N°884, 4-4-1936). This problem will recur several times in the 30s. The company lodged appeals to different authorities in order that they intervene before the Municipality of Lisbon to reinforce the clauses that had been included in the 1928 contract. The result was the immutability of the highest tariff between 1929 and 1945, in spite of the introduction of the regressive tariffs since 1937 for the domestic consumers who requested them.

During the war there was a turning point in the relationship between the company and the State. Due to the rise in costs (mainly of freight and coal) caused by the war, from December 1941 on, the CRGE demands an increase of tariffs. After several requests sent to the Municipality, on March 2 they send a letter saying that they will proceed to increase the tariffs (CRGE/ABP N°958, 26-2-1942). The end of these negotiations

came with the intervention of the Government, which meant a radical change in matters of tariff regulation. The decree - law n ° 31.911 in its article 1 ° § 3 ° established: « From the time of the publication of this Decree-law the concessionaire companies of public services of production and distribution of electric power or of electrical traction will not be able to apply tariffs or to proceed to alterations or tariff adjustments without previous government approval, regardless of any disposition stated on legal titles or in the regulation clauses of the respective contracts. » (Decree-law 31.911, 10-3-1942)⁸.

Concretely, the intervention of the Government meant, for the city of Lisbon, the end of the regressive tariffs and fines for those consumers who exceeded the consumption of 1941 (*Portaria* 10.048, 20-3-1942). The most important consequence was – that from this date on, gas⁹ and electricity tariffs were negotiated with the Government. In the first stage, the energy distribution companies will negotiate with the Minister of Public Infrastructure (represented by the JEN), but after the creation of the *Direcção Geral de Serviços Eléctricos* [DGSE] (Decree-law 33.546, 23-2-1944), it is the Minister of Economic Affairs¹⁰ who will have competence on gas and electricity rates. Thus, the orientation of the regulation towards a progressive centralization meant for the CRGE that on certain aspects, fundamentally tariff alteration, negotiations had to be shifted from the Municipality to the Central Government.

In fact, since the 1928 contract was made the clause on the tariff update was applied only once (October, 1929). The tariffs in force will depend on the bargaining power of the company and of the other actors (the Municipality < 1928-1942 > and later the Central Government < 1942-1974 >). If in the case of the contract between the UEP and the Municipalized Services of Oporto the intervention of the JEN means the delegating of local power (the JEN acting as a mediator/representative), the decree-law of 1942 sets the bases for the State's regulation on tariff questions, being able to alter what was established in the contracts. This marks the end of the tariffs negotiated in contracts of concession without further intervention of the Government.

The interests: the case of Lisbon

⁸ This decree also authorized the establishment of restriction to consumption in its article number 1º: « The Minister of Public Infrastructures and Communication is hereby authorized by the Board of National Electrification, to determine: 1) The advisable restrictions in consumption and supply in all the distribution networks of electric energy; (...) » (Decree-law 31.911, 10-3-1942).

⁹ The decree also affected the gas tariffs.

¹⁰ DGSE depends on the Minister of Economic Affairs.

We will broaden the analysis to see the different interests at stake in Lisbon. For the business to be profitable, it is necessary, on the one hand, that the tariffs reflect the exploitation costs and, on the other, a rise in consumption. As far as the first requirement is concerned, the base was established in the contract of 1928; as to the second, a whole series of campaigns were initiated¹¹. Therefore, it was only necessary for the company to apply the tariff formula and broaden the electricity market in order to achieve the expected profit.

As we said, the CRGE tried throughout the whole period to persuade the Government to accept rises, justifying its request in the clauses established in the 1928 contract. The fundamental argument was the increase in exploitation costs resulting from the increase in raw material costs (principally coal) or the obligation to use coal of lower quality paid at the same cost as Cardiff coal. The first (and only) application of the formula increased the price of energy from 1\$58 to 1\$89,6 in October 1929. As we saw, the answer of the merchants of Lisbon came swiftly causing the so-called "strike of the **consumers**" between December 1929 and January 1931 (CRGE/ABP N°984, 28-2-1944). In the report of 1935, the managers of the company made clear that the application of the formula would mean an increase of the tariffs by 15 % but they feared another strike of consumers (CRGE/ABP N°884, 4-4-1936). Briefly, consumers' opposition in 1930 limited any possible tariff alterations. In the report on the period of 1943, the CRGE refers to the lowering in the consumption during the "strike" and its consequences: « (...) In the so called *strike of the consumers*, from December 1929 to January 1931, the reduction of consumption levels did not exceed 6 millions of kWh. Nevertheless, six years and two months were necessary to stabilize the situation. » (CRGE/ABP N°984, 28-2-1944).

In fact, after the "strike" it was clear that the consumers' interests should be contemplated while adjusting the tariffs and that the application of increases using the formula would turn out to be difficult. Therefore, the transference of the rise in the costs of production (of the power station) to the final consumers was no easy task.

The Government's answer to the increase of tariffs, commented above, inflicted a double blow on the company: unaltered tariffs and fines for over-consumption. The *Portaria* of 1942, of the Department of Public Infrastructure, states that domestic consumers of Lisbon who exceeded certain level of consumption, would have to pay Esc.10\$00 for kWh (when the normal value was of Esc.2\$00). It must be said that the fines generated to the company's benefit an undercover increase of the tariffs. Nevertheless, this type of policy was contrary to the interests of the

¹¹ For an introduction to this question (Faria et Goy, 2004), (Bussola, 2004a) and (Bussola 2003).

CRGE because it stimulated saving and had a high political cost¹². The Administration Board of the CRGE criticized the fact that the restriction policy was applicable in the long term (CRGE/ABP N°981, 30-12-1943). What the company pretended was the end of restrictions – which meant the end of fining and a consistent increase in consumption – and a rise in the electricity rate. In this second phase (1942-45) of negotiation with the Government, a second aspect damaged the CRGE: the drop of consumption. Thus between 1928 and 1945, in view of the rise in the cost of exploitation, the CRGE was doubly harmed: for the tariff stagnation and for the restriction to the consumption. In this period, its interests do not coincide with those of the Government, or with those of the consumers.

A **Government**¹³ strategy is to appear as “defender of the people” against private companies. In the bases of the decree previously mentioned (1936), the Government is said to stimulate the creation of regressive tariffs to protect the consumers, vulnerable against distribution companies. This argument was repeated when the restrictions imposed by the war finally came to an end. At this point, the Minister of Economic Affairs Daniel Barbosa, in a *communiqué* that he requested be published in the press, “answers” to the Report of the Administration Board of the CRGE - period 1946-, accusing the company of trying to increase tariffs and of being concern only about the fall of its profits due to the end of the fines (O Século, 13-4-1947, 1; 6). This document creates an image of a Government that protects consumers from the injustices of private companies, principally the CRGE. In other words, in the Government discourse a paternalistic image of defense of the consumers against the private companies is constructed. The company asks the Minister to clarify why he published such a *communiqué*, since the company had not asked for an increase of the tariffs, it simply suggested, in an internal report¹⁴, that it would be fair. The episode finishes with a satisfactory response to the company, in which the government clarifies that what it was trying to generate was a “drop psychosis”¹⁵ of the prices (CRGE/ABP N°1026, 25-4-1947). The company aligns with the

¹² As an example see what was said in a local magazine: « When? When will we have this? When will our electricity distributors deign themselves to give us electric power at civilized prices, not as a luxury but as a basic need, instead of fining us for everything? We must say, (...): “the Portuguese are also people”, exception made on the Oporto *felizardas* that already have the possibility of using electricity as if they lived in North America », (EVA, August 1946, 22-23).

¹³ The principal orientating the government was that of guaranteeing low tariffs for consumers and a reasonable profit for the company.

¹⁴ It is fit to mention that in the Administration Council meeting there was a representative of the Government.

¹⁵ In the original text the concept used is: “psicose de baixa”

government and decides not to publicize the response. In this way, the CRGE is prepared to pay the political price of the tariff alterations after restrictions ended, to support the policy of “drop psychosis”¹⁶ that the Government was trying to transmit to the population. The CRGE played this role, even without sharing the tariff policy developed by the Government¹⁷.

This demonstrates two things: on the one hand, many of the decisions related to the rates were linked to the need to calm down the consumers; on the other hand, though their interests were opposite, the Government and CRGE adopted convergent positions when it was necessary to ease the population.

With the inauguration of the *Castelo de Bode* hydro-electrical power station a more cooperative period between the Government and the CRGE begins. The aims of each, lower rates (Government) and increase of the consumption (CRGE), would become compatible thanks to hydroelectric energy. The company loses its fundamental argument for the increase of the tariffs – the application of the tariff formula – since it stops producing its own energy (thermoelectric). Nevertheless, as the tariffs were tied to the exploitation costs and there existed a significant rise in consumption and consumers the balance was guaranteed.

In this period the tariff alterations (1951, 1955 and 1958) were proposed by the Minister of Economic Affairs and discussed (and altered) together with the CRGE. The following interview, on the negotiation between the Company and the Minister for the tariff alteration shows the existing mutual cooperation: « (...) With respect to the *Companhias Reunidas*, the Minister of Economic Affairs reminded us of the position that he had taken in 1951 and in 1954. This way, when the first drop in the tariffs was analyzed in occasion of the inauguration of *Castelo de Bodes* plant, the situation of the *Companhias Reunidas* was difficult enough, and, he had asked us for a minimal sacrifice, to allow us a rapid reestablishment of the situation. In fact, (...), he verified that the balance of the company was re-established, and he would by no means want to hazard it. He said also that he wished the problem to be examined in close cooperation and, suggested that the price of the energy destined for the lower classes drop from 1\$30 to near 1\$00 for kWh in Lisbon. (...) The

¹⁶ This “diminishing psychosis” was complemented with other *communiqués* of the Minister of Economic Affairs in relation to the intransigence of the Government regarding the rise of price; for example, the Minister declare to the press: “ We are not willing to allow alterations of prices that do not tend towards the lowering of the general cost of life”. (O Século, 24-4-1947, 1-2).

¹⁷ In the proceedings of 1947 the Administration Board declare: “(...) A low rate policy (...) would only possibly be done if it had been preceded by a high rate policy that the times imposed; but to force the drop in a price that was maintained, for too long, under its normal level, create unfair difficulties for us to endure.” (CRGE/ABP N° 1026, 25-4-1947).

Minister suggested afterward, that the 3^o stage of the general tariff should drop to 40 \$, (...) » (CRGE - Acção Comercial, 1/7/1958)

This text and the result of the negotiations (tariff reduction) demonstrate that *Castelo de Bode* brought calm to the interests both of the Government and the company. The fundamental change was that the CRGE began to act as distributor, acquiring hydroelectric energy from the *Companhia Nacional de Electricidade* [CNE]. In this new situation, the production of *Central Tejo* was maintained only as “thermal support”. This way, the regressive tariffs of energy sold to domestic consumers were compensated by the drop in the price of energy bought by the CRGE. Among those most favored by this solution were the domestic consumers of Lisbon (and its metropolitan area), who paid less and less for every kWh consumed since 1951. Thus, increasingly cheap energy for the domestic consumers and economic balance of the company brought harmony to the confronted interests.

3. Postwar period and the effects of the tariff policy

The tariff policy actually applied since the beginning of the war in Lisbon and Oporto generated path dependence in the postwar period (Bussola, 2004; Teives et Bussola, 2005). Likewise, it appeared two consumption models differentiated in Lisbon and Oporto generating identities linked to the domestic consumption of energy (Bussola, 2006).

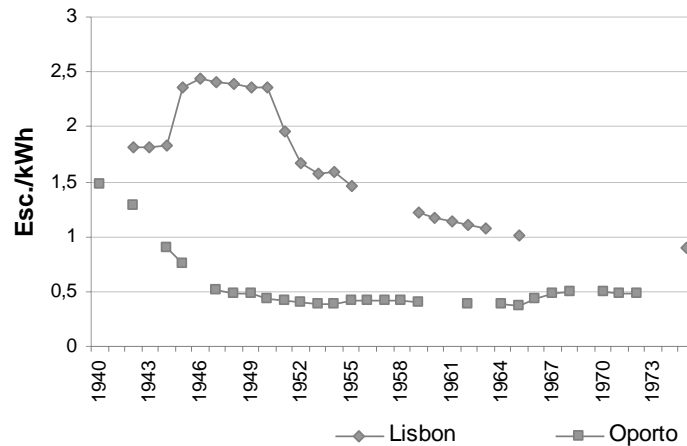
In **Oporto**, in the 30s, the gas exploitation shows a deficit because of the poor state of the network and the decrease in the number of users. The situation becomes untenable with the restrictions imposed in the coal supply during the war. In consequence, in 1943, the Municipalized Services will stop producing and distributing gas in the city, in agreement with the decree-law 31.911 that stated that deficit exploitations must be deactivated. Parallel, these Services had started to apply regressive electricity rates since the middle of 1939, based on the contract previously mentioned. The joint of these factors in a context of decrease in the offer of vegetable coal and fuelwood produced an alteration in the habits of the *portuenses*. From 1940 domestic appliances will multiply. Not only the use of refrigerators, radios and irons will increase but other appliances that consume great quantity of energy like: kitchens, ovens, water heaters, stoves, etc. will be adopted. Therefore, from the 40s, a process will begin, accentuated during the postwar period, which will have electricity as a protagonist. The domestic consumption of electricity in the city of Oporto will be increased significantly by the absence of other energies and the application of regressive tariffs. Thus, from this moment, Oporto will be considered to be a role model regarding use of domestic appliances (Bussola, 2006).

As in Oporto, in the **Lisbon** of the 30s, domestic consumers used gas and electricity for domestic tasks. At this moment there was a pronounced increase of electricity consumption, more so than in the case of gas consumption. This was due not only to the increase in the number of electricity consumers, but also because consumption *per capita* of electric energy increased more than that of gas (Bussola, 2004). The Government's decisions related to rate regulation of 1942 will alter these trends; on the one hand, by establishing fines for the consumers who exceeded consumption levels of the previous year and, on the other, by determining that the gas tariffs had to maintain their prewar value. Hereby, during the war for the domestic consumers of Lisbon gas rates were extremely cheap (devaluated by the inflation) and, besides, between 1942 and 1947 they were fined for over-consumption of electricity. This fact in a context of lack of fuelwood and vegetable coal will rocket the number of gas consumers, growing in 1942 and 1943 to an average annual rate of 10,7 %¹⁸.

The end of the war and the end of these exceptional situations will not alter the trends generated by policies adopted during the crisis. In Oporto the consumption of electricity grew by leaps and bounds due to the fact that its tariffs were the lowest in the country. On the other hand, Lisbon is the only city of the country in which canalized gas and electricity will coexist. In consequence, during the postwar period two forms of domestic consumption of energy will be consolidated, identified with each of the two cities (Bussola, 2006).

In short, the tariff policies implemented during the war generated subsidized energy tariffs. In the case of Oporto, regressive tariffs of electricity were maintained during the war as compensation for the lack of gas. In the case of Lisbon, the gas tariffs were kept unaltered during the war as compensation for the fines on electricity consumption. The combination of these conditions with the absence of fuelwood and other traditional fuels produced an alteration in daily life, which will be characterized by the use of gas and electricity, in Lisbon and Oporto respectively, for heating, cooking and water heating.

¹⁸ The increasing of the number of consumers in the previous years was inferior. In 1929-35 it grew by 1,6% and in 1936-41 by 4,0%. The increase in gas domestic consumption between 1941 and 1944 was in average of 20% per year (Statistics, CRGE).



GRAPHIC Nº1
Domestic consumer – kWh average cost

4. Post April 25

From the analysis made we can extract that the tariff regulation system and tariffs themselves are the articulation point between the Government, the distribution companies and domestic consumers. The choice of the regulation system is important for public policies since it can: 1. Be more or less redistributive of wealth; 2. Stimulate consumption or saving of energy; 3. Create a path dependence regarding consumption of alternative energies.

Nowadays, in a situation of increasing deregulation of the economy, (flexibilization of the energy market) it can happen that the market defines the values of the tariffs. Nevertheless, the State must intervene in the definition of the tariff system, since it is a part of the policies on energy resources and distribution of revenue. Even in a context of flexibilization, the definition of the tariff regime cannot be established only depending on the market forces.

The tariff regime established with the nationalization of the electricity companies – after April 25 – is a clear example of a situation in which the interest of the company prevailed. The developed policy shows a contradiction between a set of aims (social rates, which reflected production costs) and the established regime. Only one of the objectives fits into the tariff regime: the nationalized company breakeven point.

Between the 40s and 1976 **regressive tariffs** were applied to domestic consumers in Portugal. From the nationalization and unification of the electricity companies (producers, freighters and distributors) into *Electricidade de Portugal* [EDP]¹⁹, another regime was applied that invoices separately the **tension** and the **energy consumed**, and that is still in force nowadays. Thus, each of these regimes dominated the scenario for approximately 30 years.

The electricity consumption in Oporto and Lisbon was stimulated mainly by the regressive tariffs, which were consolidated during the postwar period. In March 1977 a new tariff system was introduced, by the EDP, which altered the previous one. The idea spread that this new tariff regime had a more social character than its predecessor. In the moment of its application, a report defended its incorporation since, contrary to what happened with the regressive tariffs, it penalized the big consumers and benefited the small ones: « Lets bare in mind that this [new] tariff forces the users to pay notably more, as they surround themselves with comfort (...). The existence of prices which are detached from the consumption, meaning not regressive, because it reflects the overheads for the requested quantities of energy and power, affecting the major consumers more than the minor ones- as would happen with the establishment of plots independent from the consumption or from terms with regressive prices- prevents the appropriation of the economies of scale by the major consumers and **benefits the smaller ones**, generally of less economic capacity. » (Leite Garcia, 1977, 61).

According to Ferreira and Figueira this new regime was perceived at the time as more egalitarian in comparison to the previous one (regressive tariffs). In describing the tariffs still existent in 1976, and the ulterior alteration, the authors hold: «These tariffs were “regressive”, they implied differentiated prices for the energy consumed, going from the first to the third stage, as a certain level of consumption was reached. By the use of this method the consumers who spent more, ended up paying a progressively lower price. This “regressive” character was a source of inequalities and any measure taken towards correcting this situation would have an enormous social scope, altering the principle of the tariff system, giving it a more egalitarian spirit, adequate to the period. » (Ferreira et Figueira, 2000, 57-58).

Indeed regressive tariffs benefit big consumers and therefore it is possible to say that they have a tone of “social inequality” (Bussola, 2004, 53-59). What we here sustain is that the tariffs, which are nowadays in force, are similar to the tariffs applied during the *Salazarism*. In spite of the arguments used at the time (shared by historiography), this regime did not alter the existing inequalities in regressive tariffs and, therefore, did

¹⁹ Its called *Energias de Portugal* since 2005.

not benefit the small consumers. In this way for these consumers the change was “aesthetic” rather than real.

Both systems are similar because, from the consumer point of view, the marginal cost is always inferior to the average cost of energy²⁰; as the consumption increases an average diminishing value is paid. However, both systems achieve that even consuming the same amount of energy big consumers pay more than the small ones. In the case of regressive rates, the homes with more divisions pay more because the amount of kWh consumed in every stage depends on the divisions of the home. In case of tension and energy rate system, consumers pass from one tension stage to the other, depending on the quantity of domestic appliances in use by the family (fundamentally of simultaneous use). This means that the systems are similar in structure, even in the fact that they benefit major consumers only when they consume more energy. The most important difference is that power requires the payment of a fixed sum, even when there is no actual consumption.

A different tariff system is that of the progressive tariffs (with stages of consumption increasingly expensive), since in this case the marginal cost is always superior to the average cost. On the one hand, those who consume the most pay higher values; this means that a progressive tariff is more “social” than any of the two systems used since the 40s. On the other hand, when the marginal cost is higher than the average cost, saving is stimulated.

In spite of this the new system (tension rate system) did not alter the previous one (regressive rate system) in a structural way, it was necessary in order to increase the tariffs. This was beneficial for the company and not to the small consumers, as they promised. The new system was fundamental in order that EDP could balance the bills and thus conclude the electrification of the country. The same thing might have been achieved with more social tariffs.

Conclusion

The policies adopted during the war made possible the substitution of former fuels by gas and electricity. The change in the relations between the distribution companies and the Government during the war, which relegated Municipalities to a secondary role, introduced an innovation in terms of regulation: the Government through the Minister of Economic Affairs would be the one in charge to negotiate the tariffs, rendering the established in the contracts ineffectual.

The conflict was centered in the relation between the costs of production and the energy tariffs. The costs of production were not

²⁰ This happens when it is not necessary to increase the hired tension.

compatible with the wishes of the Government to maintain the tariffs unaltered (or even lower them). The solution was the purchase of energy to the National Electric Network (primary network), which unified the market with a transportation infrastructure and a system of tolls²¹. Up to the oil crisis it was possible to maintain a balance between the profits of the company (CRGE), diminishing values paid by the consumers, and the public policy.

Decisions originated in the relationship between the Government and the distribution companies were fundamental for the adopted policies. These decisions resulted in: tariffs lower than the cost, fines on increase of consumption and crossed subsidies. Each of these actions ended up influencing the trends of consumption. In this way, two models of energetic consumption were established, exemplified in Lisbon and Oporto.

In spite of discussions and alterations in tariffs values a great structured stability is outlined, since each of the tariff systems was in force for 30 years. Neither of them (regressive tariffs or tension and energy) benefited small consumers. We verify that once a system is established its representation is undisputedly accepted. In this respect, it is important to check periodically the tariff systems, since temporary solutions, acceptable at certain conjunctures, become long-term policies. The solution adopted in March 1977 was falling out of use in Europe, reason why its temporary adoption was justified because of the country's underdevelopment (Leite Garcia, 1977, 59). Almost 30 years later it continues to be in force.

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²¹ At this period, the energy values in Lisbon begin to depend on the price competition of the country covered by high-tension network.

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