

## Romanian Scrapage Program 2005-2013. An Incremental Public Policy

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**Abstract.** *The program of renewing the Romanian motor vehicle fleet is part of the environment policies. Also known as “Rabla” (Clunker) Program, it began in 2005 and has been implemented each year since in different political contexts (9 governmental formulas). Within the program, approximately 480,000 old cars were scrapped and replaced by approximately 225,000 new cars. The purpose of this article is to analyze the policy of renewing the motor vehicle fleet of Romania, focusing on the next objectives: (O1) a clear and objective presentation of the coordinates of the program for its entire implementation period (2005-2013 and 2014 to the degree possible) by synthesizing the existing official information and data concerning the initiation of the program, its implementation mechanism and the results obtained, all these being correlated to other data that characterize the motor vehicle market of Romania; (O2) presentation of the context in which the policy was born and implemented (international regulations, Romania’s accession to the EU, world economic depression, and other joint policies); (O3) analysis of the decision-making model that characterizes the policy, by considering the specialty literature; (O4) discussion on the efficiency of this policy in connection to its decision-making framework. A series of diagrams and images accompany the text. They depict the numbers connected to the results of the program and the implementation mechanism.*

**Keywords:** *public management, scrapage program, Clunker, incremental decision making, Romania.*

### Introduction

The program of renewing the Romanian motor vehicle fleet is part of the environment policies category. This policy, which has been implemented since 2005 by the Ministry of Environment and Water Management (later transformed into the *Ministry of Environment and Sustainable Development* following the restructuring of April 2007, then into the *Ministry of Environment and Forests* in December 2009, and then into *Ministry of Environment and*

*Climatic Changes* in May 2012), is informally known in Romania under the name “Rabla” (Clunker) Program. The issue that led to the initiation of such a policy was the high number of decrepit cars still in use. These determined a high level of air pollution, a thing that in its turn led to two negative effects that had to be fought on a short and medium term: endangering the health of the population and not observing the targets provisioned by the UE environment acquis in the area of air pollution at that time. This was the starting point of the purpose of the policy, which was to decommission the motor vehicles that did not comply with the national and European standards concerning the air pollution. The total budget spent for the Romanian Scrappage Program (hereinafter referred to as *RSP* or *Clunker Program*) was of 1.75 billion RON, almost 500,000 old cars being scrapped and replaced by nearly 250,000 new ones. The program of renewing the motor vehicle fleet was not specific to Romania; such policies have been implemented all over the world in recent years, with particular provisions and regulations, tracking environmental and / or economic objectives.

In July 2006, studies showed that the motor vehicle fleet of Romania was in average of 13 years old, much greater than the European mean of 3.7 years, the technical condition of the cars used in Romania being considered important factors in deadly car accidents (APIA, DRPCIV). Further, at that time the representatives of Association of Motor Vehicle Producers and Importers of Romania (APIA) estimated that 1 million of 4.5 million motor vehicles of Romania were over 17 years old (APIA, 2006, p.2). Eight years later, in January 2014, the official statistics estimate that 3.2 million cars older than 10 years are still in use in Romania and that the average age of the motor vehicle fleet is of approximately 13 years (DRPCIV, 2014). The statistics regarding policy results indicate good and very good outputs and outtakes (with few exceptions) but in terms of policy outcomes the general evaluation show less favorable conclusions also, alongside with the positive ones.

The purpose of this article is to analyze the Romanian Scrappage Program 2005-2013, focusing on the next objectives: (O1) a clear and objective presentation of the coordinates of the program for its entire implementation period (2005-2013 and 2014 to the degree possible) by synthesizing the existing official information and data concerning the initiation of the program, its implementation mechanism and the results obtained, all these being correlated to other data that characterize the motor vehicle market of Romania; (O2) presentation of the context in which the policy was born and implemented (international regulations, Romania’s accession to the EU, world economic

depression, and other joint policies); (O3) analysis of the decision-making model that characterizes the policy, by considering the specialty literature; (O4) discussion on the efficiency of this policy in connection to its decision-making framework.

### Decision-making models in public policies – theoretical framework

When analyzing the decisions connected to public policies, the descriptive models most known in the specialty literature are those that begin with the criticism of the *classical model of rationality* built on the principle of Weber's ideal type and derived from Adam Smith's perspectives. This model was based on assuming a total human rationality when making decisions. It involved the human ability to know the reality under all its aspects, to clearly separate the problems, to sketch the possible options for solving them, to analyze the possible consequences of each option to its finest details and to create a hierarchy of preferences and preferred consequences. It is impossible for such a rationality to characterize the human decisions both at individual and organizational level, considering that the human rationality is limited; the human being is characterized by emotions, instincts and attention deficit (Simon, Etzioni) and his/her capacity to know and process the information, at individual and organizational level, is also limited. Thus, it is not possible for the decision making process to follow a delimited algorithm, the decision maker to take into account all the relevant aspects and, as consequence of these phases, to reach a completely rational result. The human decisions rely rather on partial information concerning the reality, on selective attention paid to such information, on the limited management of the available knowledge and on the subjective and particular hierarchy of the consequences of possible choices and also, on a context that often eludes the logics and real control of the decision makers. That is why, far from considering the decisions as the best possible solutions for a problem deemed on its turn to be the most important on the work agenda, they can be seen rather as one of the following: the expression of a *satisficient result – limited rationality model* (Simon, 2013), of some *incremental changes* of some previous decisions – the *incremental model* (Lindblom, 1959) or of a rather accidental contextual mix of problems, solutions and decision makers – the *garbage can model* (March, Kingdon & Zahariadis cited in Răceanu, 2012).

Charles Lindblom (1959) introduced the incremental perspective as descriptive model concerning the decision-making in organizations in general and

in the public policies in particular. In its first form, the *incrementalism*, also known as *gradualism*, was seen as a set of actions “with baby steps”, “of trial” gradually placed on the road to a decision. Lindblom separated the *classic model of rationality*, which was impossible (rational comprehensive method, *from the root*) of the *incremental* one (method of successive limited comparison, *on branch*) (Lindblom, 1959). The latter implies successive modifications of an already existing situation. Later, Lindblom (1979) developed the incremental model differentiating between three types of decisions: (a) those relying on *simple incremental analysis* (minor gradual modifications that do not lead to social development, but are focused on preserving an existing balance); (b) those based on *disjointed incrementalism* (focused on mutual agreements between the participants in the decision making and gradual adjustments on the decision possibilities, thus that they meet the expectations of the parties involved); (c) those driven from *strategic analysis* (similar to the *limited rationality model* developed by Simon). According to Lindblom, in the impossibility of decisions based on strategic analysis, disjointed incrementalism is to be sought, as form of effective decision-making.

### **Overview of the Romanian Scrappage Program (2005-2014)**

Beginning with 2005, the Romanian Government has granted year after year a free scrapping bonus (first, it amounted to 3,000 RON, then to 3,800 RON since 2009 and to 6,500 RON since 2013) to the owners of old motor vehicles that would bring their vehicle to be scrapped. Regarding the age of the car, in order to be accepted this had to be of minimum 12 years (implementation period 2005-2008), 10 years since 2009 and 8 years starting 2014. As an exception, in 2012 for legal persons or public institutions, minimum 5 years old cars were also accepted. The scrapping bonus was a voucher that the beneficiaries could use for purchasing a new car for themselves, its value being subtracted of the new car purchase price. Since 2009, it was allowed that the voucher be used by other persons than the initial owner of the scrapped car. Thus, the former owner could enjoy the financial value of the scrapping bonus (without being conditioned to buy a new motor vehicle), as well as the new purchaser of a new car (without the condition of previously owning an old car - clunker). Along the years, the provisions of the policy were altered as regards various aspects, but the general policy scheme remained approximately the same.

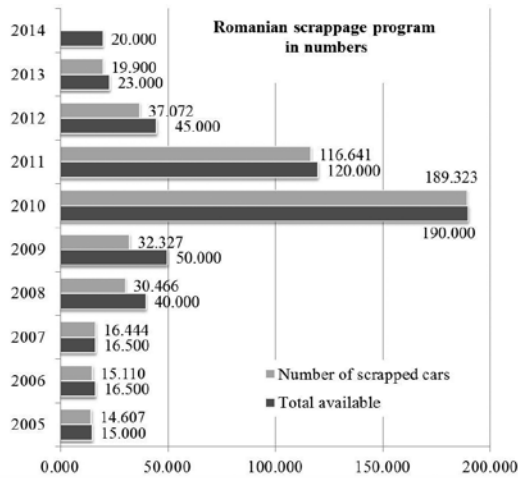


Figure 1. Romanian Scrappage Program in numbers - thousands (2005-2013)

The results registered during all the years of implementing the program placed the program of renewing the motor vehicle fleet of Romania among the high success public policies in terms of outputs and outtakes. Year 2010 was the best as regards the quantity (189,000 old cars decommissioned) (figure 1). The degree of fulfilling the proposed objectives during the entire implementation period (in terms of scrapping rate by comparison to planned numbers) has been on an average of 87%, the best results (almost 100%) being recorded in 2007 (figure 2).

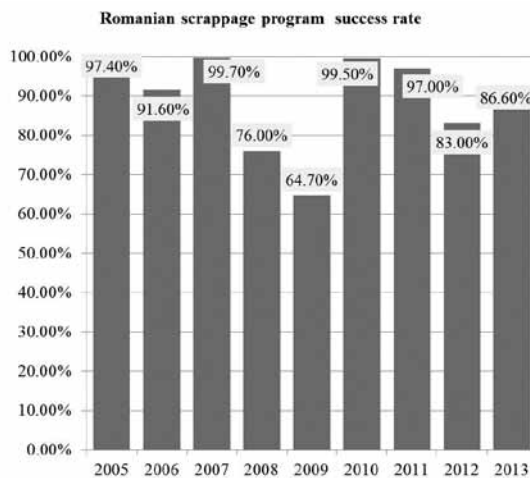


Figure 2. Romanian Scrappage Program success rate

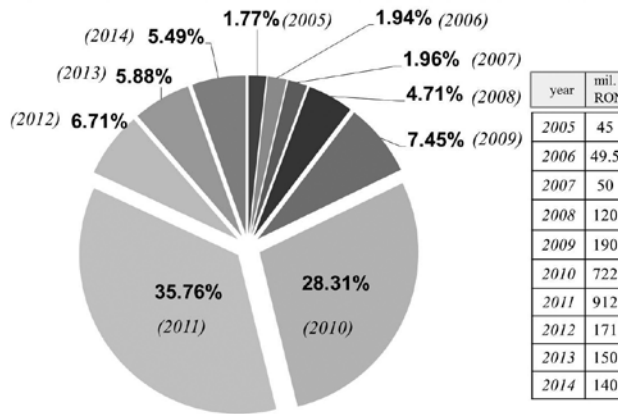


Figure 3. Romanian Scrappage Program budget allotment (% and numbers – millions RON)

The total budget allotted for the RSP was of 2.410 billion RON (2.550 billion if we include year 2014). Most of the money was invested in 2010 and 2011 (figure 3). During the 9 years of implementation, approximately 475,000 old and very old cars were scrapped and approximately 235,000 new cars were purchased. Thus 1.745 billion RON was spent (AFM, 2014). The difference between the scrapping success rate (87%) and funds absorption rate (72%) comes from the following: different values of the voucher over the years, the way the voucher was used (cumulative or unique) and its final real value in terms of budget request (in some cases, although the old car had been scrapped, the voucher was not used, thus the allotted money remaining in the state budget). A general analysis regarding the 9 years period of policy implementation shows a loss of 2 points of the age of the Romanian car fleet in 2008-2010 but afterwards this returned to its original value (figure 4).

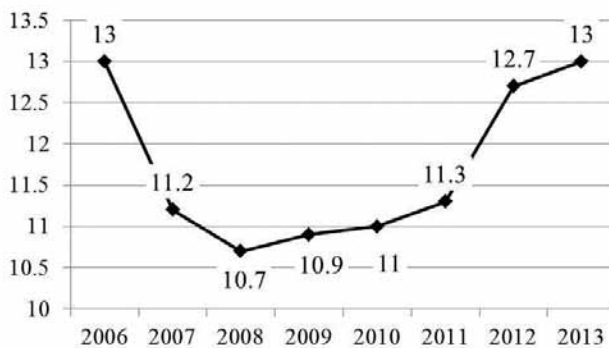


Figure 4. Average age of Romanian motor vehicle fleet (years)

In figure 5, we can see the annual rate of old cars out of Romanian total motor vehicle fleet. According to the data, the number of cars registered in Romania grew but therewith grew also the share of old cars, especially in the last 2 years, contrary to policy expected results.

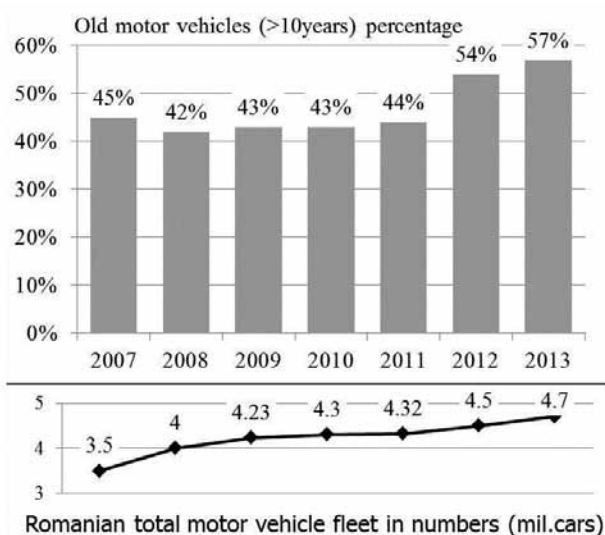


Figure 5. Percent of old car out of total Romanian motor vehicle fleet (percentage and millions)

### Implementing mechanism of Romanian Scrapage Program

The scheme for implementing the Program of Renewing the Motor Vehicle Fleet of Romania operated according to the annual orders of minister issued by the Ministry of Environment, according to the legal framework for substantiating the policy. For a complete understanding of applying the policy, I have studied 52 official documents that represent the provisions and regulations connected to the program (laws, Government decisions, emergency ordinances, ministerial orders, resolutions), as well as the official press releases (issued by AFM or the officials within the Ministry of Environment). The most important of them can be found in the *references* section of this article. *Table 1* presents the versions of the Romanian Scrapage Program (RSP), according to its application year, the eligible beneficiaries and the types of cars included in the program.

**Table 1. Versions of the policy of renewing the motor vehicle fleet of Romania  
(Scrappage Program – SP)**

	Natural persons (NP)	Legal persons (LP)	
2005-2008 car	RSP - car NP (1) (3,000 RON)	X	
2009 car	RSP - car NP (2) (3,800 RON)		
2010 car, tractor	RSP - car NP (3) (3,800 RON *3, transmittable vouchers)	RSP - tractors (PF/J, max. 17,000 RON, non-transmittable vouchers)	RSP - car LP (1) (3,800 RON, 1 non-trans- mittable voucher)
2011 tractor, plain car, hybrid / electric car	RSP - car NP (4) (3,800 RON*3 transmittable vouchers)		RSP - car LP (2) (3,800 RON, non-transmit- table voucher) * de jure also for the public institutions
	RSP - hybrid / electric car (NP/ territory units, public institutions, 3,800 RON *2 or 4 non- transmittable vouchers, respectively)		
2012 plain car, hybrid / electric car	RSP - car NP (5) (3800 RON*3 transmittable vouchers)	RSP - car LP (3) (3,800 RON, non-transmittable vouchers)	
2013 plain car, hybrid / electric car	RSP - car NP (6) (6,500 RON, unique, transmittable vouch- ers + extra 2 possible eco-bonuses (2*500 RON ))	RSP - car LP (4) (6,500 RON, unique, non-transmittable vouchers + extra 2 possible eco-bonuses (2*500 RON ))	
2014 plain car, hybrid / electric car	RSP - car NP (7) (6,500 RON, unique, electronic transmit- table vouchers + extra 2 possible eco- bonuses (2*500 RON ))	RSP - car LP (5) (6,500 RON, unique, electronic, non-transmittable vouchers + extra 2 possible eco-bonuses (2*500 RON ))	

Next, I will present the versions in the chronological order of their implementation. The *first* version of the policy, meant for the *natural persons*, was applied during 2005-2008. The implementation procedure is synthesized and depicted by me in *figure 6*, according to the provisions of the Government Emergency Ordinance 99/2004, Government Emergency Ordinance 38/2006, Government Emergency Ordinance 4/2007, Government Emergency Ordinance 55/2008, Order of the minister 948/2008 and Government Emergency Ordinances 217/2009 and 948/2009. Although during 2005-2009 the program was developed in five separate editions, each based on its separate legal framework (issued yearly), I will deal with these editions as one because the policy implementing procedure was identical (*figure 6*).



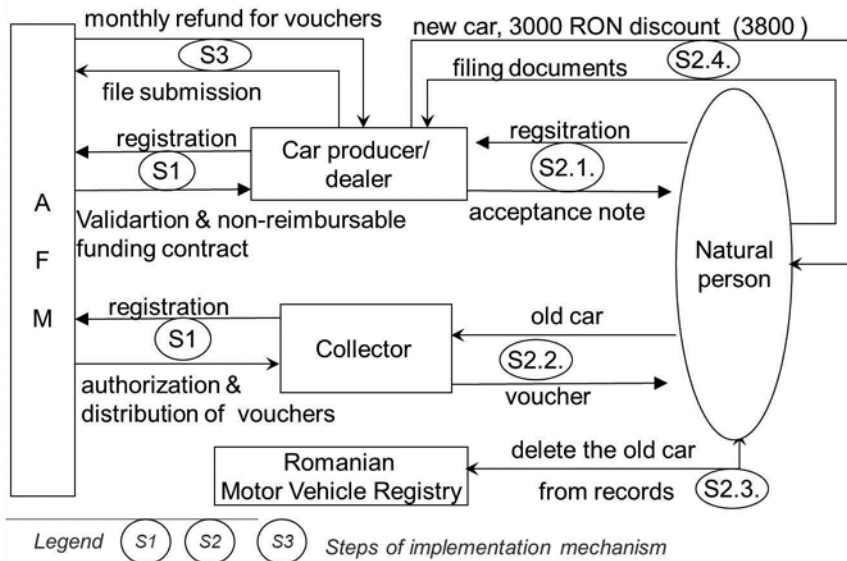


Figure 6. Romanian Scrapage Program for cars – natural persons 2005-2009

The first implementation step (S1) referred to the producers and distributors of new cars and the companies that could collect the used cars. They had to register with AFM (Environment Fund Agency) and be authorized in order to participate in the program. Following the validation, the collectors received the vouchers that they would give to the used car owners when they would come to scrap their cars. The producers received an approved allotted number of new cars they could sell with the discount borne by the state (the scrapping bonus was to be granted in the end, after submitting the voucher – S3). All these aspects were provisioned in a non-reimbursable funding contract concluded between the producer and AFM. The next step (S2) referred to the end beneficiaries, the natural persons that desired to scrap the cars older than 12 years (10 years in 2009) they owned and to purchase a new car. For that, first they had to go to a validated producer and to register in view of purchasing a new motor vehicle within the governmental program (S2.1.). If the producer had available cars (according to the number allotted by AFM), it issued to the requesting natural person an acceptance note. According to such a note, the natural person (final beneficiary) had 30 days to go to the collection center with the used car, to receive the voucher for the scrapped car (S2.2), to delete the old car from records (S2.4) and to return to the validated producer for submitting the documents in order to buy a new car. If all requirements were met, the new car could be purchased for a price 3,000 RON below that indicated

by the producer (3,800 RON since 2009), due to the scrapping bonus granted by the state. The last step of the implementation scheme (S3) involved the recovery by the validated producer of the money that represented the scrapping bonus. Thus, monthly the producer sent to AFM the files concerning the sales within RSP and the vouchers connected to them. After checking them, AFM would settle their value to the producer. The 2009 edition is introduced in *table 1* separately from the previous ones (*RSP for cars – natural persons 2*) because the differences concerning the allotted funds were, from the point of view of the decision makers, a significant change concerning the importance and value of the program in the broader picture of all approaches at central level. However, as regards the internal logic and implementation mechanism, there was no change (*figure 6*).

An advanced version of the program for natural persons was implemented in 2010 (*RSP for cars – natural persons 3*), when two important changes were introduced: the voucher was transmissible and the beneficiaries had the possibility to use cumulatively three vouchers for purchasing a new car. I have depicted the procedure connected to this version of the program in *figure 7*, according to the provisions of Government Emergency Ordinance 1683/2009. The first steps in the implementation scheme (S1 – registering and validating the producers and collectors) remained unaltered, and so did the last step (S3 – settling the vouchers to the producers of new cars). The differences occurred as regards the procedure to be followed by the natural persons (end beneficiaries) – S2. Thus, this time the relation with the collectors and that with the producers was different. The first step was scrapping (S2a1) and deleting from registries the old car (S2a2). Like this, after the car was delivered to an authorized collector, the former owner would receive the voucher, and after the car would be erased from registries, he would receive the erasing certificate. The documents together with other papers would make up the necessary file in order to participate in the program for acquiring the scrapping bonus. Considering the fact that the owner of the old car was not bound to purchase a new car and the person wishing to purchase a new motor vehicle was not bound to have held a used car, the former owner of the used car could give the vouchers to a potential buyer of a new car. Thus, a purchaser -end beneficiary could purchase three vouchers (with their related documents) and according to them, he could submit the documents for a new car (after he had registered himself with a validated producer and had received the program registration note – S2b1). After the producer would send the vouchers to AFM and the latter would validate them (S2b2), the producer could release the new motor vehicle to the requesting purchaser (S2b3).

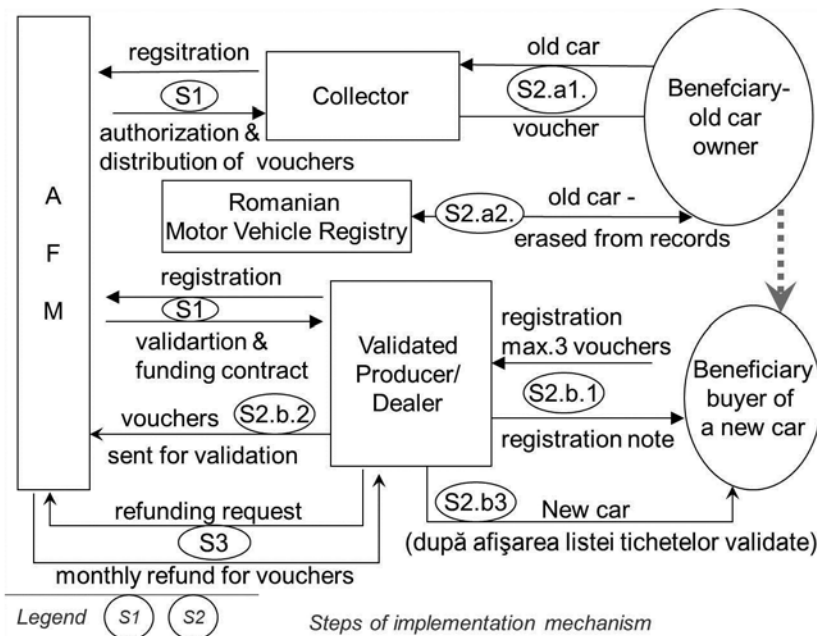


Figure 7. Romanian Scrapage Program for cars – natural persons 2010

Also beginning in 2010, according to the same legal framework (Order of the minister 1683/2009), the policy was open to legal persons: administrative – territorial units, state or private education institutions, public institutions (be it central or local), non-governmental organizations and company (O.U.G. 1683/2009, Art.10. 3) – figure.8. The implementing mechanism was kept in 2011 (according to the Order of the minister 772/2011). In the case of such types of beneficiaries, the participation procedure (*RSP for cars – legal persons 1*) slightly differed from that applied to the natural persons. A basic step (S0) required verifying and approving the program involvement of the beneficiaries by the Environment Fund Authority. If the registration files met the procedural requirements provisioned by the legal framework of the program, the requesting legal person would be registered as eligible beneficiary, situation in which it would access the next steps; they were identical to those presented for the scheme applied to the natural persons during 2005-2009. However, in the case of the legal persons, the vouchers were non-transmissible and just one voucher could be used for purchasing a new motor vehicle. An important aspect was the *de minimis* scheme applied to the legal persons. According to it and upon observing the European regulations ("Commission regulation (EC)," 2006), the state aid for 3 years could not exceed 200,000

EUR and 100,000 EUR in the case of those that developed business in the road transportation domain. Thus, as regards this, the legal persons were eligible in the program of renewing the motor vehicle fleet only if they would comply with the allowed governmental aid scheme according to this *de minimis* provisions. It must be noted that public institutions, although included on the list of eligible beneficiaries, could not access the program until 2011, due to the provisions of the Governmental Emergency Ordinance 34/2009 concerning the financial – fiscal regulations according to which the public authorities were forbidden to engage in public procurement (Chapt. 2, Art. 21 & 24). The program became accessible *de jure* to the public institutions after the publication, in the end of 2010, of Governmental Emergency Ordinance 109 (subsequently approved by Law no. 70/2011) according to which the purchase of motor vehicles became possible within RSP.

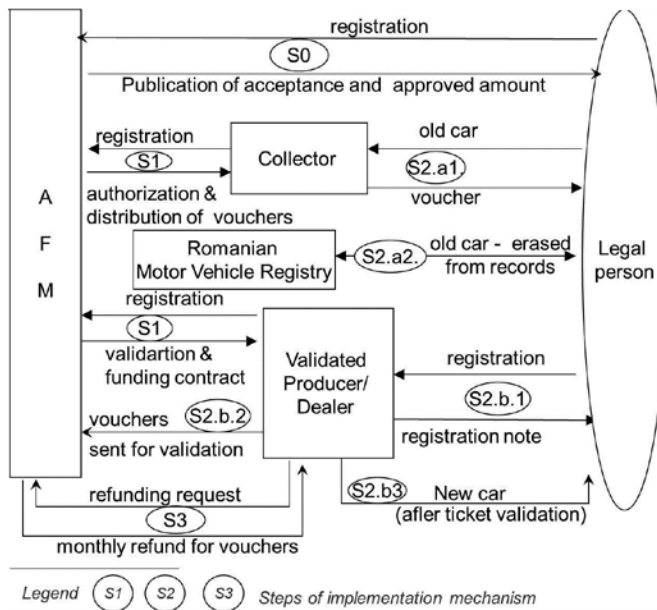


Figure 8. Romanian Scrappage Program for cars – legal persons 2010-2013

The third novelty introduced in 2010 (O.M. 2/2010) was the inclusion of tractor and self-propelled agricultural machinery scrappage as a different policy component (*RSP for tractors – natural and legal persons*). The application procedure in this case was similar to that applied to the natural persons during 2005-2009. Although this article does not analyze the outcomes of the Romanian Scrappage Program for Tractors, it is interesting that the implementation

scheme of this policy was similar to the one applied for motor vehicles. For this reason, I will briefly mention it. The beneficiaries of the program were natural persons and legal persons according to the limits of the *de minimis* scheme. For a used tractor, a scrapping bonus of up to 17,000 RON could be received. The program continued in 2011 (O.M. 577/ 2011), the implementation procedure being identical. The value of the program for tractors in 2011 was 50,000,000 RON. The total amount of the scrapping bonus was of 17,000 RON at the most, without it surpassing 40% of the purchase price of the new tractor or self-propelled agricultural machine; the price was VAT exclusive. In 2011, 49 files were approved. The Romanian program of tractor fleet renewal was not continued after 2011.

Since 2011, the procedure applied to the natural persons for scrapping the old motor vehicle has been slightly altered, according to Order 772/2011 of the minister of environment. The differences to the scheme applied in 2010 referred to the procedure of obtaining the voucher. It was altered in order to have more control and for preventing the possible fraud cases. In the previous years, the collector company provided it to the owner of the used car at the time of delivering it for scrapping purposes. In 2011, the owner was bound to erase from registries the car delivered for scrapping and then to return to the collector for taking his voucher. Aside of this provision, the other elements remained the same as in 2010 (figure 9).

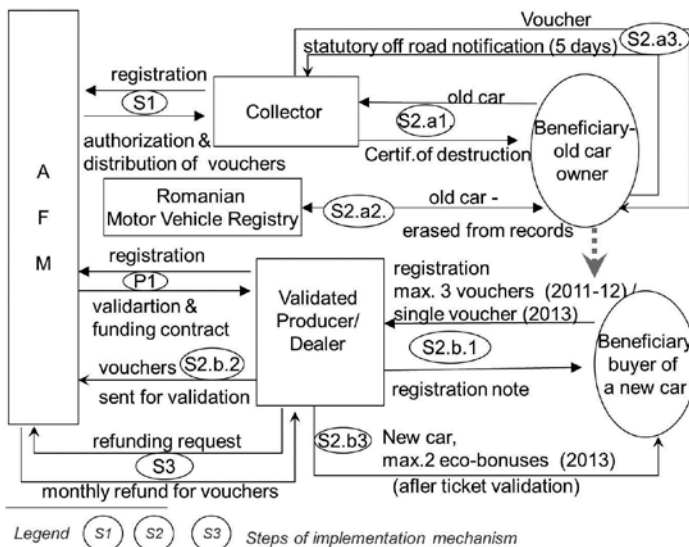


Figure 9. Romanian Scrapping Program for cars – natural persons 2011-2013

In the end of 2011, the program additionally attempted to stimulate the purchase of cars as little polluting as possible (M.O. 2073/2011) by introducing in the program the motor vehicles built with modern technologies (*RSP for hybrid and electric cars – natural persons, administrative – territorial units and public institutions*). The exact procedure can be tracked in figure 10. As can be seen, the mechanism is similar to that applied to the legal persons in 2010 and 2011. This is because the vouchers were not transmittable and according to the type of desired car, a different number of vouchers could be acquired for the scrapping bonus (4 for the purchase of a car hybrid type and 2 for an electric one). The program was developed during one calendar month (from October 3 until November 4) and benefited of available funds amounting to 5,000,000 RON (AFM, 2011-a). The policy was resumed in 2012. Starting 2013 the government did not provide the same incentives for those willing to buy hybrid or electric cars and the procedure was changed: the buyer of such a car could benefit from an eco-bonus of 500 RON to be deducted from the purchase price of a less polluting car, combined with the scrappage voucher (see scrappage implementing mechanism in 2013). Additionally, at the end of 2013 the Government launched a new program to stimulate the purchase of electric cars (H.G. 203/2013), giving eco-tickets worth 12,000 RON, paid from the state budget, this value being deducted from the purchase price of the electric car if the applicant's file was validated. It was permitted that the eco-ticket obtained under this program was used additionally to the scrappage voucher, even if these came from two different public policies.

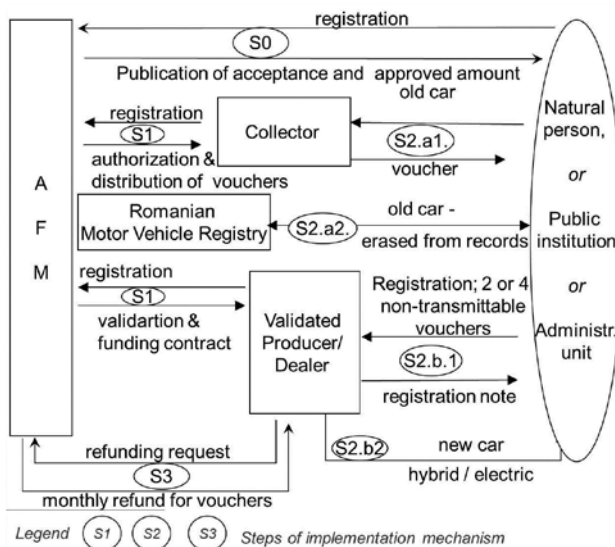


Figure 10. Romanian Scrappage Program for hybrid and/or electric cars, 2011-2012

In 2012 (O.M. 981/ 7.03.2012) scrappage policy implementation mechanism was the same as in 2011, both for legal persons (*figure 8*) as well as natural ones (*figure 9*), the only difference being that for legal persons cars aged 5 years were accepted in scrapping centers. (O.M. 2691/2012).

In 2013 (O.M. 1239/14.05.2013) the policy differed in the following aspects: the voucher value (6500 RON instead of 3800), voucher validity (maximum 45 days from issuance, otherwise its value became zero) and the impossibility to use more than one ticket. It was also introduced the possibility of receiving one or two eco-bonuses worth 500 RON each if one or two of the characteristics of the new car was of the following: compliance with Euro 6 standards, amount of CO<sub>2</sub> emissions of less than 100 g/km or hybrid system. Policy implementation procedure was the same as previous (*figures 8 and 9*).

In 2014 the program has just begun in late March. According to ministerial order 364/19.03.2014, this year are accepted for scrapping 8 years old old cars, tickets are no longer physical but electronic (thus trying to prevent fraud attempt). The voucher (transmittable for natural persons and non-transmittable for legal persons respectively) is still unique and has the same value (6,500 RON). Two eco-bonus of 500 Ron can be offered for buyers of less polluting cars, same as in 2013.

### **Risks and troublesome aspects of the RSP implementing scheme**

Most procedure flaws connected to the program of renewing the motor vehicle fleet were related to the use of the vouchers on which the policy relied. In all the years when the policy was implemented, the voucher was the main instrument that made possible the decommissioning of old cars with the advantage of replacing them by some new less polluting ones. Thus, the former owner received the voucher at the time of delivering the old car to be scrapped and, according to it, he or another beneficiary (that had purchased the voucher from the initial owner) could purchase a new motor vehicle.

The first problem, even if not the most severe, was that of *authenticity of vouchers*. The de jure institution responsible for printing the vouchers was designated the National Printing House. Nevertheless, in 2010 forged vouchers were used on the market. In the monitoring reports issued by the press during that year and from the official declarations, information concerning this type of fraud appeared. Although the number of vouchers that were used

during all the years was high, the troublesome cases were very low in number (up to 8). This emphasizes the efficient management of the program by the public authorities from the procedural point of view and from that of the communication regarding this matter, because the worrisome aspects were rapidly made public, presenting the characteristics of the authentic vouchers and the methods for identifying the possible fraudulent practice. This kind of frauds were hindered since 2011 by complicating the procedure of issuing the vouchers (please refer to the implementing mechanism of the program for natural persons in 2011 – *figure 9*).

The second problem was that connected to the different *value* the vouchers had at the time of receiving and selling them respectively (for the transmittable tickets). Each voucher received as consequence of scrapping an old car amounted to 3,000 RON (3,800 RON since 2009). Nevertheless, some of the former owners benefited of much smaller amounts as consequence of scrapping the used motor vehicle, while some of the new clients purchased the vouchers in exchange of much greater sums than their market value. This was the consequence of the approaches applied starting 2010 according to which the voucher became transmittable, the owner of the scrapped car not being bound to purchase a new car but being able to assign or sell the voucher. Thus, the *vouchers market* appeared. There were three types of behaviors concerning this. The first behavior pattern was that used by the car dealers. They bought vouchers for very affordable prices and then made them available to the clients interested in purchasing a new car from them, thus benefiting of the Clunker Program.

Considering the advantages of such an option (exempting the client of the effort and time, as well as providing the safety of being included in a typical procedure), the dealers were able to trade these vouchers for much greater prices than they were sold on the market at those times. Many sellers / buyers of vouchers chose a second option: the free market, without the dealers acting as intermediaries. According to some factors related to voucher selling behavior, some of the former owners obtained money ranging from 800 to 2,500 RON for one voucher sold. The most significant of these factors were: the time of the sale (in relation to the availability of the preferred new car); the time availability of the seller and the efforts he invested for finding a buyer; the ability to promote the voucher and that of choosing the adequate channel for searching buyers and, not least, the selling market per se. Those that oriented towards the smaller markets and sold their vouchers during the first time of the year, thus taking advantage of a greater demand, were able to acquire



higher prices by comparison to those that postponed the selling of vouchers for the last part of the program or took them to big markets, considering that the supply was already very high and the price inversely proportional. Third, speculative business was developed based on trading the vouchers using less ethical behaviors with respect to buying and selling goods supported by the state budget. Thus, on the market there were actors (mainly natural persons, and not legal ones) for whom searching for very old cars, delivering them to the collecting centers and selling the vouchers on the free market became a source of significant income; on an average they gained 150 EUR for each such transaction. Faced with such practice, the public authorities remained neutral.

Thus, in an official declaration of 2010, the AFM manager stated, in connection to the market for trading the vouchers that "it is a matter of demand and supply; we are not interested in what happens with the vouchers. Our main goal is not to purchase new cars; we are interested in getting rid of the polluting cars." (AFM Manager, 2010). The worse case regarding the real *value of the vouchers* was when these were accessed but, without being used, their value did not materialize. Some former owners of old cars, although they scrapped them, had no benefit following this action because they did not want to buy a new car nor were they able to sell the voucher during the period provisioned in the governmental program. Thus, the value of such vouchers became null. Along the years, the government temporarily extended the period of selling the vouchers due to this (by approximately 2 months over the announced deadline), thus allowing the beneficiaries to sell them. Nevertheless, the practice was not 100% successful. Officially, this, as well as that of the different price offered in exchange of the vouchers, was considered a problem of the market and not of the public authorities. The official stand of the competent institutions, presented by the AFM manager, was that "each owner of a voucher is free to sell it as he deems and when he deems fit; if you will, it is similar to a transaction with banknotes" (AFM Manager, 2010).

### **Contextual factors related to the Romanian Scrappage Program**

For an in-depth analysis of the policy of renewing the motor vehicle fleet in Romania, we cannot overlook the framework approaches implemented by the Romanian state in order to acquire the European Union membership. Thus, the requirements that Romania had to meet for being an eligible candidate included those concerning the environment protection. As well, the interna-

tional regulations in that area could not be disregarded. From an economic point of view, two aspects must be considered. First, the policies of renewing the motor vehicle fleet must be understood in the broader context of the economic depression of the last years; it is a supplementary motivation for such programs developed at international level. Secondly, in Romania this policy must be connected to another relevant policy that addressed the same problem: the first registration fee.

As regards the European environment policies concerning the transportation, they are part of the broader picture of the European strategy for sustainable development sketched in 1998 during the Cardiff European Council. Although the European Commission had adopted since the 1970s a legislation concerning the improvement of air quality and control of harmful substance concentrations, this aspect remained an important problem on the European agenda (CRJ, 2004). In this meaning, a series of *approaches for limiting the air pollution* have been adopted at European level; some of them explicitly envisaged the diminishment of fuel consumption for the motor vehicles belonging to natural persons (Directive 1999/94/EC and Decision 1753/2000/EC) and promoting the non-polluting motor vehicles. They were part of the vaster worldwide concerns regarding the reduction of air pollution, which was identified as the main cause of global warming. Two legal frame instruments can be mentioned here: *United Nations Framework Convention on Climate Change* (1992) and *Kyoto Protocol* (1997). Romania has ratified both agreements. As signatory of the Kyoto Protocol (April 29, 1998) ("Kyoto protocol on -"), in 2000 the European Union adopted the *Green Paper* ("Green paper on", 2000), a program that comprises approaches in the transportation domain. As indicated by the official document launched by the European Environment Agency in 2002 ("Term 2002 -," 2002), although in 1990s the CO<sub>2</sub> emission was decreasing, in the years 2000 it began to be worrisome given the high traffic. Thus, the emissions coming from the transport activities increased at European level by 19% by comparison to the 1990 – 2002 period. (EEA, "Term 2002 -," 2002, p.16) The road transportation was identified as the main source of CO<sub>2</sub> emissions among all the other transportation types, it being also the cause for other problems connected to the environment and the quality of life (such as noise pollution) (EEA, "Term 2001 -," 2001).

Concomitant with beginning the *accession negotiations to the European Union*, in 2000, the environment policy in Romania was adjusted to the *2000 Agenda* for candidate countries. According to the obligations accepted by concluding the *Chapter 22 of the Accession Treaty (Environment Pollution)*, the Romanian

state became engaged in actions for adaptation to the EU objectives. In 1990, the CO<sub>2</sub> quantity released in the air by Romania represented almost 4% of the total emissions of the 28 countries that are now part of the European Union. This was an optimistic situation, considering that during 1990 – 2000 the CO<sub>2</sub> emission at the level of Romania diminished by approximately 50% (EEA, "Term 2001 -," 2001) The Environment Chapter of the Accession Treaty was not troublesome for Romania, but given the pre-accession context, the environment aspects have been dealt continuously with seriousness. The program of renewing the motor vehicle fleet was promoted by the central authorities also as part of the efforts made by the Romanian state to comply with the European and international regulations concerning the air quality and limitations of pollution.

Another significant aspect for the contextual understanding of the program of renewing the motor vehicle fleet at international level is the economic one. The economic depression felt at international level since 2008 attracted negative economic effects all over the world, in almost all activity areas. For the motor vehicle producers, the global depression meant a lower demand for the goods they made and, as consequence, diminishing the work hours, extending the leaves of absence, temporarily closing down some factories or even dismissing the employees. Given the economic depression context, the programs of renewing the motor vehicle fleet were also implemented under the form of some policies of economic stimulation and incentive provision in countries all around the world. Thus, with different contextual specific and results, the governments of several countries developed such programs: Austria, Canada, China, France, Germany, Italy, Ireland, Japan, Luxembourg, Great Britain, Norway, Portugal, Slovakia, Spain, and the United States of America (Cooke, 2010, "Cars program official," Alfred & Tepe, 2011, Wee et al., 2011). In Romania, alongside with the objectives regarding the environmental issues, the program of renewing the motor vehicle fleet was also meant to support the economy by boosting the domestic production and increasing the sales of new cars. This signified supporting the business in this area, determining the increase of the activity volume, as well as increasing the volume of taxes of which the state was worthy (profit tax, VAT).

The first registration fee in Romania is a policy connected to that of renewing the motor vehicle fleet. This implied paying a fee for the cars first registered in Romania after January 1, 2007 according to the next factors: pollution degree (according to the European norms), cylinder capacity, and old age of the motor vehicles. It is also part of the environment policies and is similar to that

concerning the renewing of the motor vehicle fleet. The purpose of the policy concerning the first registration fee was that of “ensuring the environment protection by improving the quality of air and complying with the limit values provisioned by the EU legislation” (O.U.G. 50/2008). The approach was initiated as an environment policy and it favored in various phases the purchase, for being used on the territory of Romania, of new cars while disregarding old ones (2007), then of Romanian cars (be they old) while disregarding the imported ones (2008). Then, it focused on both desiderata: encouraging the purchase of local cars instead of imported ones and of new cars instead of old ones. Thus, the purpose of the policy was confusing; it was seen as an anti-pollution approach or as an attempt to protect the Romanian space against the absorption of used cars coming from other EU member states (thus, also as an environment approach) or as a policy of supporting the local production of motor vehicles (economic approach). In itself, the policy was evaluated by the public as chaotic, mainly considering the multitude of versions it had from 2007 and until now and given its correlation to the wave of internal dissatisfaction at the level of beneficiaries and of the European institutions, which believed the program discriminatory. Thus, they determined the Romanian state to alter it countless of times.

*Table 2. Romanian car market 2005-2013*

year	total of new cars purchased in Romania	total of second hand cars purchased in Romania	total of new cars purchased in Romania - imported	total of new cars purchased in Romania - made in Romania	rate of new car acquisition (produced in R / imported)	new cars bought using RSP	total of new cars produced in Romania purchased in RSP	rate of new car acquisition in RSP: produced in R / imported
2005	215,532	74,000	102,043	113,489	1.11	14,607	?	?
2006	256,364	118,000	137,252	119,112	0.87	15,110	?	?
2007	315,621	123,842	204,719	110,902	0.54	16,444	?	?
2008	271,000	300,885	188,954	82,046	0.43	30,466	?	?
2009	130,000	212,900	91,500	38,500	0.42	32,327	?	?
2010	106,000	214,606	72,000	34,000	0.47	62,550	25,000	0.67
2011	94,624	100,000	66,000	28,624	0.43	39,216	15,000	0.62
2012	86,253	175,000	65,648	20,605	0.31	8,354	3,998	0.92
2013	80,848	222,000	59,606	21,242	0.36	13,385	7,000	1.10

Based on data from *table 2* we can track the car market in Romania from 2005 – 2013 according to the official numbers, in the cases where they exist. In 2007, a record year for the motor vehicle market, when Romania entered

the European Union, waived the excise taxes and introduced the first registration fee, the demand for the Clunker Program was of almost 100%. However, given the context of the European contestation of the first registration fee, the Ministry of Environment of that time declared that "The Clunker Program is pointless if the first registration fee will be removed" (Minister of Environment, 2007). This did not materialize because the first registration fee was maintained under a different form.

In the next years, the fluctuations concerning the first registration fee generated changes on the motor vehicle market. Thus, the 2008 approval of a new version of the fee by which a greater amount was paid for registering new cars and a smaller one for registering the old ones was reflected also on the car sales (over 51% of the motor vehicles purchased were used). As well, in 2008 the RSP registered a success rate below that of the previous year (76% by comparison to almost 100% in 2007). This can be deemed a consequence of increasing the number of cars envisaged by the program (three times more than in the previous year) and an effect of the general economic depression. In the end of 2008 and beginning of 2009, the decision to triple the registration fee (subsequently diminished to half) of the old cars yet unregistered in Romania led to decreasing their price and the interest concerning their purchase, given the fact that the fee was greater than the price of the car, which made the purchase unattractive. At the same time, this led to increasing the interest for new cars and for the old ones already registered in Romania, a fact that determined the increase of their price.

However, as the numbers show, all these did not translate into changing the balance concerning the purchase of new cars while disregarding the old ones, but more into keeping on a short leash a possible boom of used cars traded on the Romanian market, which might have occurred lacking the first registration fee. However, regarding the market of new cars in Romania, stability was a characteristic. As can be seen in the diagram of *figure 11*, although the total sales of new cars diminished in Romania, given the global economic depression, the ratio between the cars made in Romania and imported ones respectively indicate a very low decrease during 2007 – 2013. This might be a result of both first registration policy and Romanian Scrappage Program.

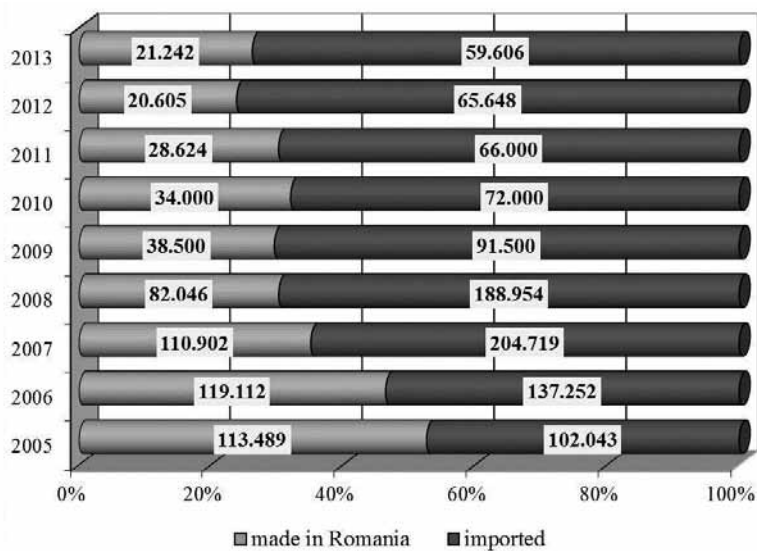


Figure 11. New car sales (total) in Romania 2005-2013

### Romanian Scrappage Program – a simple incremental policy

The Romanian Scrappage Program registered continuity under the management of nine different governmental formulas in its 9 years of implementation. In this section, I will deliver an analysis of the factors that indicate the characteristics and limits of Romanian Scrappage Program decision-making model. For that, I will consider three directions of analysis, referring to data presented in detail in previous sections: (1) policy evolution over the years, (2) efficiency of policy implementation procedure and (3) policy results. In this context, I will discuss RSP efficiency and I will point out the decisional model.

When analyzing into detail the legislative framework on which the program relied, it can be seen that the first document substantiating it was the *Government Emergency Ordinance no. 99/ November 10, 2004*, approved with modifications by *Law 72/April 7, 2005*. At that time, the regulations were based on Law no. 143/1999 concerning the stat aid and on Law no. 73/2000 concerning the Environment Fund. From that time, the policy was perpetuated each year, being issued in total some other 52 normative acts of which: 5 emergency ordinances, 26 ministerial orders of the minister of environment, 18 orders of the AFM president, and 3 Government Decisions. The latter altered the provisions concerning the management of decommissioned motor vehicles and thus their applicability was

not limited to RSP. The main modifications as regards the *provisions of the policy* referred to the next aspects: *value of the vouchers* (3,000 RON at first, 3,800 RON since 2009, and 6,500 since 2013); *age of the car that could be scrapped* (12 years at first, then 10 years, and 8 years since 2014, and for legal persons – 5 years in 2012 exclusively); *types of cars that would be scrapped and purchased using the vouchers* (only cars in the beginning, any motor vehicle since 2009, cars and tractors in 2010 and 2011, plain motor vehicles and electric and hybrid cars since 2011); *number of vouchers that could be used for purchasing a new car* (1 voucher in 2005-2009 and in 2013-2014; 3 vouchers in 2010-2012 only for natural persons, for purchasing one new motor vehicle; 2 vouchers for a hybrid car and 4 for an electric car for any beneficiary in 2011-2012); *ownership right on using the voucher* (non-transmittable no matter the beneficiary in the beginning, transmittable only for natural persons since 2010 and only for buyers of plain motor cars). Not lastly, an important change along the years was that concerning the financial resources allotted to the program. Thus, beginning with the success registered by the policy in the first years, it benefited of strong governmental support. In the diagram of *figure 12* can be seen the slope of amounts granted annually to the program.

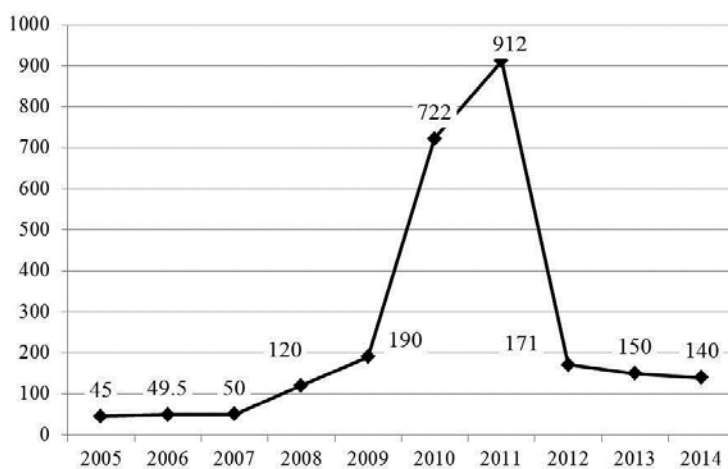


Figure 12. RSP budget allocation 2005-2014 (RON, millions)

For the second direction of analysis, regarding the *policy implementation efficiency*, I will refer to four indicators: ease and accessibility of procedures implementation, voucher fraud attempts, voucher market and the real value of the vouchers. First, regarding the degree to which *the target beneficiaries understood the program*, as well as the operation manner of the *implementation procedure*, a comparative analysis along the years shows a growing trend. The 2005 edition

of the program registered a slower development, which was slightly ambiguous and the procedure had a vague character for the beneficiaries, at least in the first period of implementation. Reactions on the online forums (low in number for year 2005) show precisely this: “*there’s nothing tangible... (...) ... it’s either in April, either in March; Remat [the metal recycling company in Romania] has no idea...*” (Aeon, 2005), “*should I take it that the Clunker program had begun at Dacia this morning, at 8:00 AM? And it ended at 10 A.M.?*” (Tupac, 2005). “*You should’ve seen the chaos in Brasov. 900 people that were standing in line since 2 AM and at 8 A.M. there were only 110 available cars*” (Bitsi, 2005).

As well, there was slightly difficult coordination between some car dealers and AFM, thus that the end beneficiaries found themselves sometimes bound to wait a long time until being able to take their new car, even if they had already fulfilled their obligations to the dealer: “*Instead of 10 days (I was unaware of this term anyway), as the wait period should be, they say it will last a month. During all this time, my car is in the dealer’s yard because they say I didn’t pay for it!!! I paid everything but the car is not paid by Remat. However, I’m to blame and what can I do to get it sooner?*” (Mihai, 2005).

Beginning with the next years, such problems never occurred and the implementation procedure was carried out easily. Moreover, yearly large amounts of the allotted vouchers were accessed in a very short time, which led authorities to supplement their numbers. Second, regarding the authenticity of the vouchers, the fraud attempts were few, briefly solved and new provisions were introduced in policy implementing mechanism in order to prevent future attempts. Yet, the other two indicators, although not assumed by the authorities, show problematic aspects regarding policy implementation efficiency. The fact that there was an uncontrollable voucher market, trading goods supported from the state budget should not be overlooked. As well, in the absence of any regulation regarding the matter, the value of the vouchers was not guaranteed so that some owners of scrapped old cars had few if any benefit from accessing the program. Some people (even others than the target beneficiaries of the policy) gained unfair advantage whilst others (owners of the old scrapped car), not being able to find buyers for their voucher, gained nothing, not even the amount they would have received taking their old car in pieces as scrap, without accessing the governmental program. These aspects were omitted when drawing the policy scheme and were not taken into consideration afterwards either, although they could have changed the policy efficiency.

Finally, regarding the third direction of analysis, in terms of efficiency of *policy results*, three dimensions should be tracked: scrappage rate, fleet renewing rate



and rates regarding the age of Romanian vehicle fleet. As regards the scrap-rate (87% on an average), this is definitely a successful one (figure 1 and 2) almost 500,000 old cars being withdrawn from national roads, as shown in previous sections (AFM, 2014). As regards the efficiency of renewing the motor vehicle fleet within the program, it also registered high values. The average renewal rate for the implementation period of 2005-2013 was 50%. During these years almost 500,000 used motor vehicles were scrapped and nearly 250,000 new ones were purchased through this program (AFM, 2013). Here we must take into consideration the fact that during 2010-2012 (where we find 71% of total scrapped motor vehicles within the whole program and 46% of total purchased respectively) one new car could replace three old ones in the case of natural persons (by far the most numerous type of end-beneficiaries). Thus, the actual renewal rate could be translated into a much greater value, approaching 90%. Regarding the car acquisition in Romania, as shown, the ratio between motor vehicle produces in Romania and important ones remained almost constant (figure 11). Domestic producer Dacia was one of the main beneficiaries of RSP among all car producers or dealers in Romania.

The third dimension of investigation regarding policy results however shows less favourable outcomes of RSP. After 9 years of implementation the policy did not manage to lower the average age of Romanian car fleet (figures 4 and 5) and neither the rate of old car acquisitions compared to new ones (figure 13) but on the contrary (APIA, DRPCIV).

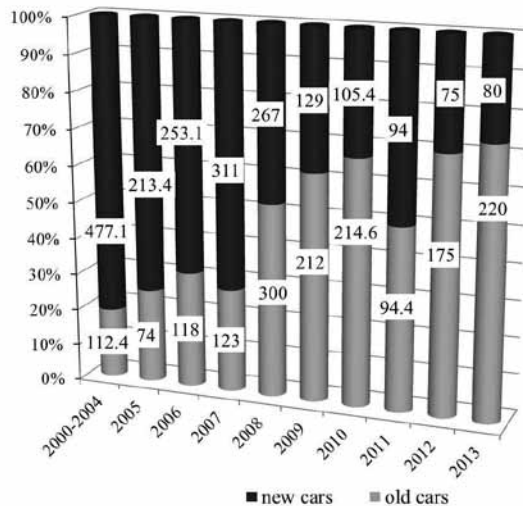
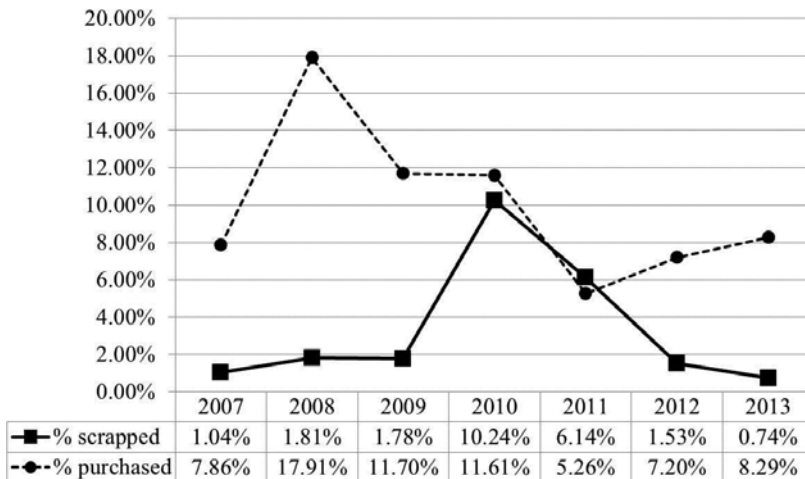


Figure 13. Number of old and new motor vehicles registered in Romania 2000-2013 (thousands)

A clear picture of the situation can be understood putting together data regarding: total number of old cars, number of scrapped cars and number of old car purchased (table 3).

**Table 3. Romanian old motor vehicles 2007-2013**

year	Romanian motor vehicle fleet – numbers (millions)	Romanian >10 years old motor vehicle fleet in numbers (millions)	Total of second hand cars purchased in Romania	Total of scrapped cars using RSP	% purchased old cars / total old car fleet	% scrapped cars / total old car fleet
2007	3.5	1.6	123,842	16,444	7.86%	1.04%
2008	4	1.7	300,885	30,466	17.91%	1.81%
2009	4.23	1.8	212,900	32,327	11.70%	1.78%
2010	4.3	1.8	214,606	189,323	11.61%	10.24%
2011	4.32	1.9	100,000	116,641	5.26%	6.14%
2012	4.5	2.4	175,000	37,072	7.20%	1.53%
2013	4.7	2.6	222,000	19,900	8.29%	0.74%



**Figure 14. Rates of scrapped and purchased old motor vehicles in Romania 2008-2013**

The last two columns of the table indicate for each year the rate of old car increase according to old car newly bought and decreases according to scrapped old cars respectively. Thus, one can see that the old cars newly inserted on the road (in addition to those already in use) exceeded by far the scrapping numbers resulted from RSP, with only one exception in 2011 (figure 14).

From the investigated data, we cannot say the exact age of old car purchased. However, considering the trend of average age of Romanian motor vehicle fleet and the annual rate of total old car and its evolution, we can conclude that the second hand purchased cars were old enough as to diminish the good results of governmental scrapping program.

We can objectively consider that the policy successfully achieved its aims, given the fact that in the policy official documents the efficiency indicators were assumed as measured on the number of scrapped cars relative to the allotted budget and nothing more. However, the fact that the policy only targeted some minor implementation corrections and was not focused on a greater number of real problems clearly shows that we are dealing with an *incremental policy* but that it is not one based on disjointed incrementalism but on a *simple incremental analysis*. Most of the changes made over the years represented slight adjustments of previous implemented provisions but did not reflect a strategic plan. The outcomes show the lack of a complex analyze and of a integrated approach that could address the problem more effectively and would have placed this policy in the category of those based on disjointed incrementalist decision-making. We can see the policy performance outputs and outtakes, which indicate a successful incremental policy. However, considering the outcomes and the problematic aspects indicated as regards to policy implementation, we conclude that RSP is to be considered a simple incremental decision-making based policy.

## Conclusions

Implemented during a 9 years period under nine different governmental formulas, the Romanian Scrappage Program can be evaluated as a partially efficient policy if we make a long-distance analysis regarding all its results. The assumed objectives have been met and the process of policy implementation went rather smoothly and well. Assessing however, the overall picture, we can identify a number of limitations without which policy effectiveness could have been higher.

Taking into account the actual results of the program, we can easily highlight positive outcomes. In terms of Romanian European integration, the objectives were met, the Chapter on Environment not being considered a problem. Second, regarding factual data, nearly 500,000 old cars were scrapped and withdrawn from national roads, using an average of almost 90% of the allot-

ted resources. By comparison to the number of almost 1,556,000 cars (AFM and APIA), which represents the total sales of new cars during the period of implementing the policy, it can be seen that those purchased by the governmental program represented 14.5%. As well, it must be mentioned that the local producer Dacia was one of the most successful beneficiaries of the program. However, looking at the general picture, after 9 years of RSP we can not necessarily say that Romanian buyers were inclined to go after new cars rather than after old ones nor that we see a considerable decrease in the number of old cars registered in Romania but rather on the contrary. In this context, arises the matter of the real effectiveness of the policy, not only the efficiency of its implementation with respect to policy provisions. Even more, there is a risk related to the present and future economic implications of this policy. As shown, the budget allocation did not have a constant slope. After a slight increase (2005-2009), there came a sudden increase (2010-2011) and then a sudden decrease again (2012-2014). Such an irregular variation could cause negative effects, especially for the dealers and producers that benefited the most from this program. Insofar as the policy was designed to have also the role of economic incentive, an adverse effect could appear because of sharp irregular subsidies and their sudden decrease.

I believe that decision-making model that characterizes this policy bears in its nature explanation to its shortcomings. The Romanian Scrappage Program represents a simple incremental policy, not one based on disjointed incrementalism. By reference to the objectives set by the policy and the usage of allotted resources, this program was very successful. Considering a general evaluation, however, the policy lacked a coherent integrated strategy to address the problem and the involvement of the stakeholders in the process of policy-making. The policy had good results but its effectiveness would have been higher if it were designed based on periodic complex strategic analysis regarding the problem and not just as a set of incremental changes of previously applied solutions.

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