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ITG 1000, Risk Detection and Accounting Information: a Theoretical Analysis on the Cost versus Benefit for Micro and Small Enterprises

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ABSTRACT

This essay aims to discuss aspects related to the incentives that individuals face with regard to the adoption or not of ITG 1000, as well as the possible scenarios resulting from the responses of these individuals to such incentives. It was assumed as a basic premise that there is no executive inter-relationship between keeping only the cash book ledger, or adopting ITG 1000, and other economic choices. The discussion is based on the assumptions of economic rationality and assumes that individuals, under uncertainty, will behave in a manner attributable to Von Neumann-Morgenstern. In addition, it was guided by the classical model proposed by Allingham and Sandmo (1972), referring to the economic theory of tax evasion. It may be noted that the successful adoption of ITG 1000 can be achieved with an awareness of the segments involved and with the prohibition and penalizing of adverse behavior, permitting one to infer that the adoption of the 1000 ITG is much more dependent on the accounting class's actions, rather than a management decision itself.

Keywords: ITG 1000. Micro and small firms accounting. Accounting regulation.

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1 INTRODUCTION

The practice of Brazilian accounting has been formed over a number of years, influenced by the Italian system along with robust state support, and particular regard for the status of taxation (LOPES; MARTINS, 2005; NIYAMA, 2010). Specifically in relation to smaller companies, particularly micro-businesses (MB) and small enterprises (SMEs), this intervention scenario is becoming more pronounced and is strongly affecting the utility of accounting information for the managers and business owners of these companies, because in such cases the main accounting focus ends up being compliance with tax requirements (FARIA; SILVA, 2014; KLEIN JUNIOR; SOUZA, 2013; STROEHER; FREITAS, 2008).

In this context, Stroeher and Freitas (2008) found that small business owners perceive accounting as a taxation obligation. The accounting information provided to them does not meet their management needs, primarily because of a bias towards taxation. Similarly, Miranda et al. (2008) found that small business managers would be willing to terminate the contract with their accountant if the government simplified tax requirements, so that they themselves could carry out the required procedures. Similarly, the results obtained by Silva (2010) suggest that managers of surveyed micro businesses and SMEs could not see the utility of accounting information in their decision-making processes.

Some studies also indicate that micro business and SME managers use, and even favor, internal information for their decision-making processes. However, a part of this may come down to the fact that they do not always clearly understand the financial information supplied to them (CANECA, *et al.*, 2009; MIRANDA *et al.*, 2008). What is happening is that there is a demand for useful financial information, and these users are willing to pay more for it (CANECA *et al.*, 2009; LUCENA, 2004).

The results obtained by Faria and Silva (2014), Pedroza (2013) and Sousa (2012) suggest that this situation has not changed even with the adoption of international accounting standards. According to these surveys, notwithstanding the CPC (committee of accounting pronouncements) technical pronouncement for SMEs – Accounting for SMEs dismissing a more simplified accounting approach, with the level of complexity required for its correct application still being a challenge for accounting professionals serving SMEs.

By not generating benefits to its users, accounting information loses its fundamental meaning, so, maintaining an accounting system, even if simplified, now represents an

additional cost, which, of course, tends to be avoided. Although maintaining an accounting system, based on the systems contained in mandatory accounting books, is a requirement of Article 1.179 of Law 10.406/2002 (Brazilian Civil Code), there is a predominant mistaken idea in Brazil that micro businesses and SMEs are exempt from this legal requirement. Basically, this is due to their focus on accounting for tax purposes exclusively (STROEHER; FREITAS, 2008; SILVA, 2010).

Considering the lack of accounting information useful to managers of micro businesses and SMEs, and the absence of state enforcement on the requirement for the development of bookkeeping by such entities and the lack of a specific penalty for non-compliance with this requirement, there are sufficient financial incentives so that individuals would seek to reduce the cost arising from the generation of that information.

In 2012, the Federal Accounting Council (CFC) approved, through the CFC Resolution No. 1.418/2012, the General Accounting Interpretation (ITG) 1000, which defines a simplified accounting model for micro businesses and SMEs. The approval of ITG 1000 represents the acknowledgement that micro businesses and SMEs require special attention and offers a viable alternative accounting that may encourage such entities to effectively use, their bookkeeping.

However, although the ITG 1000 is an accounting model greatly simplified, and therefore tends to impose a lower cost compared to other models, the main question is its ability to provide useful information to managers of micro businesses and SMEs because, the adoption of ITG 1000, from a strictly fiscal point of view, might represent an expendable cost if the information does not generate benefits that outweigh the costs.

In this context, and assuming that the cost of producing accounting information is that of the business manager (micro businesses and SMEs), this paper aims to discuss aspects of individuals' (owners/managers) decisions salient to the adoption or otherwise of ITG 1000, as well as possible scenarios resulting from the responses of said individuals, assuming, with necessary simplification that there is no interrelation of this decision with other economic choices.

Basically, this proposal seeks to demonstrate theoretically that the key factor for such adoption is the perception of users regarding benefits generated by the accounting information produced (using ITG 1000), and that this perception depends on the actions of the accounting profession in order to demonstrate the usefulness of the information provided.

The points presented here are based on assumptions of economic rationality and the assumption that individuals under uncertainty behave in a manner as outlined by Von Neumann-Morgenstern. Furthermore, this study is guided by the classical model proposed by Allingham and Sandmo (1972), referring to the economic theory of tax evasion. Finally, it must be stressed that the object of this discussion is not the evaluation of the ITG content in 1000, but its adoption.

This study brings an unchartered approach to the topic and offers an alternative perspective to understanding the factors that affect the adoption of accounting standards in Brazil and could bring contributions to regulatory bodies, trade associations, researchers and practitioners from the area of accounting.

In addition to this introductory section, the article contains four additional sections. Section 2 presents the Brazilian scenario in which the companies investigated are positioned; Section 3 deals with accounting and the use of accounting information in Brazil; Section 4 presents the analytical development developed in the study; and section 5 provides the findings.

2 MICRO BUSINESS (MB) AND SMALL ENTERPRISE (SME)

The entrepreneur, the individual limited liability company, entrepreneur association and simple association may fit into the category of Micro Business or SME in a given year, depending on the gross revenue earned in the previous year. A micro business is defined as one company whose gross revenue was equal to or less than R$ 360.000,00 (BRL), whereas the SME is one whose revenue has been above this limit and less than or equal to R$ 3.600.000,00 (BRL).

This is a highly representative business segment in Brazil. According to SEBRAE (2014), it is currently estimated that at least 6.2 million companies are classified as micro business or SME, which consists of a portion of approximately more than 97% of established private enterprises (except MEI – micro individual entrepreneur).

The Federal Constitution of 1988 (CF 88) in its article 179 stipulates that the Federal Government and the other federal bodies must grant these entities different legal treatments, in relation to the simplification or elimination of administrative, tax, social security or credit obligations. Basically, this differential treatment seeks to reduce the operating costs of these entities. Currently, the rules for the adoption of differential treatment are set forth in Complementary Law 123.

A fundamental economic aspect related to these entities is that, in the Brazilian socio-economic context, they are responsible for a significant portion of the flow of income distributed in society. To get an idea, in 2011, as documented in the Brazilian Support Service for Micro and Small Enterprises (SEBRAE) (2012), these entities were responsible for generating more than 30 million direct jobs in Brazil, which represents more than half of the 52 million active jobs in that period, according to the Brazilian Institute of Geography and Statistics (IBGE, 2013).

The micro business and SME, mostly, are family owned entities, managed by the actual owner. There is no separation of ownership and control, so internal agency problems tend to be minor or even non-existent. On the other hand, in its relationship with larger agents, such as banks, customers and employees, has informational asymmetry that, among others impacts, increases the cost of capital (ALLEE; YOHN, 2009; HUSSAIN; MILLMAN; MATLEY, 2006; BECK, KUNT; 2006; CASSAR; HOLMES, 2003).

Anjos *et al*. (2012) and Caneca *et al*. (2009) show that the pre-disposition to disclose accounting information, given that its non-binding in these entities, comes from trust relationships between the business person and the other party, a fact that is not necessarily identified between owner and accountant. This fact is also due to the perception of entrepreneurs that accounting, in the form given to them, is only an obligation to their tax compliance or legal liability.

The fiscal focus, as described by Hendriksen and Van Breda (1999) and Iudícibus (2010), notably influences the professional relationships between accountants and micro and small business entrepreneurs. Not only in the perception of these (i.e. micro business and small entrepreneurs), but also in that of the accountants, who understand that they already provide enough relevant information and services to management, while managers are inclined to pay accountants more for useful information in their decision making (CANECA *et al*, 2009; MIRANDA *et al*, 2008).

In the tax take, statute LC 123 established the National SIMPLES (SIMPLES acronym = Integrated System for Payment of Taxes and Contributions of Micro and Small Businesses), a simplified and unified system for assessment and collection of federal, state and municipal taxes. In this regime, the micro business and SME have a number of benefits that significantly reduce their tax compliance costs, for example the collection of various taxes in a single payment slip, the provision of information to the tax authorities in a simplified and unified way the accounting waiver for tax purposes, among other advantages. Moreover, according to

the situation, it is possible that micro businesses and SMEs subject to this regime benefit from a reduction in the effective tax burden.

With regard to accounting, it is clear that its discharge or simplification, apparently, would be a benefit to said entities. Under this logic, the accounting information apparently tends to be seen as a "burden" and not as a necessary element in the management of micro businesses and SMEs.

3 BOOK KEEPING ACCOUNTING AND ACCOUNTING INFORMATION

The Civil Code (CC) determines that a business should maintain an accounting system based on uniform filing of its financial accounts as well as annually preparing the balance sheet and the "income statements". Small business owners are exempt from such requirements[1].

The LC 123, for its part, in any event, eliminates the maintenance of bookkeeping by the micro business and SME. However, in article 27 it provides for the possibility of a micro business/SME to adopt optionally simplified accounts. As it turns out, there are only two options for bookkeeping/accounting: (1) comprehensive; and (2) simplified. In both, it underlies the obligation of bookkeeping records.

One point of contention is regarding the tax liability forecasting relative to the cash book keeping. In its article 26, the LC123 provides that micro businesses/SMEs are required, in short, to issue tax compliant documents and maintain them in good order and keep documents that support the calculation of taxes due and comply with accessory obligations.

Furthermore, paragraph 2 of the same article states that in addition to the above obligations, the micro businesses/SME "should **still** keep the cash account ledger that will be carrying the financial transactions and bank statement" [emphasis of the authors]. This order is clear: for tax purposes, they should be carrying a cash account ledger. It does not provide for the possibility of bookkeeping to be replaced by the cash account ledger, simply because this is an accessory tax obligation.

In what it defines as "simplified" accounting, LC 123 provides that its regulations are to be conducted by the Management Committee of the National SIMPLES (CGSN). In response to this forecast, the Management Committee of the National SIMPLES (CGSN), currently

[1]The small business entrepreneur is defined in art. 68 LC 123: It is considered as a small business entrepreneur the individual entrepreneur characterized as ME (micro entrepreneur), with annual revenue of currently up to R$ 60,000.00.

through Resolution No. 94/2011 CGSN, determines that "simplified" accounting should be adopted by micro businesses/SMEs should meet the provisions of the Civil Code and the Brazilian Accounting Standards (NBC) issued by the CFC[2] (art. 65).

It should be stressed the aforementioned determination has legal basis reinforced by the legislative authority of CFC, provided in Law No. 12.249/2010, which amended Decree-Law n°. 9.295/1946 (DL9295), regarding the regulation of accounting principles and the edition of the Brazilian Accounting Standards (NBCs), both technical and professional in nature. It was through this designation that the CFC, through the (CFC) Resolution n° 1.418/2012, approved the ITG 1000. This interpretation meets the legal provision contained in the LC123 and regulated by CGSN.

Yet what is happening is that many micro businesses and SMEs simply do not maintain their bookkeeping, while naively maintaining the cash account ledger alone in order to meet the minimum tax requirement.

The bookkeeping in this context is understood exclusively as a cost of tax compliance. As there is no provision for a penalty expressly and specifically for non-compliance with this obligation for opting entities of the National Simples, the decision to make or not the bookkeeping and, correlatively, to adopt ITG1000 or not, tends to focus, preponderantly in assessing the perception of marginal benefit to be produced by the accounting information at the incremental cost resulting from the operation of bookkeeping. However, it is important to note that micro business/SME have in common a number of features, among which, right now, management is highlighted. In Brazil, these entities are often family businesses, with a high concentration of management and its poor qualification towards administrative activities (MIRANDA *et al*, 2008; OLEIRO; DAMEDA; VICTOR, 2007; IBGE, 2003).

And so, in spite of a duty of care to legal requirement(s), accounting information can generate countless benefits useful to many situations, as can be seen in Table 1.

[2] This determination was initially provided for by the Resolution CGSN n° 28/2008, which altered Resolution CGSN n° 10/2008. The latter was revoked by Resolution n° 94/2011.

AUTHORSHIP	INFORMATION
Lucena (2004)	Sales forecast; cash requirements; Financial expenses controls; Control of sales deadlines and purchases.
Uedo and Casa Nova (2006)	Financial management that aids access to credit; Control clients and suppliers; Management of working capital; Fiscal management; Inventory control.
Oleiro, Dameda and Victor (2007)	Control of property; Margin Analysis; Control of expenses.
Caneca (2009)	Control of payroll; Control of taxes and contributions; Control of accounts payable; box calculation generated in the month; Calculation of the profit generated in the month; Depreciation of fixed assets.

Table 1 - Accounting Utility in the Micro Business/SME

Despite the obvious utility of accounting information, several studies show that micro and small business owners base their decisions on their intuitions or experiences (MIRANDA *et al.*, 2008; CANECA *et al.*, 2009; ANJOS *et al.*, 2012). On the other hand, the IBGE (2003) shows that a characteristic of those businesses and which contributes to lower survival rates, are the inadequate accounting records, due to the great influence of the tax legislation in accounting professional activities. Additionally, it is stressed that accounting information can provide a higher level of transparency and control, thus reducing informational asymmetry in the contractual relationships of the micro business/SME, which can help, for example, with reducing costs of the capital received from financial institutions.

Thus, the ITG 1000 enables the emergence of an environment in which the accounting information can reveal its importance for the management through an awareness of accounting professionals about the importance of developing timely and reliable reports for their clients.

The flexibility brought by ITG 1000 can represent the beginning of a closer relationship between the service provider and its contractor, in which the entrepreneur will get more relevant information for management (of the business), and the accountant, on the other hand, will enhance their professional status and further remuneration.

Moreover, from the perspective of the accounting professional, it is important to note the preparation of accounting records and the preparation or surveying of financial statements represent technical accounting work as provided for in clause “b” of article 25 in DL9295. These processes should, necessarily, be conducted independently and in compliance with accounting principles and the Brazilian Accounting Standards (NBC). Thus, it appears that

the non-application of ITG 1000 (i.e. a failure to attempt to keep accounts) sets an ethical and disciplinary precedent and may subject the professional to the penalties set out in Table 2.

NATURE	PENALTY	LEGISLATION
Ethical	Warning Reserved	Art. 27, "g", DL9295
	Censure Reserved	
	Public Censure	Art. 12, Resolution CFC nº 803/1996 (Ethical Code of Professional Conduct for Accounting)
Disciplinary	Fine of 1 to 5 times the value of the annuity	Art. 27, "c", DL9295
	Suspension of right to practice professionally for 6 months up to 1 year	Art. 27, "e", DL9295

Table 2 - Penalties for not maintaining financial accounts.
Source: Own elaboration based on current legislation for the year 2014.

As per Federal Accounting Council (CFC) Resolution No. 1309/2010, (which sets auditing procedures); in the determining of the penalty, the professional history should be considered, in order to establish if the professional is a repeat offender or not, in addition to their degree of guilt, the mitigating and aggravating circumstances and the consequences of the offense (are also considered).

It is important to note that both micro business and SME, with regard to the accounting profession, are subject to civil and / or criminal liability in the event that a failure to file accounts gives rise to crime, for example crimes against tax liability or a bankruptcy order.

4 FINDINGS, ANALYSIS & INSIGHTS

4.1 PERCEIVED BENEFIT(S) OF ITG 1000

As with any decision, the dominant aspects are the cost of implementation *(Ct)* and the benefit to be obtained (*Bnf*). The decision will be implemented if, and only if *Bnf> Ct*, noting that both are not necessarily restricted to a monetary dimension only.

In this analysis, it is assumed that the adoption of ITG 1000 is an exclusive decision and an alternative to the adoption of the cash account ledger. There is, then, the decision between the consumption of two goods, mutually exclusive: the net benefits generated by ITG 1000 *(Bnf ITG)* and the net benefits generated by the cash account ledger *(Bnf LCX)*.

Considering that the assets are perfect substitutes, the marginal rate of substitution of one good for another is constant, indicating a linear shape on the indifference curve. In this case, the equilibrium will be characterized as a corner solution, meaning that the consumer consumes only one good (1_{LCX}, 0_{ITG}) or the other (0_{LCX}, 1_{ITG}), as shown in Figure 1. Thus,

rationally, the choice between one or the other would tend to be directed by the price, in this case, by the cost of its implementation.

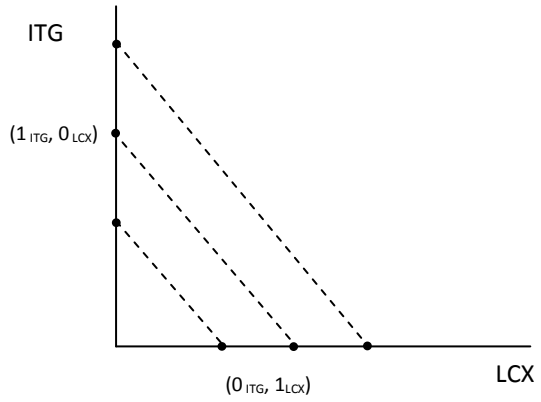


Figure 1 – Indifference curve LCX verus ITG
Source: Prepared Internally

However, in both cases, *Bnf* is undefined, given its amplitude and due to different perceptions of individuals with regard to the benefit to be obtained from either decision. However, in the case of the cash account ledger, we at least have the duty of a legal obligation, which is a minimal cost and inevitable (Ct_{LCX}), because the lack of bookkeeping of this ledger may give rise to the exclusion of the National SIMPLES entity. Thus, the durability of this system is a direct benefit of Ct_{LCX}.

Regarding the adoption of ITG 1000, the benefit (in theory) exists and outweighs the costs involved, however this is not directly related to ancillary obligations of the National SIMPLES, but is, despite the commercial law requirement(s), the executive process of the business owners. However many owners / directors do not know or do not understand this fact, so they do not see the marginal benefit in the decision to perform bookkeeping and prepare statements, only seeing the cost of this decision (Ct_{ITG}), resulting in the situation in which $Bnf_{LCX} \succ Bnf_{ITG}$

One can assume that the Ct_{ITG} is composed of three distinct components: (1) The first of which is the most obvious area, characterized by the additional costs associated with this decision (ω), typical examples being an increase in fees to the accountant and the charge for registering the General Journal; (2) The second arises from not perceiving the benefits generated by the adoption of the norm (ν); and (3) the third stems from unlikely but identifiable factors (ε), such as the desire for less transparency and not declaring the entity's operations.

Thus, it follows that the relationship between *Bnf* and *Ct*, regarding the decision of whether or not to adopt the accounting standard, can be expressed as follows:

$$Bnf^{*}_{ITG} > Ct_{LCX} + \omega + \varepsilon \qquad (1)$$

where Bnf^{*}_{ITG} represents the *perceived* benefit from ITG, which is the outcome of □*'s* effect on the *true* benefit (Bnf_{ITG}).

As, necessarily, $(Ct_{LCX} + \omega)>0$ and ε is uncertain and uncontrollable, and may vary to master any level of Bnf_{ITG}, we have v as a determining factor for the decision, in which case(s) ε tends to zero (the entity runs regularly).

Minimizing v, in turn, depends, theoretically, on the professional's ability to demonstrate the actual benefits effectively generated by accounting information for the decision-making of owners of micro businesses and SMEs. This ability incorporates various aspects, from the knowledge of the accounting standard to ethical issues. Thus, there is initially $Bnf^{*}_{ITG}=f(v)$, in that invariably, □□≥ 1, whose behavior is shown in Figure 2.

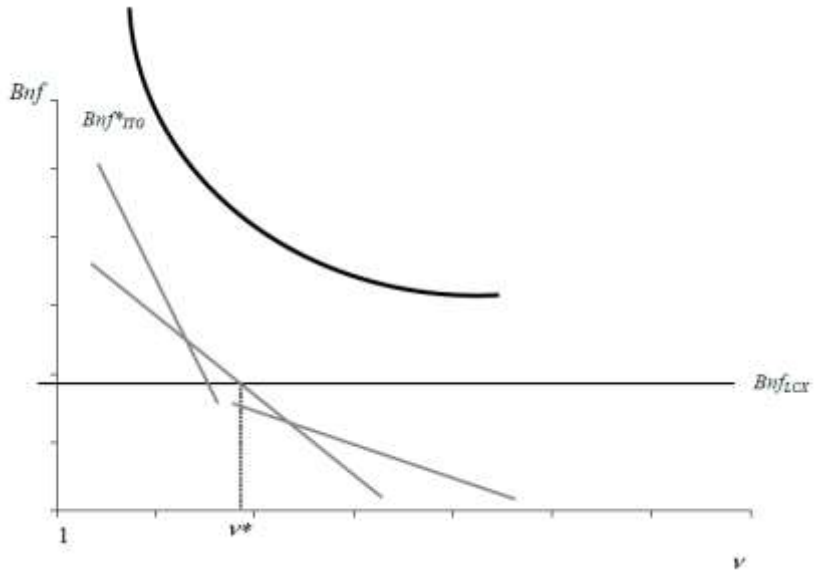
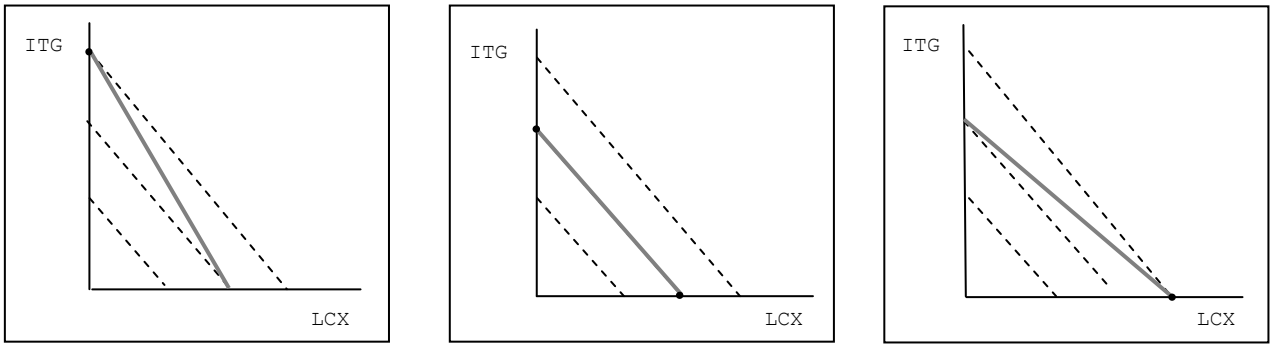


Figure 2 - Perceived Benefit(s) of ITG 1000

Therefore, the lower the v value (steeper curve Bnf^{*}_{ITG}), the greater the perceived benefit relative to ITG. On the other hand, Bnf_{LCX} stays as a constant in relation to v. Under this idea, the point v^{*} results in the indifference regarding the choice between LCX and ITG, for in this point, the perceived benefit linked to each of these options would be the same.

By assuming, as a matter of course, that Bnf_{ITG} is superior to Bnf_{LCX} and exceeds the costs of its implementation, (which can always be supported by the micro business/SME), it follows that the decision to adopt the ITG or LCX tends to be directed by v.

Bnf_{ITG} e Bnf_{LCX} are perfect substitutes and mutually exclusive, so the optimal choice will always result in one or the other good. In this case, budgetary constraints need to be mentioned, because they do not exist here, since the budget will always support any choice. As it is directed by v, it should be the case that the restriction(s) imposed on it are defined by the level(s) of this variable, which can be categorized thus: (a) $v< v^*;$ (b) $v= v^*;$ e (c) $v> v^*.$



$a) v < v^*$ $b) v = v^*$ $c) v > v^*$

$Bnf^*_{ITG} \succ Bnf_{LCX}$ $Bnf^*_{ITG} \sim Bnf_{LCX}$ $Bnf_{LCX} \succ Bnf^*_{ITG}$

Figure 3 – Optimal Choice with Restriction on v

Thus, the minimization of v requires the adoption of ITG 1000, i.e. one in which this variable range value is immediately below v^*. In this way, one can categorize micro business/SME into two groups: (g_{emp1}) those who have realized the benefit of ITG 1000 and therefore decided to adopt it; and (g_{emp2}) those who have not yet realized this benefit or do not want it.

Regarding g_{emp1}, it follows that $v < v^*$. Moreover, the classified micro business/SMEs tend to stick to their situation, i.e. not to take the decision to stop using ITG 1000. In the case of g_{emp2}, the adoption of ITG 1000 will depend on the combination of several factors, for example, the professional accounting capacity minimizes v; or the existence of professionals willing not to apply ITG 1000; or the fact that $\varepsilon > 0$ in such proportions that it dominates any level of Bnf^*_{ITG}.

4.2 THE ACCOUNTING PROFESSIONAL AND THE RISK OF DETECTION *(Φ)*

According to Allingham and Sandmo (1972), tax evasion affects the individual's utility function. Being this individual averse to risk, their decision to avoid or not to avoid, and how much avoidance in an environment of uncertainty, is more sensitive to the penalty imposed (for said behavior) and the risk of detection by the tax authorities (likely to be monitored). The model follows:

$$E[U] = (1-p)U(W-\theta X) + pU(W-\theta X - \pi(W-X)) \quad (2)$$

where E*[...]* – expectation operator; *U* is the utility; *p* is the probability/risk detection (to be monitored); *W* is the real income; *X* is the income declared to the tax authorities; θ is the tax rate; and π is the penalty.

In this theoretical modeling, Allingham and Sandmo (1972) demonstrated that the higher the detection probability (*p*) and/or the greater the penalty (π), the lower the ability of the individual to function in evading (tax), therefore the greater the amount declared (*X*). In short, the individual will decide by avoidance if $\theta > p\pi$ is in proportion to their risk aversion.

Using the assumptions underlying this economic model and its conclusions, it is possible to analyze the economic decision accounting professional, relative to the application (or not) of the ITG 1000 accounting standard. On the one hand it is up to micro business / SME to decide whether or not to adopt ITG 1000, by the same token, it is up to the accounting professional whether or not to accept this decision.

In general, you can sort these professionals into two categories: (g_{cont1}) those who, under any circumstances, apply ITG 1000 and those who are willing to leave it up to the micro business/SME to decide otherwise; and (g_{cont2}) those for whom the application (or not) of this rule will depend on their level of risk aversion detection (φ), (i.e. driven by the audit performance of Regional Accounting Councils, aka CRC). This being the case, fiscal performance may also be examined via the effects of φ, i.e. an important factor for effective implementation of ITG 1000.

In the relationship between the professional and the auditing of CRC, there is informational asymmetry, since the CRC does not know precisely whether or not professionals are following the rules and accounting interpretations, as well as the fact that the professionals do not know the probability of being inspected. Thus, it follows that the non-application of ITG 1000 by professionals is a decision made under uncertainty.

On the one hand, the decision to apply ITG 1000, in cases where Bnf_{ITG} is not perceived by the micro business/SME, can result in customer loss, thus affecting the economic utility of the professional. On the other, the non-application of this interpretation, if detected, entails professional penalties, which also negatively affect economic utility, in addition to the negative effects on professional conduct from an ethical point of view.

Thus, if we only consider the g_{cont2}, professionals within the context of the non-application of ITG 1000 scenario, it follows that the wealth of the professional (W) will be increased by additional remuneration (γ) from said micro business(es)/SME(s), i.e. the g_{emp2} (γg_{emp2}). However, with a probability φ, adverse behavior may be detected, entailing, therefore, a penalty, which is assumed to be composed of a minimum number and setting (π) and a portion connected to each micro business / SME detected as g_{emp2} (θ). Thus, the expected utility function of the g_{cont2} professional may be defined as follows:

$$EU_{g_{cont2}} = (1-\varphi)U\left[W + \gamma g_{emp2}\right] + \varphi U\left[W + (\gamma - \theta) g_{emp2} - \pi\right] \quad (3)$$

One can assume that $U' > 0 > U''$ and (3) to be the expected utility (function) for the decision of the professional who does not require any auditing or is not subject to any ethical-disciplinary penalty, i.e. the professional is not a repeat offender. That being said, the function does not account for the effect(s) of ethical penalties, with respect to the possible impact(s) on the wealth of the professional (W), coming from a possible lack of prestige - or for the anticipated penalty, for example, which could be difficult to quantify.

Below (3), the professional wealth of states, depending on their decision, may be represented as follows:

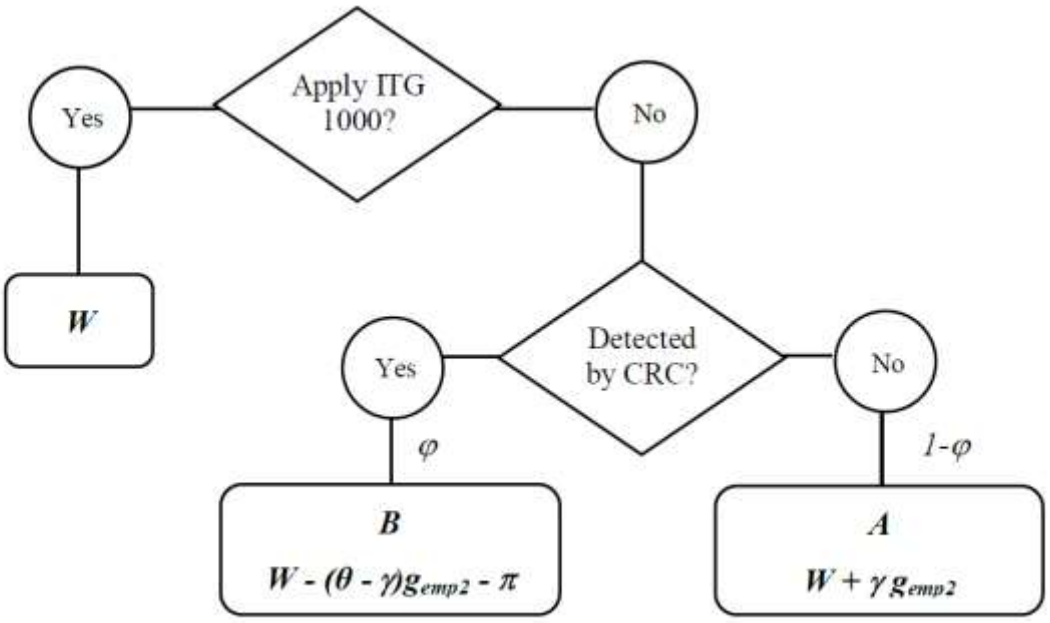


Figure 4 - State of wealth

where ***B*** < ***W*** < ***A.***

The first order condition for obtaining an inner solution to the problem of the accountant is given by:

$$\frac{\partial EU_{g_{cont2}}}{\partial g_{emp2}} = \gamma(1-\varphi)U'[\mathrm{A}] + (\gamma-\theta)\varphi U'[\mathrm{B}] = 0 \tag{4}$$

While the condition of the second order that meets the concavity of the utility function, given the risk aversion of the accounting professional, is $\frac{\partial^2 EU_{g_{cont2}}}{\partial g_{emp2}{}^2} < 0$. Thus:

$$D = \frac{\partial^2 EU_{g_{cont2}}}{\partial g_{emp2}{}^2} = \gamma^2(1-\varphi)U''[A] + (\theta-\gamma)^2\varphi U''[B] < 0 \tag{5}$$

So the conditions can be satisfied for the function parameters (φ, γ, θ e π), so as to obtain an internal solution, it is necessary to evaluate the expected utility in g_{emp2}=0 e g_{emp2}= g^*_{emp2} (maximum point), which constitutes the optimal value $g_{emp2,}$ which will provide maximum utility for the professional. Thus, in g_{emp2}=g^*_{emp2}, it follows that:

$$\left.\frac{\partial EU_{g_{cont2}}}{\partial g_{emp2}}\right|_{g_{emp2}=g^*_{emp2}} = \gamma(1-\varphi)U'\left[W+\gamma g^*_{emp2}\right] + (\gamma-\theta)\varphi U'\left[W+(\gamma-\theta)g^*_{emp2}-\pi\right] > 0 \tag{6}$$

On the other hand, as the expected utility decreases with respect to g_{emp2}, in g_{emp2}=0 (lowest possible value), it appears as the lowest level of expected utility for the professional g_{cont2}. Therefore, it is possible to assume that:

$$\left.\frac{\partial EU_{g_{cont2}}}{\partial g_{emp2}}\right|_{g_{emp2}=0} = \gamma(1-\varphi)U'[W] - (\theta-\gamma)\varphi U'[W] < 0 \tag{7}$$

Considering these two extremes, it is possible to express the respective conditions as follows:

$$\varphi\theta < \gamma\left\{\varphi + [1-\varphi]\frac{U'\left[W+\gamma g^*_{emp2}\right]}{U'\left[W-(\theta-\gamma)g^*_{emp2}-\pi\right]}\right\} \tag{6'}$$

$$\varphi\theta > \gamma \tag{7'}$$

In (6'), the expected penalty, given as $g_{emp2}=g^*_{emp2}$, tends to be lower than the increase in the professional's wealth, which implies acceptance of the micro business/SME, that was unwilling to adopt the ITG 1000 up to this point. As such, the non-acceptance of these micro business/SME ($g_{emp2}=0$) will be given should the expected penalty exceeds the individual growth of each micro business/SME, taking the professional's wealth as (7').

Here, the value of γ deserves specific attention, whose magnitude could result in not establishing (7'). For if γ varies in order to compensate the expected penalty [$\varphi(\theta g_{emp2}+\pi)$], it tends to necessarily, to be greater than that. However, it is important to note that the magnitude of γ is limited by the market. Furthermore, as this is part of remuneration Ct_{LCX}, we have, for example, in an extreme situation, that the increase in γ could raise Ct_{LCX} to a level higher than Ct_{ITG}, resulting from a g_{cont1} professional, which would encourage the adoption of ITG 1000, even without any reduction in ν. Therefore, it is assumed that γ is always limited to the level at which $Ct_{LCX} < Ct_{ITG}$, that is, when $\omega > 0$.

It is felt that the conditions described in (6') and (7') are similar to those proposed by Allingham and Sandmo (1972) in (5') and (6'), respectively. However, one should note that the directions are opposite, which is due to the fact that, unlike the rental value to be reported to the tax authorities, the higher the level of g_{emp2}, the greater the utility.

Finally, it is important to evaluate the sensitivity of g_{emp2} in the face of variables γ, φ, θ and π. The assumptions made here note that the accounting professional is averse to φ and that his/her utility decreases as $\varphi(\theta g_{emp2}+\pi)$ increases. In addition, it is assumed that it displays decreasing absolute risk aversion, i.e. their aversion to a fixed risk decreases with the increase of their income. The greater this aversion, the greater the Arrow-Pratt measure, which is given by $R_A(.) = -U''(.)/U'(.)$. Thus, in this case we have that $R_A(B) > R_A(A)$.

Differentiating (4) by γ, it demonstrates that:

$$\frac{\partial g_{emp2}}{\partial \gamma} = -\frac{1}{D} g_{emp2} \{\gamma(1-\varphi)U''[\mathrm{A}] + (\gamma-\theta)\varphi U''[\mathrm{B}]\}$$

$$-\frac{1}{D} g_{emp2} \{(1-\varphi)U'[\mathrm{A}] + \varphi U'[\mathrm{B}]\} \qquad (8)$$

Both terms of (8) are positive, given that the increase in γ increases the wealth of the professional and becomes more profitable on the acceptance of the g_{emp2} clients. If it is assumed that γ always offsets the risk, up to the limit of market balance, it should be stated

that its increase will always occur, tending to mitigate the effects of absolute risk aversion, thus implying the non-application of ITG 1000.

And so differentiating (4) in relation to φ, we obtain:

$$\frac{\partial g_{emp2}}{\partial \varphi} = -\frac{1}{D}\{-\gamma U'[A] - (\theta - \gamma)U'[B]\} \quad (9)$$

Here, the derivative is negative, thus indicating, therefore, that an increase in the probability of detection will reduce the cases of non-application of ITG 1000.

Solving the differentiation of (4) to θ gives us:

$$\frac{\partial g_{emp2}}{\partial \theta} = -\frac{1}{D}\{g_{emp2}(\theta - \gamma)\varphi U''[B]\} + \frac{1}{D}\varphi U'[B] \quad (10)$$

In the same sense of (9), both terms are negative, showing that the increase in penalty will always result in the reduction of cases of non-application of ITG 1000.

Finally, differentiating (4) in relation to π:

$$\frac{\partial g_{emp2}}{\partial \pi} = -\frac{1}{D}\{(\theta - \gamma)\varphi U''[B]\} \quad (11)$$

The derivative in (11) is negative, which means that an increase in the minimum portion of the penalty will also positively influence the implementation of ITG 1000. It is clear, as is to be expected, that this effect exclusively tends to be lower than that produced by the variable portion. Basically, with the detection of at least 2, g_{emp2} will be denoted as the penalty $2\theta+\pi$. With the marginal increase in g_{emp2}, the individual portion of p tends to decrease, also reducing its representation in the total penalty.

Based on (8), (9), (10) e (11), in summary, it appears that increases in isolated γ contribute to non-application of ITG 1000, while isolated increases in φ, θ e and π and π create an environment in which the implementation of ITG 1000 is expected to occur. It is important to note that, in his/her decision, the professional only exercises control γ, up to the limit of the market, since φ, θ and π, are exogenous. These assumptions considered, hypothetical scenarios will be analyzed in order to assess the likelihood of success of ITG 1000.

4.3 SCENARIOS

In what has been discussed so far, it is clear that the adoption of ITG 100 mainly depends on: (i) minimizing v, so $v < v^{*}$; and (ii) the magnitude of φ, θ and π. However, it is true that this formulation is limited in function, not considering the influence of other questions about the decision to adopt or apply ITG 1000, such as those related to professional ethics. Either way, in order to mitigate this limitation, you can establish two scenarios: (1) all professionals apply to ITG 1000; and (2) some professionals do not apply to ITG 1000.

4.3.1 Scenario 1

If all professionals, regardless of the negative effects on their wealth, are willing, no matter what the motive, for ethical reasons or the precise recognition of the benefits of accounting information, not to provide services for said micro businesses/SMEs, who are unconvinced of the benefits of ITG 1000 OR simply do not wish to embrace it, but who, nonetheless, want to ensure their stay in the National SIMPLES ($\varepsilon \rightarrow 0$), it would create an environment in which the decision by the micro business / SME, on the adoption or not of ITG 1000, would be innocuous, given that there would be professionals who would act only in a tax compliance capacity (cash account ledger). Thus, g_{emp2} tends to zero.

In this scenario, apparently, the importance of v is shown to be reduced, that being said, the ultimate purpose of accounting information lies in the understanding of its benefit, so that the minimization of v will still represent an action to be developed.

4.3.2 Scenario 2

This is a more realistic scenario. In it, it assumes the existence of professionals (g_{cont2}) whose compliance with ITG 1000 will depend upon their perception of risk related to the control of the actions of the class council and the penalty to be imposed.

The informational asymmetry that exists between the behavior of this professional and the auditing operations of the industry's professional body may contribute to the increase in the number of professionals who do not respect the regulatory technical and professional norms, thereby providing a favorable environment for adverse selection, in the sense proposed by Akerlof (1970). In other words, those micro business/SMEs who do not wish to adopt the ITG 1000 (g_{emp2}) will seek these professionals and always find them.

The utility of the accounting professional that is generated by the non-application of the norm (maintenance of clients of g_{emp2}, lower cost of operation, etc.) is effected by φ levels and $\theta g_{emp2}+\pi$. So, by being risk averse, the decision of the professional to implement (or not implement) ITG 1000 depends on the anticipated penalty [$\varphi\ (\theta g_{emp2}+\pi)$], expectation, largely determined by the acting auditing statutory body.

Considering (6'), g_{emp2} tends to the maximum (g^*_{emp2}) as $\varphi\ \theta$ decreases. It should be stressed that a low $\varphi\theta$ does not offer incentives to minimize v, thereby preventing increases in Bnf_{ITG}*, so as to create an unfavorable environment for future applications of ITG 1000. Here there is a situation in which it would be possible to achieve the highest level of adverse selection.

Since (7') shows that g_{emp2} $\varphi\theta$ tends to zero when greater than the remuneration received (γ), in proportion to the increase of the utility of the first unit g_{emp2}. This implies the migration of professional from g_{cont2} to g_{cont1}, assuming that they will continue practicing in their role(s). As practitioners have different levels of risk aversion, it is most likely that, $g_{emp2}>0$ when $\varphi<1$, which also implies an adverse selection scenario.

By the same token, with the increase in $\varphi\theta$ for all professionals, or those remaining in g_{emp2}, one may assume a setting close to ideal, in which $g_{cont2}=0$ and the adoption of ITG 1000 for all micro businesses/SMEs ($\varepsilon\rightarrow 0$). However the increase in $\varphi\theta$ in these conditions, is a difficult operation, so that $g_{emp2}>0$ always.

Given this scenario, it follows that the number of entities that will probably adopt ITG 1000 can be defined theoretically, in the function of $\varphi\theta$. However minimizing v, and therefore the increase of Bnf_{ITG}*, depends, in part, on the effects of the decision of the accounting professional on the implementation of ITG1000 over his own utility, which mainly stem from the level of $\varphi\theta$. As such, one can assume that $v=f(EU_{gcont_2},\mu)$, μ being the other factor(s) that also contribute to minimizing v for example professional training etc.

5 CONCLUSIONS

Reconciling the simplification of accounting and usefulness of the information to be produced is a complex challenge. Particularly, in an environment in which this information is seen as a "burden" of governmental nature by users.

From a rational perspective, this paper was developed to reflect on the adoption of ITG 1000. Among the factors analyzed, two are highlighted: the role of professional accounting and the behavior of the auditing statutory professional body.

It may be noted that the successful adoption of ITG 1000 can be achieved with an awareness of the segments involved (institutions and professionals) and with prohibitions and penalties for unbecoming conduct. This conclusion is, to some extent, obvious, however one aspect that emerges from these reflections is that the adoption of ITG 1000, in a macro sense, apparently depends more on the actions of the accounting community rather than an independent decision by micro businesses/SMEs.

The reflections shared here, however, should be considered, given the simplification that was imposed on the evaluation of decisions as well as the configuration of scenarios. There are other factors, especially ethical, permeating, in particular, each of the choices, which can exercise significant influence.

Another shortcoming of this essay is the limited mathematical development of the related proposals, which tends to weaken some points raised. However it was not intended to exhaust the subject here, but to present reflections.

The theme is compelling and of interest to the accounting community, and it is believed that this discussion has initial directions for future studies.

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