THE EFFECTS ON EQUITY OF AN INCREASE IN THE VALUE-ADDED TAX*

Isabel Correia**

1. INTRODUCTION

Although tax reforms are a recurrent phenomena in every developed economy for the last decades, most tax codes are characterized by extremely complex rules mainly around business taxes and personal taxation of income. The high costs involved with such systems motivated concerns from politicians and academics, leading to a broad discussion on the advantages of a fundamental tax reform. One goal of such reform would be to simplify the existing systems. In addition to these theoretical concerns, in the last decade some countries, namely countries in development have adopted very simplified tax systems, and there seems to be no doubts about the good performance of these systems in those economies. These experiences have led to an increase in the number of supporters of a change to a system that favors a flat tax1.

As fairness is the argument widely used to justify the high complexity of the actual tax regimes, the most commonly expressed objection to this radical reform proposal concerns its distributional consequences.

This note shows the effects on equity of a study that analyzes the foundations of such concerns. In an economy where the existing tax system is based on capital and labor taxation, what are the effects on equity of a change to a system based on consumption taxation, with identical taxes across goods? That is, in the limit, if income wasn’t taxed anymore and government revenues came exclusively from valued added taxation with a flat tax, which would be the effects on equity? Agents with the higher welfare in the economy would gain or lose with the reform? And the average economic agent? And the median agent? And the “poorest” in this economy? That is, the aim of this note it is to analyze the effects of the reform of taxation across agents with different levels of welfare.

With this objective an economic model that measures the effects that a reform of this type has on the general equilibrium of the economy is built. The reason why there has been a widening consensus of the positive aspects of this reform is very much related with the idea that the effects on the economic efficiency are quantitatively significant. These effects are uniquely derived from the change of the equilibrium, namely from different allocations of time, and from different decisions of consumption, savings and investment due to the reform. If these effects are significative over the efficiency they should be significant over any individual in the economy. Therefore we cannot answer our question assuming that they face different taxes, ceteris paribus. The main channel through which every individual will be affected by the reform is related with the general equilibrium effects. The exercise we perform is the one of a permanent reform of the tax system to which there is commitment that is, once implemented there would be no change to the status quo or to any other regime and, in addition, we suppose that private agents believe that this is the case. Thus, the effects that we will describe are permanent but they

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* The opinions are solely those of the author and do not necessarily represent those of the Banco de Portugal. This note is based on recent research of which the main reference is Correia (2005).

** Economics and Research Department.

(1) Hall and Rabushka (1995) is perhaps the most well known proposal of a flat tax system.
will not be evenly distributed across time. There is a transition period until the economy enters in a sta-
tionary trajectory given the new regime. The aim of this paper it is to study the effects on equity
comparing the status quo with this new path.

We construct a model that simplifies the usually used for this objective. In that way we get a clearer
understanding of the main channels through which a change in taxation affects the welfare distribution,
and of the importance for the results of the type of exogenous heterogeneity imposed across agents. In
addition the results are robust to very different distributions of the exogenous heterogeneity. We use a
general equilibrium competitive model where agents have an infinite horizon in which we impose the
type of intragenerational heterogeneity that we observe in most developed economies.

This model allow us to conclude that, when a tax reform that eliminates the taxes on capital and labor
income is undertaken, and the financing of public expenditures is through a value-added tax, economic
efficiency as well as welfare distribution improve. That is, one can guarantee that the welfare of those
households that are worse off than the average of the population increase. We can also show that the
introduction of deductions on the tax code, or anonymous transfers, allow us to improve equity without
losses of efficiency, when an increase of the tax on consumption is used to finance these transfers.

This note is organized in the following way: in the next section we discuss the characteristics specific to
the consumption tax. We determine which are the equivalent taxes to any household and we develop
the intuition of how the Pareto optimal could be achieved and, more important to our argument, why re-
lying more on the consumption tax, instead of the tax on labor income, increases efficiency. Section 3
answers to the fundamental question of this note, namely the effect on the welfare distribution of mov-
ing from a tax code based on income taxes to a tax code based on consumption taxes. We determine
how this effect depends on the type of heterogeneity that characterizes the economy. For the charac-
terization that we defend, which represents most industrialized economies, we show numerically that
equity improves with the proposed fiscal reform. We show the consequences for individual welfare of
improving simultaneously the efficiency and the equity of the economy. In section 4 deductions are in-
troduced in the tax code and we show how the consumption tax allows for improvements in equity with-
out losses in efficiency. Therefore we can replicate the actual progressivity of tax codes, which is
associated to increasing marginal tax rates, with gains in economic and administrative efficiency, due
to the flat tax. Section 5 concludes.

2. THE ROLE OF THE VALUE-ADDED TAX

In this section we develop the intuition that the advantage of a fiscal code that includes a tax on con-
sumption comes from the fact that with this tax it is possible to replicate a tax with which the Govern-
ment could discriminate across households, in a non-distortionary way. This advantage leads to the
well known consensus in the literature that increasing the share on revenues of taxation of consump-
tion improves efficiency in the economy.

To determine the more efficient way of financing a given path of public expenditures it is equivalent to
compute the less distortionary way of doing it. In addition to the income transfer from the private to the
public sector of the economy, which is implied always by that financing, the aim is that the change of in-
centives introduced by the fiscal system would be the smallest possible. Nevertheless the way this
change of incentives acts in the economic equilibrium is counter-intuitive: when the economic agent
cannot react to the tax it is exactly when the distortionary effect is zero; on the contrary, when given a
change in incentives the economic agent alters its decisions and does “legal evasion”, it is when the

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2 For example the overlapping generations models developed by Altig et al (2001).
distortionary effects make the tax less efficient. For example, if the Government uses to finance its expenditures a tax per household\(^3\), this tax would not change the economic incentives and therefore it is not distortionary. On the other hand if the financing would come from a tax on labor income it would be less attractive to use time in the market and the intensive margin (hours of work), as well as the extensive margin (number of persons in the labor market), would change. It is this reaction to the change of incentives that makes the tax on labor income distortionary. What is counter-intuitive is that, when for the individual agent there is no way to escape legally, in the end the agent would be better off when compared with the situation where the type of tax would allow a voluntary change of its economic choices. This is a representative case of the importance of using economics to evaluate policies since the impact effects are always dominated by feed-back, or general equilibrium, effects.

To understand the positive effect of having the consumption tax in the tax code it is important to understand how its effects can be derived from equivalent taxes. With this aim we need to describe the instruments that are available to the Government and the way they can affect directly the choices of households. Our set up is one of a non-monetary deterministic closed economy where markets are competitive. Government has no information about the characteristics that differentiate agents so it treats every agent anonymously. For simplicity we will suppose that the only distortion that exists in this economy comes from public consumption, which is a well defined exogenous path. This public consumption, as well as transfers, \(Tr\), to private agents, have to be financed with distortionary taxes. There are taxes on capital income, on labor income and on consumption (value-added), which are constant over time. These tax rates are represented respectively by \(\tau_k\), \(\tau_e\) and \(\tau_c\). Therefore the exercises reported in this note compare policies with flat taxes, that is with marginal taxes identical across agents and constant over time.

Preferences are identical across households, indexed by \(i\), and defined over a sequence of aggregate consumption goods, \(\{C_t\}_{t=0}^\infty\) and over a sequence of hours of work, \(\{N_t\}_{t=0}^\infty\). Diversity across agents in the economy results from different initial assets holdings, i.e. wealth that can be accumulated, mainly physical capital and bonds\(^4\), as well as from different labor efficiency levels which are exogenous to agents decisions. Households are price takers and anonymous in the markets, which implies that every individual faces identical prices.

Then the intertemporal budget constraint for agent \(i\) can be written as:

\[
\sum_{t=0}^\infty d_t \left( (1+\tau_c) C_t \right) = \sum_{t=0}^\infty d_t \left[ \left( (1-\tau_c) W_t, E_i, N_t + Tr \right) + \left( 1+r_o \right) A_o \right] \tag{2.1}
\]

where \(d, W, \tau_c, E_i, Tr\) and \(r_o\) represent, respectively the discount factor (net of the tax on capital) and the gross real wage at period \(t\) the tax rate on consumption, the tax rate on labor income, the amount of transfers from the government, and the net real return on initial wealth. \(E_i\) and \(A_o\) represent the exogenous factors that differentiate agents in this economy. \(E_i\) is the labor efficiency level of agent \(i\) and \(A_o\) represents the initial level of non-human wealth of agent \(i\), that is, the endowment that, together with \(E_i\), differentiates agents in this economy. Prices, \(p = \{d, w, \tau_c, \tau_e\}_{t=0}^\infty\) and \(r_o\) and transfers are exogenous to the individual household. The anonymity of households implies that the government is not able to raise revenue (or make transfers) designed for a special individual \(i\). Discriminatory lump-sum taxes and transfers are therefore excluded from the tax code.

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\(^3\) The so called poll tax.

\(^4\) We could also have human capital as an asset that could be chosen after period zero. This would imply that the technology would depend on human capital. For simplicity we consider that just raw non-accumulated labor and physical capital are productive.
General equilibrium depends on the consistency of different choices realized by different agents: households and firms. Firms are very simple entities in this environment that every period hire labor and rent capital which, given the technology, produce just one final good. All firms use the same technology and are price takers in the markets in which they operate. The unique good produced in this economy is used for private or public consumption, and for investment which increases the stock of physical capital of the economy.

The straightforward analysis of equation 2.1 reveals the role of the tax on consumption in this economy. It is immediate to verify that for agent $i$ it is indifferent to pay a given tax on consumption, or not paying this tax and alternatively paying a higher tax on labor income and a tax on initial wealth. That is, the tax on consumption can be decomposed into two components: one distortionary component that acts on households decisions exactly like a tax on labor income, and a non-distortionary component because taxing initial wealth does not allow for “legal evasion” by economic agents. Once understood this decomposition of the tax on consumption it is easy to understand that in a system which simultaneously taxes consumption and subsidizes labor income, in a way that incentives to work are not affected, the tax on consumption can finance public expenditures and the labor subsidy, just through the non-distortionary component of the consumption tax. The first-best, or maximum of efficiency, would be achieved with this optimal tax code. In the model that we describe efficiency can be measured by the welfare of the representative household, and maximum of efficiency means that the economy is in a Pareto optimum, that is given preferences and technology it is not feasible to finance the exogenous path of public consumption and improve the welfare of one household without deteriorating at least the welfare of another one.

The policy recommendation that labor should be subsidized is difficult to implement due to incentive to over-reporting and the high (perhaps infinite) verification costs of the hours of work. When the restriction that labor income taxes cannot be negative is imposed, this restriction is active and the first best is no longer achievable. We therefore compare in efficiency terms a sequence of policies where taxes on consumption are increasing and labor taxes cannot be negative. The decline of labor income taxation when the tax on consumption increases allows for a less distortionary system since part of the revenue now comes from the non-distortionary component of the consumption tax. As the system now has a higher non-distortionary component, the higher tax on consumption accompanied by a lower tax on labor income it is more efficient. In the limit, when the tax on labor income is zero, and it is substituted by the tax on consumption, efficiency is at the maximum, given the restriction that the tax on labor income cannot be negative.

This positive effect on efficiency of the consumption tax is well known and the costs of increasing the importance of this tax are usually related to the negative effects on equity that this change would imply against the positive effects on efficiency just described. However, the way we used to describe the effects on efficiency raises immediately doubts about the robustness of the negative effects on equity when the tax on consumption is used to substitute the actual taxes on income. As we just describe, an increase of the tax on consumption increases the non-distortionary component that taxes initial wealth, and declines the distortionary component, which changes labor decisions. Heterogeneity across agents in this economy comes exactly from these two components: agents with higher welfare in the economy have higher stocks of initial wealth, or higher labor efficiency, or both. Therefore it is not clear whether the reform would improve the “rich” or the “poor” in this economy. Besides, as we said before, the reform leads to important general equilibrium effects which are transmitted to agents essentially through different equilibrium prices. To compute the effects of this policy change a general equilibrium model has to be solved. This is the subject of the next section.
3. EFFECT ON EQUITY OF AN INCREASE OF THE VALUE-ADDED TAX

In this section we describe the effects on equity of a reform in which the tax on labor income is substituted by a tax on consumption. However to start from a status quo more similar with the actual tax systems we consider that the initial system finances an exogenous stream of public consumption with a tax on capital and a tax on labor income. We compare the equilibrium that results from this financing mix with the one where the tax on labor income is eliminated, and after with the ones where the tax of labor income declines and the tax on consumption increases, maintaining the path of public consumption. In this section we consider that the system does not use transfers (lump sum transfers), or deductions, \( TR = 0 \).

As we said before the set up is such that the method is much simpler than the ones usually used in the literature. One assumption that allows this simplification is that, although the economy is inhabited by heterogeneous households, the aggregate equilibrium can be replicated by the representative household paradigm. That is, the aggregate equilibrium, namely prices, can be computed with no information on the distribution of initial wealth, \( A_0 \), or labor efficiency, \( E_i \), or the distribution that results from the equilibrium. This separability between aggregate and individual allocations is due to quite weak assumptions: in addition to the ones already mentioned, namely that households are price takers in the markets in which they operate and anonymous to the Government, preferences are identical across households and belong to a given class. From this class we chose for this exercise a sub-class that is able to replicate the major characteristics of the cross-section empirical evidence.\(^5\)

Those preferences are represented by:

\[
U_i = \sum_{t=0}^{\infty} \beta^t \left( \frac{C_t - \chi N_t^\lambda}{1 - \sigma} \right)^{1-\sigma}, \quad \sigma > 0, \chi > 0, \phi > 1
\]  

(3.1)

where \( C_t \) and \( N_t \) represent respectively agent \( i \) choices for consumption and work hours.

Each household maximizes the utility function (3.1), subject to the budget constraint, represented by equation 2.1.

The optimal choice of hours of work by agent \( i \) which solves that problem is given by

\[
N_a = \left[ \frac{(1-\tau_a) w_t E_i}{\chi \phi \left( 1+\tau_c \right)} \right]^{\sigma^{-1}}
\]

This first order condition reflects the fact that, for this sub-class of preferences, there are no wealth effects on labor supply. Labor supply, in a given period, depends exclusively on the net wage rate and the tax rate on consumption. Note that the tax on labor income and the tax on consumption affect labor decisions in the same way. As households face identical prices this implies that labor choices by “poor” and “rich” households differ exclusively due to different labor productivity. Workers with higher productivity have higher labor supplies than workers with lower productivity. The labor supplies coincide for identical values of the efficiency level, \( E_i \). In this case “poor” and “rich” agents are differentiated exclusively by their consumption decisions.

The effects on equity of the tax reform are measured through the effects on welfare distribution. From the proposed utility function we can express the indirect utility, \( V_i \) as:

(5) For more details see Correia (2005).
where $p$ represents the vector of prices and taxes over time, as defined above.

Note that this indirect utility function is a transformation of an expression that is affine on $E_i^v$ and $A_{io}$, because the functions $\Gamma (p)$, $\theta (p)$, $\xi (p)$ and $\alpha \cdot (p)$ do not depend on individual characteristics. This property is a direct consequence of the conditions imposed for aggregation, namely that agents face the same prices and the assumed class of preferences, and it will be very important to allow for welfare distribution comparisons in a straightforward way.

The interpersonal comparison of utilities, or welfare levels, has been always problematic due to its cardinal characteristic. In this work we minimize this problem using for interpersonal comparison the indirect utility for household $i$.

$$v_i = \theta (p) E_i^v + \xi (p) A_{io} + \alpha \cdot (p)$$

In order to compare the indirect utility index between any two households, $i$ and $j$, the ratio $\frac{v_j}{v_i}$ is computed. This ratio has a simple interpretation because it can be read as the ratio between consumption of every good transformed by the desutility of work of agent $i$ and $j$. The value of this ratio is the answer to the question: How much would the consumption of agent $i$ have to grow, so that agent $j$ would be indifferent to change its position with agent $i$? It is in the sense of using the consumption equivalent criteria, that we can say that interpersonal utility comparisons are free from cardinality.

To rank policies by their distributional effects is to compare the vectors of individual utilities. We compare changes in inequality induced by different policies, by ordering the $v$ distributions using the relative differential concept. Then policy 1 dominates policy 2 if and only if the percentage increase in consumption of a “poor” agent necessary to equalize his consumption with any “richer” agent is lower in policy 1 than in policy 2. The individual welfare indicator and the inequality criterion chosen imply that the inequality ranking is, in the sense defended before, free from interpersonal utility comparisons.

We can prove that when there is just one dimension of heterogeneity, in our exercise when for example $E_i^o = 1$ or $A_{io} = A_o$, that is when individual utility can be written as

$$v_i = \gamma (p) H_i + \alpha \cdot (p)$$

where $H_i$ represents the dimension of heterogeneity, ordering by equity depends just on equilibrium prices.

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(6) Policy 1 dominates policy 2 in relative differentials, $\frac{v^1}{v^2} >_v \frac{v^2}{v^1}$, if and only if for any two distributions, Lorenz dominance implies relative differential dominance and relative differential dominance is equivalent to Lorenz dominance for every partition of the population set.

$$\frac{v^1}{v^2} >_v \frac{v^2}{v^1} \text{ for } v_i < v_j$$

For any two distributions, Lorenz dominance implies relative differential dominance and relative differential dominance is equivalent to Lorenz dominance for every partition of the population set.
that is, if the change from policy 2 to policy 1 implies an increase (decrease) of the ratio \( \frac{\alpha(p)}{\gamma(p)} \), equity improves (declines).

The advantage of this method is the possibility to infer qualitative distributional effects of policy reforms, with no explicit knowledge on the distribution of characteristics of agents in the economy. Since in our model economy agents differ by two dimensions we will analyze separately two cases:

Case A: Households differ exclusively by the stock of initial non-human wealth. In this case, \( E_i = 1 \) and \( H_i = A_{ii} \).

Case B: Households differ on the stock of accumulated wealth as well as on the labor efficiency index, such that \( E_i = \frac{1}{A_{ii}} \). i.e., the consumption index of labor efficiency is perfectly correlated with initial non-human wealth across individuals. We can prove that, in this case, if \( Tr = 0 \), the ratio \( \frac{\alpha(p)}{\gamma(p)} \) is always identical to zero, and it is therefore independent of the policy. An economy characterized by this heterogeneity and by a tax code that does not include transfers, will not experience any effect on welfare distribution when the tax policy changes.

The reason to focus on these two extreme cases is related to the empirical evidence on the cross-section data. The literature on this question concludes that concentration is higher in wealth than in income, and that these two variable are correlated. Therefore heterogeneity should come mainly from potentially accumulated assets, being a smaller share due to exogenous characteristics of agents. In our characterization the economy distribution should be between cases A and B.

Therefore to determine the effect on equity of the described tax reforms it is necessary first to compute the effects on the aggregate equilibrium such that the vector \( \rho \) associated with every policy can be obtained. These vectors are used afterwards to compute the ratio \( \frac{\alpha(p)}{\gamma(p)} \) in case A. To obtain the vector \( \rho \) associated with every policy it is necessary to solve numerically the general equilibrium model of the economy associated to that policy.

Table 1 summarizes the results obtained, which allow us to order policies by equity.

The last row in this table shows that after the fourth column, where \( \tau_W = .15, \tau_K = 0 \) and \( \tau_c = .18 \) inequality declines when compared with the status quo. In this case the elimination of the tax on capital and its substitution by the tax on labor, and afterwards by an increasing tax on consumption increases efficiency, as well as equity when the tax on consumption is significative.

Note that these effects are the ones when heterogeneity is characterized by Case A. As we saw when heterogeneity is determined simultaneously by initial wealth and labor efficiency, and those characteristics are perfectly correlated, there are no effects on equity (Case B). In this case the effect on individual welfare is proportional to the effects of the policy change on the welfare of the representative agent. Because the sequence of the described policy changes leads to an increase of efficiency, the increase of consumption taxation in Case B, leads to a Pareto movement.
Using the cross section evidence that allow us to define the case A and B as the two extreme cases that accommodate that evidence, we can summarize the results of this section by saying that the change from a system based on constant taxes on capital and labor income to a system based on a uniform and constant tax rate on consumption, with no transfers, has a positive effect on equity.

As we described in section 2 the changes of policy represented in the table after column two increase always efficiency, that is the welfare of the representative household. We can therefore conclude that the increasing role of consumption tax on government revenues increases simultaneously equity and efficiency. As consequence the more the system is based on consumption taxes the stronger are the effects on the welfare of the agents that belong to the left part of the welfare distribution. In other words, the “poor” are always better off with the change in policy.

### 4. CONSUMPTION TAXES AND DEDUCTIONS OR REDISTRIBUTION WITH NO LOSSES IN EFFICIENCY

That a fiscal reform to a consumption tax has a positive effect on equity was the qualitative result derived in the above section. However we could argue that the relevance of this result should be quantitative or that it depends heavily from the distribution at the point of departure, or the status quo. The initial system used in the exercise was characterized as one where, although marginal taxes on labor and capital income are constant, the marginal tax on total income is increasing. We know that existing codes have increasing marginal taxes, even if it is often claimed that effective marginal taxes are only slightly increasing. Anyway this fact could have characterized the abstract initial system as less equitative then the actual one. In this section we want to claim that once we allow for deductions on the tax code we can aim at any desirable level of progressivity. We could improve the equitative gains of the reform described in the last section by introducing deductions in the system. This novelty of the consumption tax that we also want to stress in this paper, comes from the fact that when the government can use deductions financed with the consumption tax it is possible to redistribute with no loss in efficiency.

The introduction in the tax code of the possibility to make deductions is equivalent to introduce transfers from the government to every household. Maintaining the discipline of avoiding discriminatory

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**Table 1**

**INCREASING THE TAX RATE ON CONSUMPTION**

<table>
<thead>
<tr>
<th>Income taxes</th>
<th>( \tau_c ) = 0.35</th>
<th>( \tau_c ) = 0</th>
<th>( \tau_c ) = 15</th>
<th>( \tau_c ) = 0</th>
</tr>
</thead>
<tbody>
<tr>
<td>( \tau_k ) = 5.23</td>
<td>( \tau_k ) = 0</td>
<td>( \tau_k ) = 0</td>
<td>( \tau_k ) = 0</td>
<td>( \tau_k ) = 0</td>
</tr>
<tr>
<td>Consumption taxes</td>
<td>( \tau_c ) = 0</td>
<td>( \tau_c ) = 0</td>
<td>( \tau_c ) = 14</td>
<td>( \tau_c ) = 18</td>
</tr>
<tr>
<td>Equity effects ( \alpha(p) ), ( \gamma(p) )</td>
<td>3.8</td>
<td>2.9</td>
<td>3.7</td>
<td>4</td>
</tr>
</tbody>
</table>

Note: *Increases in the ratio imply increases in equity.*

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(7) This desirable level is constrained if we impose a certain level of efficiency, due to the non-negativity of the tax on labor income.
lump-sum transfers we introduce an annual deduction in the tax code, identical across households. Therefore the limit situation, the one where the taxes on labor and capital income are zero, is characterized by a constant transfer (across time and across households) and a constant tax rate on consumption (across time and across goods). This system is characterized by a constant marginal tax but by an increasing average tax and is therefore a progressive system.

We first show how the introduction of non discriminatory transfers can have no effects on aggregate equilibrium, and therefore efficiency can be maintained. Afterwards the effects of these transfers on equity (or individual equilibrium) are discussed.

We can prove that the use of deductions allows the maintenance of the aggregate equilibrium when these deductions are financed by an increase of the consumption tax and accompanied by a decline of labor income taxation. This result comes directly from the role of consumption taxes that we discussed in section 2. Suppose that starting from a positive tax on labor income we increase the tax on consumption and decline that tax on labor income such that the ratio $\frac{1-\tau_c}{1+\tau_c}$ does not change. We saw that the increase of the consumption tax is equivalent to an increase of the tax on initial wealth. If the present value of the sum of deductions, or transfers, is equal to this increase of taxation of the initial wealth for the representative household, the aggregate general equilibrium is the same and therefore efficiency is maintained.

However the described policy, which is neutral in terms of efficiency, has effects on individual decisions and on individual welfare. The increase of the tax on consumption and the decline of the tax on labor income affects different households differently. Also the transfer, although being identical across households, affects the households’ welfare distribution.

The effect on equity depends again on the type of heterogeneity considered. We can again analyze the two extreme cases, Case A and Case B. We can verify that in both cases the introduction of deductions as we just described leads to an improvement of equity. As efficiency is maintained and equity improves we get the result that this type of policy improves the welfare of the “poor”. A redistribution is possible with no efficiency losses even if the government does not use discriminatory lump-sum taxes or transfers.

5. CONCLUSIONS

To avoid the potential complexities of the actual income based regimes, the change to a flat tax is being advocated. In this work it is discussed how the tax burden distribution change if this flat tax is on consumption. The conclusion of this paper is based on heterogeneous agents which we pretend to represent the empirical evidence. We show that the reform to a system where the only tax is a flat tax on value-added and where we can make transfers identical across households has simultaneously a positive impact on efficiency and equity. This conclusion is in sharp contrast with the conventional wisdom of a system based on a year by year base where “poor” agents have a higher consumption to income ratio than “rich” agents.

These results are different from the ones found in the literature, in general equilibrium models similar to the one used in this work, due to the hypothesis of heterogeneity: those works assume that the main difference across households is labor efficiency while we impose that agents are differentiated by initial assets, that can be accumulated, and by exogenous labor efficiency, that cannot be accumulated, and that these two dimensions of heterogeneity are positively correlated.
These results could also be used to state that the median voter would be in favour of the reform, since the median is lower than the average in the welfare distribution. Therefore a reform like the one proposed would imply that “poor” households would have necessarily an increase in welfare due to the reform.

REFERENCES

