IMPLICATIONS OF GOVERNMENT ON SUTAINABLE DEVELOPMENT

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Abstract*: This paper aims to exemplifying the implications of governments on supporting sustainable development, emphasizing the correlation between government action and sustainable development, and also, the importance of interdependence between the aforementioned terms. In fact, by achieving the goal of sustainable development, we talk about economic growth and environmental protection, all having direct implications on the community. Through this analysis, by exemplifying government actions towards research development and innovation and promoting a tax system that meets the requirements of sustainable development, we want to build a research for community that emphasize the importance of good collaboration in the binomial: government, civil society . The results will suggest that the support of governments, investment in innovation, research and development, strengthen public finances, recreate circumstances for development that meets the needs of the present without compromising the ability of future generations. For our analysis, we retrieved data from the Eurostat for the period between 2008 and 2014, including the EU 28 member states.*
Keywords*: governments, sustainable development, civil society.*
JEL Classifications*: G28, Q01*

1. INTRODUCTION

Contemporaneity shows that the government is an important actor both in politics and in economic and social area. In the context of strengthening global efforts in solving the challenges of sustainable development, arises more often the issue of creating an economy based on knowledge and innovation and to consider the issues relating to sustainable consumption and production, social inclusion, public health or natural resources and climate change and energy (Cook et al., 2013). The global implications, with the competent entities and studies from this level (Aall, C. & Norland, I.T., 2005), we report an approach like "Millennium Development", the aim being to launch a development process that is based on the achievement of sustainable development (ONU).

Development is a complex process and cannot be 'programmed' through linear interventions (Easterly 2001), but we can say that government decisions play a essential role in critical periods of the economy and the way in which these decisions they find the incidence in practice, could determinate the future of an entire generation. From a theoretical point of view, in fact, in achieving the goal of society based on knowledge and innovation in wich the growing is done with care for future generations and create a favorable environment for sustainable development, an important role has both government and civil society (Arnăut, 2014).

A fruitful approach to understand the phenomenon may be to study its importance for the comunitiy, so we agree that, in other words, this fundamental objective of the EU, brings together several components of the economy, social policy, environmental policy, continue to improve the quality of life and welfare for present and future generations. To give meaning to the term, and to shouw the importance of this resersch, we also identified that the reality of contemporaneity, illustrate that we can not be safe, and we must confront with social, environmental, political and economic issues, and the most important decisions should refer to a correct approach of socio-economic challenges in order to face up to the globality challenges (Aall & Norland, 2005). In this context, we speak of inclusion strategies and working procedures who regards important issues such as: poverty and allocation of funds for education, economic development and technological innovation. Central objective pursued should be a balance between economic growth and social development, safeguarding environmental capacity to support human life on this planet, and to achieve this goal, besides the implication of international action, we believe that an important role is played by the Governments but also civil society.

The results of this research lead and providing a viable point of view for community, by the fact that the emphasize of binomial importance Government-Civil Society, highlights the current level of uncertainty about the future of economic and ecological development, answering this question: Sustainable development is a myth, truth or challenge? In fact, sustainable development need to goes beyond merely trying to achieve the Millennium Development Goals, but we could say that we are witnessing to the continued efforts of support sustainable development in defining and creating a matrix decision with finality achieve this goal.

This paper presents aspects of certainty in wath regards the importance of government action, showing that the overall objective of eradicating poverty is not only the competence of social entrepreneurs, but also the competence of governments and all civil society.

2. SUSTAINABLE DEVELOPMENT AND THE MILLENIUM DEVELOPMENT GOALS

In 1987, Gro Harlem Brundtland put forward the global objective of achieving sustainable development (SD). She had been tasked by the United Nations General Assembly (1983) to ‘make available a report on environment and the global problématique to the year 2000 and beyond, including proposed strategies for sustainable development’. Brundtland decided that the main goal for the proposed global efforts was to find a path of balanced social and economic development compatible with a notion of social equity across space and time (United Nations General Assembly 1987). In other words, as a minimum of requirements, it has imposed the need to provide a basic level of humanity, the foundations of subsistence allowing coexistence in dignity, with a balanced consumption and resource use (Dovers, 2005). Although it has been treated separately, the current approach reflects more directly the governmental interferences on the consolidation of studied phenomenon, since in 2000, during the largest assembly meeting

of states" representatives, both poor and developed countries were adviced to implement new measures to eradicate poverty, promote human dignity and equality and take environmental protection actions.

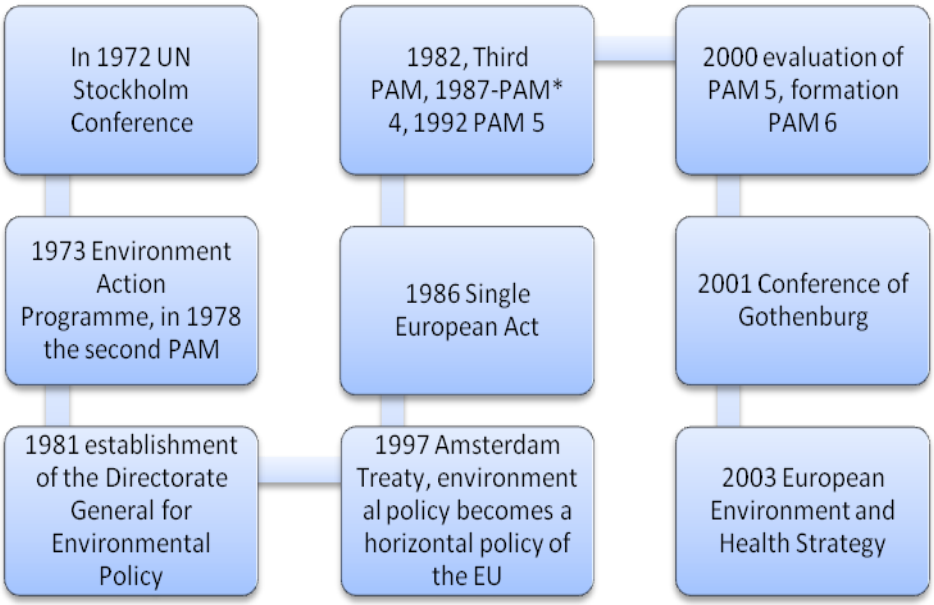

Fig. 1. Evolution of the measures undertaken to strengthen the sustainable development concept
Source: own processing based on data from the European Commission- PAM- Environmental Action Programme in present we have PAM 7*

To strengthen and to put on a solid basis the concept of sustainable development ONU, has defined a set of millennium development goals, based on a resolution adopted in 2000. For the purpose of providing clearer image of the measures taken to that date, according to fig. No.1, we relief the situation much more clearly.

Briefly, we can ascertain that sustainable development is a concept whose status allows an inter with vast areas and its genesis and the measures taken to strengthen the phenomenon, showing not only a concern to achieve the objectives in government strategies and especially a carefulness for life in the present and future. But the realization that decades of experimentation and large-scale efforts of multilateral development organizations have not revealed any replicable designs that would enable sustainable economic development on a truly global scale reflects Brundtland's (1987) concerns at the lack of a 'blueprint for sustainability', explain the usefulness of this research.

3. THE NEED FOR INNOVATIVE ACTIONS AND CONSOLIDATION OF A ENVIROMENT FOR FUTURE GENERATIONS

Started to the objective of this reserch, if we analyze the specialty literature, we will notice that in its efforts to achieve the goal of sustainable development, there is need to involve both from entrepreneurs, governments and the civil society as a whole. The

study will highlight that there is a direct correlation between R & D spending, with the purpose of strengthening innovation, energy and climate change and eco-innovation. Also, even if our analysis is based on these two variables, based on studying international reports (http://ec.europa.eu/eurostat/data/database), we need to say that we identify a correlation between official assistance for development as a percentage of gross income and the generation of waste in each of the 28 EU Member States. Because the main beneficiaries of actions for sustainable development are even members of the community, relief figure below implications of sustainable development on the community.

Fig.2. The implications of sustainable development on the community
Source: author's vision

In light of the desire to redefine the identity of sustainable development, its importance, the pillars on which rests and also the extent to which government policy is able to promote and sustain balanced socio-economic development, environmental protection as an integral part of the development process, we emphasize coordinates from the EU 28 context, with analysis of both the R&D expenditure and the sums allocate for the official development assistance as a percentage of gross income.

Of course that we speak about sustainable development with implications for reducing environmental pollution, in which states have resorted to measures such as: green taxes, increasing the cost of gasoline, taxes for environmental protection, lowering taxes on some businesses and increase to more polluting sector, introduction of other taxes to create financial resources to be used for environmental purposes or implementation of fiscal environmental reform. To maintain constant budget revenues, we can even talk about a classification of economic and fiscal instruments established to protect the environment, established by the OECD. The reason that I chose to talk about these issues due to the fact that even in this way, we highlight the correlation between government and sustainable development, because the term environmental fiscal reforms (EFR) refers to a range of taxation and pricing measures that can raise fiscal revenues while furthering environmental goals.

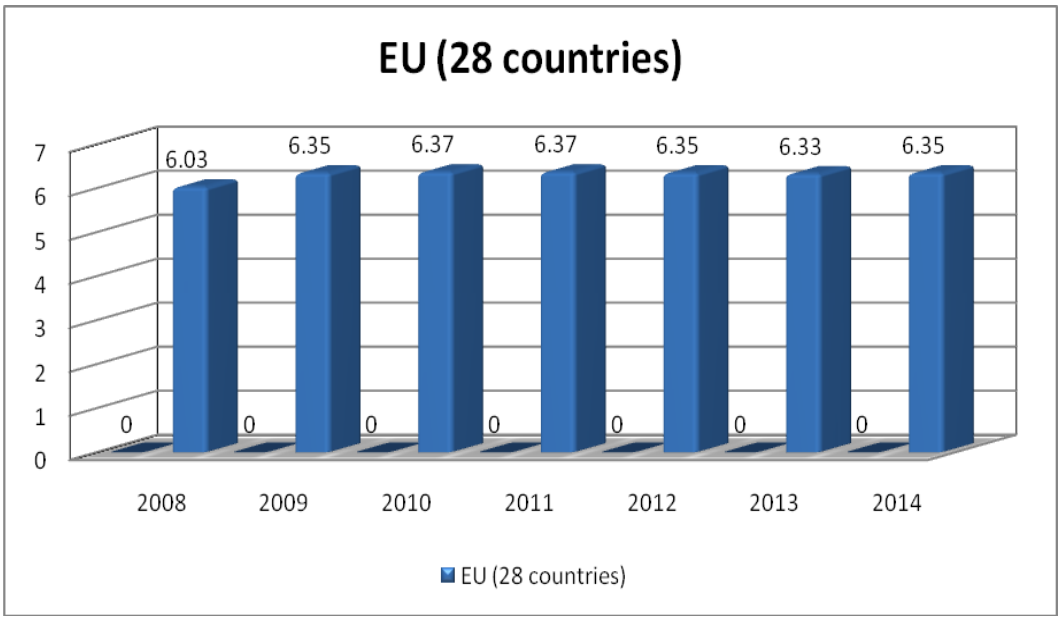

Fig. no.3 Evolution of environmental taxes, the EU countries
Source: Processing the data provided by: http://ec.europa.eu/eurostat/.

One of the key players in the regional economic sustainable development process is government with his levels (national, regional and local). In this context, authorities create the legal, fiscal, and regulatory environment that encourages job creation, competitiveness, economic growth, the improvement of quality of life. As we can see in the chart above, given that they are talking about long-term view, the measures taken, requires a particular approach, addressing the requirements for establishing a society in which environment and thus the necessary resources generations next are protected and economic development is done simultaneously with their judicious approach and a strategy to meet the goal of achieving sustainable development. In fact, the evolution of environmental taxes, related in fig. no.3, shows a growing concern as far as that goes environmental protection, with an upward trend. In case of tax burden high, also the degree and the economic development is slow but what is intended to highlight is that in other terms, with different coordinates, economic freedom and tax may constitute prerequisites for recovery and development sustainable. In this way, if we if talk of about a strategy based on economic freedom, with the tax instrument, we can talk about strengthening the foundation to achieve the goal of sustainable development (Marinescu & Staicu 2006). In fact, through taxation, can solve many of the problems related to environmental protection, knowing the fact that through the vision of citizens and researchers in the field, taxation can be a tool for achieving the targets whose utility depends very few opportunities (Leibfritz & Thornton, 1997).

In another context, if we discuss about taxation and sustainable development it is necessary to say that there is a need to reduce fiscal pressure stepped on the work, but also strengthen fiscal institutions in the field of control, strengthening the role of fiscal and budgetary policy (Arnăut, 2014). Even if fiscal policy objectives are grounded in

base of provisions included in the Stability and Growth Pact, the coordinates economic policy will take account of the principles contained in the Broad Economic Policy Guidelines (Altar, 2012). We discuss in this way, not only about implications of international entities, but also the implications of civil society. A study realised by researchers from Bruxelles (Luff, 1996) pointing out that like any art, sustainable development, could benefit from the active involvement of citizens. Sustainable Development Strategy of the European Union, seen as the main political document for strategic decision making and integrated sustainable development, containing principles that reflect the process of governance in Europe and the connection between governance and sustainable development, is provided in the 1987 Brundtland report.

Basically, in fig no.3., wanted to flesh out that over the seven years of review, there have been efforts in wath regards the realization of a tax system that would support sustainable development, protecting the environment and relying economic development, but in base of initial hypothesis formulated, we continue research by highlighting the correlation originally specified.

4. THE ROLE OF GOVERNMENTS IN THE STRATEGIC DIRECTIONS OF SUSTAINABLE DEVELOPMENT

In 1987, the World Commission on Environment and Development (WCED) published a very important document, report 'Our Common Future (World Commission on Environment and Development (1987), Our Common Future), also known as "The report Brundtland " (Named after the former Norwegian prime minister Gro Harlem Brundtland who acted as chair of the WCED), the most popular definition of sustainable development is contained even in this report "development that meets the needs of the present without compromising the ability of future generations to meet their own needs". In the context of discussing the role of governments in the strategic directions of sustainable development, we want to signal that the objectives set by the strategy of each country, is governed by the policies and tools, scenarios that take into account the implementation in practical situations the objectives originally set and with positive effects on supporting human resource policies, social policy, research or development environment. Thus, scenario development, can differentiate from one country to another may arise precisely because some factors such as geographical location, strong demand for consumer goods or presence of certain natural resources.

According to those mentioned, public expenditure for environmental protection, ecological policy of the state and mirror are made to maintain the ecological parameters in case of disruptions by the adverse effects that economic development could have on the natural environment (Calanter, 2011). Thus, the importance of sustainable development has made the phenomenon to be one with research time, the phenomenon being discussed since the early 70s and mentioned in "Limits of development", the Club of Rome, 1972), an opportunity to keep the same itinerary the trial respectively necessitated economic development to occur while preserving environmental parameters (Popa & all, 2014). Hence, we judge that given that fiscal policy takes into account the issues of correlation judicious budget revenues with expenditures, clearly that the

implications of fiscal and budgetary responsibility over administrative activity taking place in the development of sustainable (Siteanu, & Filofteia 2011).

With the purpose of offering a viable perspective on the correlation Sustainable Development-Government, we provide an array of procedures that must be met in order to improve the quality of life both economically and socially and environmentally, highlighting and direct corellation between two variables important respectively variable government quantized sampled by R&D expenditure and innovation from the dependent variable UE 28 countries, and sustainable development, quantified by the amount of waste generated per country, eco-innovation, climate change and energy.

The empirical analysis will be performed based on simple linear regression and multiple between the dependent variable and independent variables set, and a correlation analysis and software econometric used will be Eviews Statistics and SPSS, which will help create an image as clearer on the relationships between different variables.To better understand the phenomenon and to find a valid answer to the question of this paper, the research analyzed a specific type of correlation, Pearson Correlation. The dependent variable will be Expenditure on R & D, innovation at EU level 28, and independent variables: the amount of waste generated per country, eco-innovation, climate change and energy. The data used for empirical analysis focuses on the period 2006-2014, on a yearly basis, they were obtained from Eurostat databases.

The equations for the two regressions are expressed by the following formulas:
If simple linear regression is necessary to identify a factorial econometric model of the form:

$$y = f(x) + u, \quad \text{where:}$$

y = the actual values of the dependent variables;
x = real values of the independent variables;
Method : Least Squares
u = residual variable representing other factors influences the variable y, the model and unspecified factors believed to be random, with insignificant influence on the variable y

To build a linear regression model we have defined government dependent variable (the result), in terms of the amount of expenditure on R & D and innovation, while eco-innovation, climate change and energy, we considered independent variables.
Residual = Expenditure on R & D, innovation UE 28 – (C_((1)) * Eco-inovation Index)
Method : Panel Least Squares
Residual = Expenditure on R & D, innovation UE 28 – (C_((1)) * Eco-inovation Index
+ C_((2)) * Greenhouse gas emissions

5. RESULTS

According indicator R-squared value variation of independent variables (eco-innovation, climate change and energy) are explained in a proportion of 38.7% of the variation in the dependent variable (Gov.) of simple linear regression model. Durbin-Watson test has a value of less than 2, which indicates that there isn't a serial correlation of errors, that this does not influence significant endorsement regression model results. Akaike and Schwarz tests are used to compare two or more models. But this work is not

the case (lower values are preferred). As can be seen in the attached table probability T-test statistic is less than the benchmark (0.05) for variable GOV., which means that this ratio is considered statistically significant.

Dependent Variable: TOTAL_R_D_EXPENDITURE_CO
Method: Least Squares
Date: 10/31/16 Time: 10:33
Sample (adjusted): 1 288
Included observations: 288 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
ECO_INNOVATION_INDEX	0.019241	0.001304	14.75628	0.0000
GREENHOUSE_GAS_EMISSIO...	-0.000932	0.001308	-0.712277	0.4769

R-squared	0.368023	Mean dependent var	1.608611
Adjusted R-squared	0.365813	S.D. dependent var	0.978669
S.E. of regression	0.779371	Akaike info criterion	2.346262
Sum squared resid	173.7220	Schwarz criterion	2.371699
Log likelihood	-335.8617	Hannan-Quinn criter.	2.356456
Durbin-Watson stat	1.298988		

Fig. no.4 Regression estimation results of R & D spending growth, climate change and eco-innovation for EU 28 countries
Source: own processing with Eviews Estimations Statistics. tsdec320, tsdcc100, t2020_rt200.

As can be seen in the attached table test T-Statistical probabilities are lower than the benchmark (0.05) variables eco innovation and climate change and energy, which means that these coefficients are considered significant in statistical terms. According to the graph below (fig. no.5), the distribution model variables has an average equal to 0, presents an asymmetry negative (coefficient of asymmetry Skewness is less than zero), which means that the influence of variables in time of a trend lowering and Kurtosis coefficient is greater than 3, which means that this distribution is leptokurtică. How Jarque-Bera test probability associated is lower than the reference level, it follows that the series is not normally distributed.

By exemplifying these results, we point out that the increased investment in R & D governments, we can turn with small steps toward achieving the goal of sustainable development. Of course that coordinates are many and the mall steps to sustainable development include a lot of other ideas, but this paper wanted to highlight the importance of researching the implications of governments in this direction, showing the clear binomial, Govern-civil society.

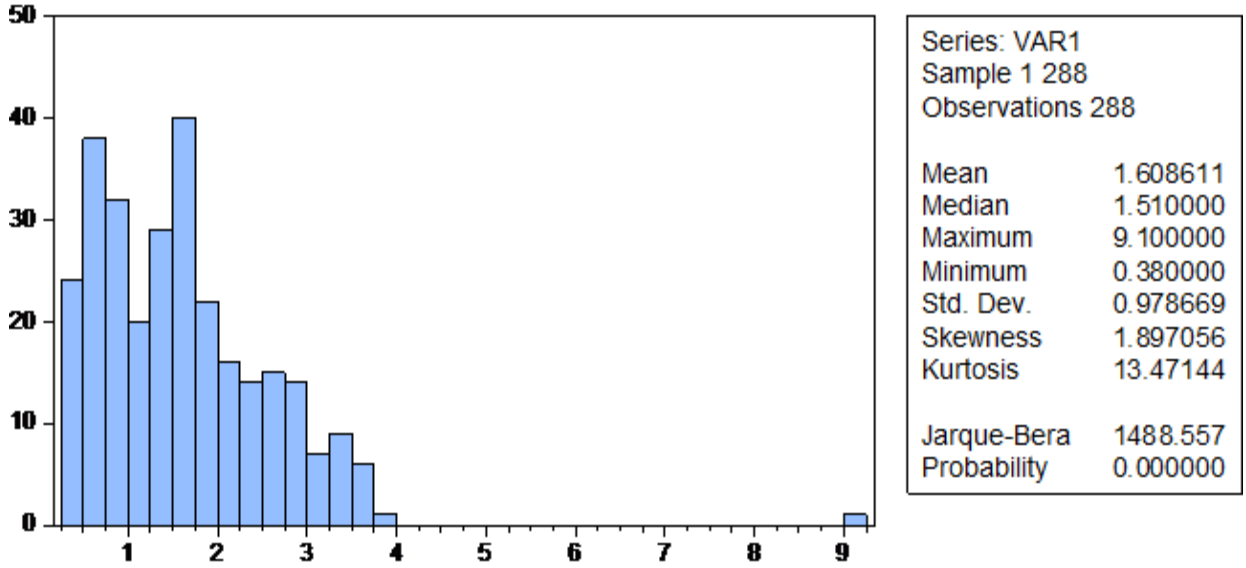

Fig. no.5. Histogram- Normality Test
Source: own processing with Eviews Estimations Statistics

Correlations				
		Eco-innovation index	Greenhouse gas emissions intensity of energy consumption	Total R&D expenditure Code % of GDP
Eco-innovation index	Pearson Correlation	1	-.330**	.606**
	Sig. (2-tailed)		.000	.000
	N	288	288	288
Greenhouse gas emissions intensity of energy consumption	Pearson Correlation	-.330**	1	-.337**
	Sig. (2-tailed)	.000		.000
	N	288	288	288
Total R&D expenditure Code % of GDP	Pearson Correlation	.606**	-.337**	1
	Sig. (2-tailed)	.000	.000	
	N	288	288	288
**. Correlation is significant at the 0.01 level (2-tailed).				

Source: Own processing on SPSS. tsdec320, tsdcc100, t2020_rt200.

In the present situation, the Pearson coefficient of 0.606 indicates a strong correlation between the frequency and costs of research and development and innovation Eco-innovation. We can clearly see that there is a strong correlation between the two variables. We note that the correlation is significant at the 0.01 level, and also to the other two variables, -0.337 betwen total R&D expenditure % of GDP and Greenhouse gas emissions intensity of energy, and also, 0,330 between Eco-innovation index and Greenhouse gas emissions intensity of energy consumption. This think, validating this hypothesis initially formulated.

6. CONCLUSIONS

For the timeframe under analysis, the changes in R&D and innovation expenses, at the level of the state members of EU28, show the convergence of the economies towards environmental regulations and the attempt to achieve fiscal harmonisationon issues related to environmental protection. The empirical analysis is based on the regressions of the two indicators, namely, the government , expressed as R&D, innovation and development spendings and the sustainable development represented by eco-innovation indexand the intensity of greenhouse gas emissions. The results of the regression coefficient and the correlation analysis, show that both indicators are directly correlated, and an increase in the share of R&D and innovation expenditures should influence the evolution of the sustainable development in EU countries. The analysis performed proves a significant relationship between the two variables, namely the governments and sustainable development. For the future, the environmental laws should support the governmental role in this direction, empowering both the policymakers'approach and the civil society, as a whole, since we talk about a new important dimension called social responsibility.

We can easily notice that an essential condition to fulfill the objectives of sustainable development is the settelment of several principles that allow the incidence of an appropriate mix of macroeconomical policies that ensure the sustainability of material resources and energy. As a matter of fact, beside social demographic, technological and legal factors, the political factors play an important role. The governmental policies and strategies set priorities for local authorities. Technically speaking, the political dynamics of executive power can perturb the activities of local authorities and may prevent the settelment of a system, characterized by market economy and democratic policies. Therefore, the European Commission has competence in all areas related to services, including fiscality, as EU should maintain a sustainable and stable economic growth through a predictable tax system, to ensure the appropriate conditions for a development, that responds to all present needs, without harming the resources belonging to the next generations.

The current research could be extended by taking into account the status of healthy public finances and fiscal responsibility, reflecting that in the context of the consolidation of healthy public finances, one can truly refer to sustainable development and express concerns on social inclusion, demographic changes and public health. It is important to have in mind, that the correlation goes both ways.Even if it does not check the cause and effect relationship, sometimes the cause and effect can be identified through local reasoning, as it is the case of this research.

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