

Emigration or Tax Evasion? Solutions for Portuguese to Escape from Its Economic Crisis (Extended Abstract)

Nuno Magessi
BioISI/MAS/GUESS, Faculdade de Ciências,
Universidade Lisboa
1749-016 Lisboa
+351 21 750 00 87
nmagessi@hotmail.com

Luis Antunes
BioISI/MAS/GUESS, Faculdade de Ciências,
Universidade Lisboa
1749-016 Lisboa
+351 21 750 00 87
xarax@ciencias.ulisboa.pt

ABSTRACT

In last three years, Portugal was affected by a financial crisis, which largely increased the unemployment rate, and decreased social conditions of citizens. Emigration and tax evasion were two of the typical strategies that the Portuguese used to solve their difficulties. In this context, emigration is a social behaviour associated to the demand for better life conditions in other countries. People move away when they see no hope in their country. As for tax evasion, it is also a behaviour that happens when citizens face unemployment and are overwhelmed by high taxes. This article aims firstly to compare both strategies when it comes to the preference shown by citizens. On the other side, it seeks to replicate the restrictions that the Portuguese Government has in hands. Simulations revealed that the ethical attitude of citizens is a key factor for the choice of each strategy, comparing with other factors. Results also demonstrated that Portuguese Government has an insignificant role on agent's decision.

Categories and Subject Descriptors

I.2.11 [Distributed Artificial Intelligence]: Multi-agent systems

General Terms

Algorithms, Economics, Experimentation.

Keywords

Tax Evasion, Emigration, Wealth Distribution.

1. INTRODUCTION

The recent crisis of sovereigns, due to excessive debt that hit Europe in 2010 and remains a threat for economic growth in the European Union, has substantially changed the standard of living of millions of Europeans. European Union countries, especially the peripheral ones, have followed austerity policies to solve the problem, instead of expansionary policies of economy. Countries have had to reduce drastically their deficits by increasing budget control.

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Countries had to reduce drastically their deficits by increasing budget control. Governments raised all types of taxes and cut on their expenses, which was reflected in a substantial increase of unemployment.

Under this situation, people saw their welfare fall sharply. For this reason, people sought solutions to overcome the adversities. In this article we purpose to study two available strategies to overcome this citizens' adversity. One is to seek employment in another economy that was not been so affected by the crisis [1], and another one is work without paying the due taxes, undermining the excessive weight of the tax burden [2].

2. ARTIFICIAL SOCIETY

In order to compare which decision is made by agents and the respective impact on the wealth distribution, we propose a multi-agent model as an extension of the SEWD model [3], which simulates the impact of emigration on the wealth distribution in society. The intention is to reflect the labour market of a society by using a multi-agent methodology. The market is composed by companies and workers. Workers will demand for work supplied by companies in order to generate wealth. In the present paper, besides the original parameters of the SEWD model we added new parameters: ethical attitude, inspection probability.

The relation of employed citizens with the government is one of the add-ons of this paper. Citizens could report the right salary they receive or they can cheat the government by reporting a lower salary. In this sense reported salary (r_i) could be lower than real (γ_i), with repercussions on accumulated wealth. For that reason, if the citizens are caught by tax authority, they have to pay a penalty composed by the evaded taxes plus a fine (f) (1).

$${}^{(1)} p_i = (\gamma_i - r_i) t_i + f$$

Citizens could be audit in function of an inspection probability, representing the financial constraints of tax authority. Finally decision of practicing tax evasion is based on a threshold that integrates ethical attitude, wealth and penalties.

3. SIMULATION RESULTS

Our simulations, (NetLogo 5.0.4 [4]) show that when we simulate an increase of salaries conducted by companies, we verify that it does not interfere on agent's decision. Most of agents prefer to commit tax evasion instead of get out of the country, looking for better life conditions, even though in the five first years there is a

decrease of tax evasion and an increase of emigration. The same conclusion could be extrapolated for varying the interval of negotiations.

Another hypothesis is to check out what happens if agents do some adjustments on their consumption patterns. Or in alternative, agents become available to demand jobs in more distant companies. Output results reveal that changes in consumption patterns or in availability to look a job far away do not interfere on agent's choice. The same happen to the expectations of agents about their wealth. Independently of wealth expectation agent's preferences behave in the same way.

However, when we put ethical attitude varying among low, medium and high levels, the results show us a considerable preference for emigration. The number of agents who prefer tax evasion decreases substantially. As we can see when we have low and medium levels of ethical attitude the behavior is similar. In fact, during the first six years, emigration increases in detriment of tax evasion. After six years, tax evasion starts to stabilize. Clearly agents prefer to practice tax evasion instead of emigrating. But if the level of ethical attitude is extremely high, results reveal that, agents prefer to emigrate instead of evading taxes [see Fig. 1].

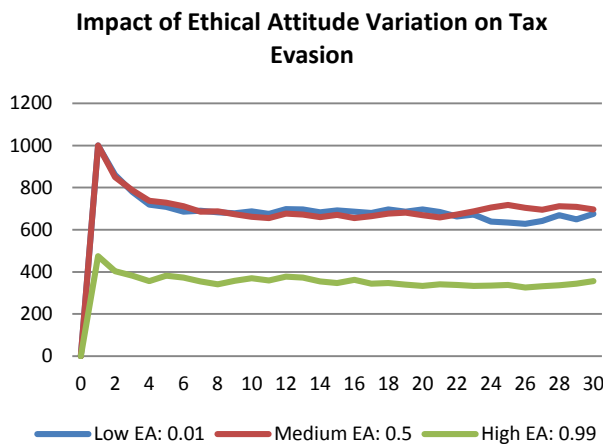


Fig. 1 Impact of ethical attitude variation on tax evasion / emigration decision

The question arises: can the Portuguese Government influence the agents' decisions? Governments have some instruments to avoid tax evasion. According to our model, which is in consonance with literature, governments can make tax evasion less attractive. However, in the case of Portugal, they can only increase the penalties to impose on prevaricators. Portugal has budgetary restrictions and doesn't have conditions to reduce tax rates. On the other hand, Portugal, like other European countries, doesn't have conditions to reduce the retirement age (maximum age limit to work), because this would generate problems on pension funds and damage the welfare state. Also, Portuguese Government doesn't have conditions to negotiate under the auspices of Social Dialogue to increase salaries. This would hurt budgetary consolidation efforts agreed with European Union.

Finally, it is important remember that the Portuguese tax authority cannot increase the number of inspections since this would increase expenses.

So, the only mechanism to influence the agents' decision is to increase the risk for taxpayers if he/she is caught. Consequently, we simulated a variation on fines and the results show us a similar behavior among agents [see Fig.2].

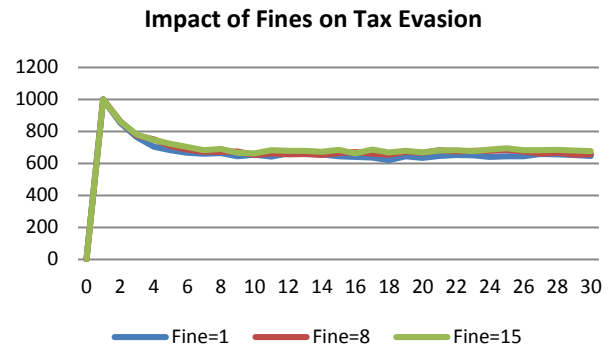


Fig.2 Impact of Fines on Tax Evasion

Results show that fines are a bad instrument to interfere on the agents' decision. This reveals the ineffectiveness of fines in conducting policies against tax evasion. Output results from our simulations demonstrate that the greater the ethical attitude is among agents, the greater the agents' preference for emigration instead of tax evasion.

4. CONCLUSIONS

Emigration and tax evasion are two types of actions with which an agent can improve its welfare. Under Portuguese circumstances, our results reveal that agents prefer to practice tax evasion instead of emigrating. However, the preference could change, if ethic in level of agents increases and is completely disseminated. Companies' activity and government intervention do not have impact on agents' decision. In these circumstances, it is not useful for governments to increase sanctions on tax evasion. It is more feasible for government to adopt measures with ability to generate an ethical attitude on agents.

5. REFERENCES

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