

IS THE PORTUGUESE TAX AUTHORITY OVERLOOKING ACCOUNTING RULES FOR BIOLOGICAL ASSETS? THE PRESUMPTIVE TAXATION IN AGRICULTURAL ACTIVITY.

ESTARÁ A AUTORIDADE TRIBUTÁRIA PORTUGUESA A IGNORAR AS NORMAS CONTABILÍSTICAS APLICÁVEIS AOS ATIVOS BIOLÓGICOS? A TRIBUTAÇÃO POR MÉTODOS INDIRETOS NA ATIVIDADE AGRÍCOLA.

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ABSTRACT:

The Portuguese Tax Authority (TA) has been conducting audits targeting companies operating in the pig farming sector. These audits frequently conclude that there are legal and economic reasons to disqualify financial statements that are the basis of taxable income computation and apply presumptive taxation methods to increase taxable income. The main reason for applying presumptive taxation is the alleged discrepancy between the margin ratios of audited companies and the sectoral average margins, which is interpreted as signs of omitted revenue and tax evasion. This paper explores whether the tax audit procedures employed in the pig farming sector align with the accounting standards governing agricultural activities. Specifically, when presumptive taxation is based on differences between a taxpayer's margin and the margin of a sample of firms in the same sector, the financial accounts of audited and comparable firms require detailed scrutiny. This analysis should consider key elements such as fair value gains and losses, inventory measurement, and other sector-specific accounting traits to determine whether the margin formula regularly used by the TA to calculate tax profitability is appropriate for justifying presumptive tax adjustments. A comprehensive evaluation of these factors can help mitigate the frequent litigation that follows such tax audits.

KEYWORDS: presumptive taxation; tax audits; accounting margins.

RESUMO:

A Autoridade Tributária e Aduaneira Portuguesa (AT) tem vindo a realizar ações de inspeção dirigidas a empresas que operam no setor da suinicultura. Frequentemente, estas baseiam-se em argumentos legais e económicos para desqualificar as demonstrações financeiras como base de apuramento do lucro fiscal, aplicando métodos indiretos de tributação, que resultam no aumento da matéria coletável. O principal argumento invocado para a sua aplicação é a alegada discrepância entre as margens das empresas inspecionadas e a margem de lucratividade média do setor, interpretada como um indício de omissão de rendimentos, que constitui fraude fiscal. Este trabalho analisa se os procedimentos de inspeção tributária

utilizados no setor da suinicultura estão em conformidade com as normas contabilísticas aplicáveis às atividades agrícolas. Em especial, quando a tributação presumida se baseia em desvios entre a margem de um contribuinte e a margem de uma amostra de empresas do mesmo setor, as demonstrações financeiras tanto das entidades inspecionadas como das entidades comparáveis devem ser objeto de uma análise detalhada. Essa análise deve ter em consideração elementos essenciais como os ganhos e perdas de justo valor, a mensuração dos inventários e outras especificidades contabilísticas do setor, aferindo se a fórmula utilizada pela AT para o cálculo das margens é consistente com a aplicação de métodos indiretos. Uma avaliação destes fatores poderá contribuir para reduzir a litigância associada a estas inspeções.

PALAVRAS-CHAVE: tributação presumida; inspeções fiscais; margens contabilísticas.

1. Introduction

The Portuguese Tax Authority (TA) has been auditing companies operating within the pig farming sector. These audits frequently conclude that there are legal and economic grounds to disqualify financial statements and apply presumptive taxation methods to increase taxable income.

A common justification for these measures is that tax auditors often disqualify the tax base derived from financial statements because margin ratios calculated for some companies fall significantly below sectoral averages. This discrepancy is interpreted as a sign of underreported sales revenue, implying tax evasion. Consequently, the taxable amount is computed using indirect or presumptive assessment methods under the provisions outlined in Articles 87 to 90 of the Portuguese General Tax Law (Decree-Law nº 398/98, 17-12-1998 – Lei Geral Tributária). This provision states that if a company's tax base is evidently below sectoral averages, it may constitute a valid reason for presumptive taxation.

In the pig farming sector, the presumptive taxable base is calculated using indirect methods, specifically through the application of “gross margin on sales” (GMS). The median GMS value is derived from a nationwide sample of pig farming companies selected by the TA and serves as a benchmark. GMS is calculated using the following formula:

$$[VN-(CMVMC+FSE)]/VN$$

The components of the formula are based on accounts defined in Accounting Standardization System (SNC), in effect in Portugal:

VN - Sales and services rendered, recorded on accounts nºs 71 and 72;

CMVMC- Consumption of raw materials, recorded on account nº 61;

FSE- Other external supplies, recorded on account nº 62.

The research question explored in this paper is: Does the TA's auditing procedures in the pig farming sector adhere to accounting rules for agricultural activities?

The accounting issues surrounding bio assets have been analysed in the literature. However, to the best of our knowledge, no studies in the tax area have focused on the computation of margins, and its adequate *formulae*, to sustain a presumptive taxation approach. When presumptive taxation relies on differences between a taxpayer's margin and the median margin of comparable firms, detailed analysis of the financial accounts of both audited and sample firms becomes critical. Dissecting accounting data is essential to determine whether the GMS formula commonly employed by the TA is appropriate for supporting presumptive tax adjustments. For example, fair value gains and losses, inventory valuation and other specific accounting traits of the pig farming sector affect GMS calculation.

This investigation not only contributes to discussions about the pig farming sector but extends its relevance to other agricultural industries audited under presumptive taxation methods. The legal and economic consistency of margin-based evidence to justify tax adjustments has significant implications for both accounting and taxation domains.

This study employs a legal research methodology, divided into two analytical steps. The first step examines accounting practices by the TA to identify and quantify errors that render accounting statements inappropriate for assessing pig farming firms' performance and taxable income. The second step evaluates the practical application of presumptive tax concepts by TA, proposing guidelines to improve the auditing process.

This paper is organized as follows: section 2 presents a literature review; section 3 interprets legal rules related to presumptive taxation and contains the basics of accounting for bio assets in Portugal; section 4 discusses the flaws in auditing process and puts forward some suggestions to improve auditing activity in cases where fair value significantly impacts income statements. Section 5 offers conclusive remarks.

2. Literature review

2.1 Accounting and biological assets: an overview

Argilès & Slof (2001) identified a gap between the importance given to accounting by different stakeholders and the low quality of accounting practice in the agricultural sector. This discrepancy arises because general accounting standards are not tailored to the particularities of farming and are expensive to implement. They suggested that the Farm Accountancy Data Network (FADN) and the International Accounting Standard on Agriculture (IAS 41) could have a key role in the use of accounting in European farms. IAS 41 establishes that fair value is the main measurement method in accounting for agricultural activity.

Hadiyanto et al. (2018) analysed the relationship between accounting methods for biological assets and financial reporting quality. They concluded that historical cost methods imply less reliable and relevant financial information when compared to fair value methods, supporting

IASB's rationale for adopting IAS 41. Arbidane & Mietule (2018) focused on the challenges in the accounting and valuation of biological assets in Latvia. They stressed that the lack of an active market for many biological assets, coupled with imprecise valuation information, hinders the application of fair value measurement. Therefore, most biological assets are valued based on acquisition or production costs, leading to distorted asset values and difficulties in accurately assessing a company's financial position.

Garcia & Morales (2021) found that agricultural companies in Latin America often justify the low quality of financial information by arguing that general accounting standards are ill-suited to the specificities of the agriculture sector and are expensive to implement. Burritt & Cummings (2002) examined the impact of Australian Accounting Standard 1037 – Self-Generating and Regenerating Assets, implemented between 1995 and 2001, on the relevance and reliability of financial reporting. They highlighted that the absence of active markets for biological assets challenges the adequacy of fair value measurement under this standard. Hossain (2017) explored biodiversity accounting in Australia. The author noted that despite the increase in flora and fauna species and habitat-related disclosures, only a partial construction of an inventory of natural assets is possible. The lack of available data limits the development of comprehensive inventories of natural assets.

Oyewo et al. (2020) investigated challenges in auditing fair value accounting in Nigeria after the introduction of IFRS 13 – Fair Value Measurement. Based on a structured questionnaire administered to 400 auditors, they concluded that:

“the two highest-ranking and most-prevalent challenges of auditing fair value measurement and accounting estimates are the tendency for managers to manipulate earnings owing to the inability of auditor to effectively test fair value estimates; and the difficulty in testing unobservable inputs due to the application of assumptions and judgement in arriving at estimates by preparers of financial reports.”

Oliveira et al. (2015) explored fair value valuation of Portuguese biological assets after adopting the Portuguese Accounting Standardization System. Main findings indicate inconsistencies in market values for dairy production animals, which reduced the comparability of financial information. To address these problems, they proposed a model for fair value valuation based on the net present value of future cash flows.

Overall, the reviewed studies highlight a recurring theme in the literature: the challenges of applying fair value measurement in the agricultural sector due to the lack of organized markets, technical valuation complexities, and the high costs of implementation.

2.2 Financial accounting data and presumptive taxation

Yitzhaki (2007) outlined principles for effective tax system design, emphasizing equity, economic efficiency, simplicity, and revenue generation. However, these objectives often conflict, originating difficult trade-offs in tax policy. According to Ahmad & Stern (1991), “the term presumptive taxation covers a number of procedures under which the ‘desired’ base for taxation (direct or indirect) is not itself measured but is inferred from some simple indicators which are more easily measured than the base itself”. Bird (2015) stated that monitoring tax compliance is a primary objective of tax administrations.

Jantscher & Tanzi (1987) identify two main techniques used in taxing agricultural incomes: the actual income and the presumed income. The first technique implies determination of agricultural income in the same way income values are derived from industrial and commercial activities, i.e., through regular accounting procedures. The second technique requires determination of farm income based on indicators such as the kind of crop, area planted, number of employees, and other factors. These indicators may be used when accounting data is nonexistent or deemed unreliable.

Tax administrations have modernized their strategic and operational capabilities (Hanlon et al., 2014). More skilled staff and powerful information systems provide stronger auditing capacity. Investing in new information technology systems expands the ability of tax auditors, the scope of tax audits, and reduces the opportunities for taxpayers to evade and avoid taxes (Radae & Sekhon, 2017). However, the tax auditing activity is often biased towards finding adjustments to increase taxable income. Performance-based systems use additional tax revenue as a key metric, and junior and middle-ranking tax administration officers know that promotions are positively enhanced by consistently finding extra revenue when auditing taxpayers (Taborda & Martins, 2023). Thus, presumption-based taxation is a legally codified avenue where the TA may find manipulated financial statements and tax bases.

On the other hand, presumptive taxation can also support simplified tax systems for micro and small firms. For small firms with poor accounting records, presumptive taxation simplifies tax collection, reducing compliance and administrative costs. By removing the ability to manipulate taxable income through discretion in accounting policies, presumptive taxation encourages formalization and reduces tax evasion. A presumptive simplified tax regime with a low compliance burden and simple rules (forgoing accuracy in measuring true or actual income) will remove the unfair advantage of the so-called “hard-to-tax persons”, who can often evade their tax obligations (Logue & Vettori, 2011).

Carpentieri et al. (2019) proposed reforming corporate taxation in response to globalization, digitalization, and the increasing role of immaterial goods in economic activity. One proposed measure involves implementing presumptive taxes determined by standardized criteria based on company indicators. This approach aligns source-based taxation with the actual profits that businesses earn in each country.

Presumptive taxation includes simplified tax regimes. These regimes facilitate taxable income calculation and reduce compliance costs for self-employed individuals or micro and small enterprises. Eliminating accruals brings more simplicity and objectivity, and limiting the taxpayer's discretion in accounting policies adoption reduces opportunities for managing taxable income. Furthermore, simplified tax regimes bring advantages for tax administrations, such as allocating resources to larger firms and encouraging (small) business formalization, reducing the shadow economy and fiscal evasion. Many European countries allow the use of simplified methods of accounting to determine taxable income. Nevertheless, cash-based accounting as an alternative to the accrual approach (simplified tax accounting) is only available for non-corporate businesses (Bergner & Heckemeyer, 2017). In Portugal, the simplified tax regime is a voluntary, indirect method based on objective coefficients. These coefficients are mostly designed as a percentage of the annual declared turnover, disregarding the real expenses incurred (Martins et al., 2023).

Engelschalk & Loeprick (2016) analysed the design of simplified tax regimes in Eastern Europe and Central Asia. They concluded that the main problems concern the definition of appropriate rates, limiting the presumptive regime to small businesses facing difficulties in applying the standard tax regime, and avoiding the undesirable migration of larger businesses. Mas-Montserrat et al. (2024) advocated for data-driven analysis when designing presumptive tax regimes, including estimating sectoral coefficients to minimize the divergence between actual and presumed income. They emphasized that continuously updating databases ensures the reliability of presumptive tax indicators. A country-level empirical analysis should be performed, encompassing the average business profitability by activity type, location, and number of years of operation, and the suitable indicators to approximate taxable income. Estimating carefully sectoral coefficients to apply to turnover or defining other indicators of economic activity that correlate with income (such as input consumption) reduces the divergence between actual and presumed income. Additionally, the selection and construction of the indicators to reflect business profitability implies a permanent update of the database. Monitoring multisectoral economic activity requires administrative costs and a commitment to adjust and refine the selected indicators.

To sum up, presumptive taxation may be used when fighting tax evasion, by reconstructing a potential (underreported) tax base, or to construct financial indicators that simplify the computation of taxable income for micro and small businesses. Reverting to our main topic, presumptive taxation can recreate taxpayers' income through several indicators external to variables used in standard taxation but related to income generation, being a useful means to support tax auditing. Ferrara et al. (2023) introduced a method to differentiate between firms underreporting income due to inefficiency (lack of managerial skills) versus deliberate noncompliance. They argued that increased awareness of indirect auditing methods could enhance voluntary tax compliance. In this context, public awareness of the new capabilities of indirect auditing methods should be raised (Stasinopoulos & Kastonioti, 2024).

The need for fiscal revenues reintroduced the discussion of applying presumptive tax to an individual taxpayer based on his standard of living, or to a small business owner considering some observed inputs (Shome, 2021). Nevertheless, determining the taxable income with a presumed net margin clashes with tax equity. Taxpayers may support similar tax liabilities despite obtaining different income (vertical inequity), and similar profits may be subject to different tax rates (horizontal inequity). Therefore, indirect audit methods that enable tax authorities to capture any undeclared items or identify economic agents in informal sectors should be encompassed with traditional audit methods, focusing on the income derived from accounting records.

Ribeiro (2014) highlighted the use of presumptive taxation in Germany and France to address accounting irregularities. He pointed out that these methods are often a last resort, with legal frameworks requiring strong justification and permitting judicial review. The burden of proof of presumptive taxation is on the tax authorities, and taxpayers can challenge tax audits in courts. In France, indirect methods of taxation can also be used. In the United States, the Internal Revenue Code gives the IRS the power to make assessments when taxpayers fail to fulfil legal obligations, namely the timely presentation of tax returns, or when the accounting and tax data are considered unreliable (Hanlon et al., 2014). There is a significant body of jurisprudence to address the use of presumptions in tackling alleged tax evasion. Similarly, in India, tax law requires best judgment assessments when taxpayers fail to file returns, provide inaccurate accounts, or lack a reliable method for determining their tax base (Thuronyi, 1996).

A common theme in the literature suggests that presumptive taxation is a useful tool when traditional methods fail, but its application must balance simplicity and equity. Judicial oversight is critical to ensure fairness and accountability.

3. Accounting for bio assets in Portugal: an overview

SNC, introduced in 2010, replaced the Official Accounting Plan (POC). POC did not expressly deal with the accounting for biological assets. There were no specific accounts, or sub-accounts, for this type of assets, nor were specific recognition and measurement rules developed. Knowing the economic importance of sectors such as agriculture and forestry, this omission caused inaccuracies in their accounting records. As a rule, POC instituted historical cost - defined as the price at the time of acquisition - for valuing assets.

SNC established NCRF 17 – Agriculture. This framework includes provisions for consumable and productive biological assets, emphasizing fair value as the primary measurement criterion. While fair value accounting, as introduced by the SNC, is generally disregarded in determining taxable income, notable exceptions can be found within the Portuguese CITC. The SNC plan of accounts includes account nº 31.3- Purchases of biological assets, account nº 61.3- Consumption of biological assets, account nº 37.1- Consumable biological assets (in specific case, pigs for sale), account nº 37.2- Biological productive assets (in this case, breeding sows, from which biological consumable assets result), account nº 71.4- Sales of biological assets, account nº

73.4- Production variation of biological assets, and also account nº 77.4- Fair value gains on biological assets.

A central issue in the accounting treatment of pig farming operations arises from the provisions set forth in § 13 of NCRF 17. It specifies that:

“13 — A biological asset shall be measured, at initial recognition and at each balance sheet date, at its fair value less costs of disposal, except in the case described in paragraph 30 where fair value cannot be measured reliably.”

Building on these definitions, examples will be provided to demonstrate their application in the context of asset valuation. One is related to consumable biological assets (hereinafter, for convenience, referred to as “CBA”), the other to productive biologicals (hereinafter, for convenience, “PBA”). Before presenting these examples, it is important to highlight that NCRF 17, § 37, defines the concept of both types of biological assets:

“37 — Consumable biological assets are those that are to be harvested as agricultural produce or sold as biological assets. Examples of consumable biological assets are livestock intended for meat production, livestock kept for sale, fish in aquaculture, crops such as corn and wheat and trees that are under development for timber. Productive biological assets are those that are not consumable biological assets; for example, cattle from which milk can be obtained, vines, fruit trees and trees from which firewood is obtained by thinning while those trees remain alive.”

The absence of explicit accounting guidelines for biological assets under the POC, combined with discrepancies in the treatment of operations involving CBA and PBA, as well as challenges associated with fair value measurement, highlight potential gaps or inaccuracies in the accounting of biological assets—particularly in the period following the introduction of the SNC in 2010.

In Portuguese accounting manuals dealing with biological assets recognition and measurement, some divergences can be found, showing a lack of consensus among experts regarding the proper way of dealing with CBA and PBA (Gomes & Pires, 2015).

Why do such differences arise in accounting for CBA and PBA? Firstly, because POC was silent in bio assets accounting, which implied a lack of accounting tradition regarding these specific assets. Secondly, because neither NCRF 17, nor the explanatory notes of SNC plan of accounts are clear and explicit about the registration procedures to be considered. (NCRF 17 deals with conceptual frameworks, rather than delving into the accounting technicalities of which specific accounts should be utilized).

Consequently, each author advocates for what they consider the most suitable method for recording economic operations or transactions involving biological assets. Unsurprisingly, companies encounter significant uncertainty when accounting for biological assets, including their sales, purchases, consumption, variations in quantity, price fluctuations, and changes in production. In this context, tax audits often reveal substantial scope for disagreements with management.

4. Causes for indirect taxation in the pig farming sector and the application of presumptions

4.1 Presumptions and ratios

In this section a hypothetical example illustrates the (often observed) TA's approach to auditing pig farming companies. Suppose ALFA (a pig farming company) presents the following income statement (table 1):

Table 1- ALFA income statement

Consumption (materials, bio assets)	400	Sales	700
Acquired external services	200	Services rendered	100
Personnel expenses	200	Fair value gains	300
Other expenses	0		
EBITDA	300		
Depreciation / amortization	100		
EBIT	200		
Financial expenses	100		
EBT	100		
Corporate tax	30		
Net income	70		

Gross margin on sales and services, as defined in the section 1, is: $GMS = (800 - 400 - 200)/800 = 25\%$. Suppose that, for the sake of simplicity, the tax base is equal to net income, or 70. If, for instance, the median value of GMS for a sample from pig farming companies is, say, 35%, the TA uses this median value. The sales and services increase is: $(Sales - 600)/Sales = 0,35$; or $0,65 \times Sales = 600$, which implies that Sales (adjusted by presumptive taxation) equal to 923.

By maintaining the recorded values of expenses (because TA usually argues that the presumption should apply to omitted sales, not to the recorded costs which are deemed correct) the tax base increases by the amount of adjusted sales, that is $(923 - 800) = 123$.

Alternatively, if the TA took into consideration fair value gains in bio assets (pigs), the GMS of ALFA is: $(1100 - 600)/1100 = 45,5\%$ and no (presumptive based) tax adjustment is called for.

The appropriate GMS should be calculated using a sample that encompasses not only sales and services on the revenue side but also all positive components associated with the consumption of raw materials and external services acquired. Fair value gains are clearly a key revenue component that should be included, because the consumption of inputs is directly correlated with increases in the fair value of pigs. For example, the consumption of animal feed increases the value of growing pigs. If the input is in TA's formula, then the output (fair value gain) must also be considered.

This example shows the intricate challenges in addressing the accounting aspects of biological assets and extending that analysis to assess companies' tax positions.

4.2 A critique of the TA's procedure, grounded on an economic and accounting perspective

Amongst the uncertainties and complexities surrounding the accounting treatment of CBA and PBA under the Portuguese SNC framework, inconsistencies in the application of (resumed) accounts such as 31-Purchases, 61.3-Consumption, 73-Production variation, and 77-Fair value gains were commonplace among entities. Similar operations or economic realities were frequently recorded using different accounts.

Therefore, when important amounts are recorded in account nº 77-Fair value gains, tax auditing teams should critically assess why such amounts are presented, their connection to the taxable turnover, and their actual representation from an economic and productive perspective. It should be noted that the valuation of pig farming inventory is based on fair value, with inventory gains - reflecting the increased value of piglets during their growth - recorded in account nº 77. This account serves to offset expenses incurred in raising piglets, such as those recorded in accounts nº 61 (consumption of materials, like feed) and nº 62 (external services, such as veterinary services). In other words, there is an economic link, usually disregarded by tax auditing teams, between accounts nº 61 (which affects GMS) and nº 77 (which is outside the GMS). The calculation of the margin based solely on the consumption of goods, external services, and sales is fundamentally flawed. As a result, inconsistencies arise in both the definition and computation of the margin. This issue was highlighted through the example presented in Table 1, which demonstrated this inconsistency.

The used margin (GMS) includes consumption (account nº 61) and external supplies and services (account nº 62). However, forgetting the possible revenue impact of these inputs (namely on fair value gains) leads to an incongruous calculation. The margin is meaningful only when the recorded expenses align with the revenue directly associated with them. Incorporating changes in production values, along with gains or losses in fair value, would demand a different legal and economic framework. Tax auditing teams might argue that applying uniform criteria, such as GMS, across various industries - like ceramics, plastics, and shoemaking - upholds the principle of equal treatment. However, this reasoning is fundamentally flawed. From a straightforward accounting perspective, the impact of account nº 61 (commonly the primary account in class 6—

“Expenses” within the pig farming sector) can be reflected in accounts nº 71- Sales, nº 73 - Production variation, or nº 77 - Fair value gains. All these accounts belong to class 7- “Revenue” and contribute positively to net profit.

If the GMS incorporates amounts from account nº 61 and account nº 62 in its subtractive component, it must also account for all related items in its additive component, including fair value gains. When recalculating a company’s margins, it must be established a coherent numerical relationship between the expenses identified as essential or primary (accounts nºs 61 and 62) and the income directly associated with them (accounts nºs 71, 77, and 73).

The margin utilized in tax audits reveals an inconsistent relationship between expenses and income, compromising its quantitative reliability. The GMS fails to adequately reflect the economic and accounting realities of the sector. Additionally, while NCRF 17 emphasizes fair value as a fundamental accounting principle for the valuation of biological assets, the GMS disregards it. Moreover, there are several critical factors that tax auditors must consider, challenging the validity of the formula underlying the GMS calculation. For instance, pig farming companies have varying proportions of CBA and PBA, and the accounting rules for these two categories of biological assets differ. Consequently, analytical work becomes essential when determining sector-specific margins within the context of applying presumptions.

In response to objections regarding the misalignment of the calculated margin, tax auditors might argue that a firm could manipulate the margin calculation to its advantage. They may further contend that, since the GMS was determined uniformly across all companies in the sample, adjusting the taxpayer's margin would be unwarranted. This view is not adequate. First, the margin calculated by the TA auditors puts companies in unequal circumstances. In other words, depending on the accounting policies (which suffer from significant uncertainty) companies that showed a different use of accounts nºs 31, 61, and 73 would present (due to the impact of account nº 61 on GMS) a different margin. Secondly, if all biological asset acquisitions are recorded in account nº 61, but only a portion of these acquisitions is sold while the remainder is recognized as a production variation, the consumption becomes overvalued, and income undervalued. This discrepancy arises because the GMS applied by tax auditors fails to account for the value of production variation.

Production variation has a connection with the consumption of feed and other inputs, disregarded by GMS formula. For example, a farm that acquires CBA in September of year N, in December the feed expenses are recorded in account 61. Sales are not recorded in year N as they only happen in year N+1. However, fair value changes should still be recognized in year N. Consumption appears in the GMS formula, but not the change in fair value between September and December of year N. An artificially reduced margin would then be adjusted by presumptions based on a flawed analysis of the link between inputs and outputs.

A detailed analysis would reveal that accounts nº 73 - Production variation and nº 77 - Fair value gains hold significant relevance, both in absolute terms and as a percentage of sales. These

findings underscore the necessity for revising the formula underpinning the margin (GMS). Therefore, we propose that, rather than applying a uniform GSM formula across all sectors (e.g., pig farming, ceramics, plastics), the specific characteristics of the pig farming accounting framework, as outlined above, should have been considered.

The margin suffers from inconsistency since, especially in the pig farming sector, accounts nº 61-Consumption and nº 62-Supplies and external services can be related not only to sales but also to production variation, fair value gains, and works performed for the company itself. This result may lead to significant problems in assessing tax liability. The principle of non-discrimination must be followed, aiming that taxation imposes equal marginal disutility upon every taxpayer (Khoshyaran, 2017).

The pure and simple extraction of a margin from the TA database, without an additional analysis regarding its calculation consistency, is not a feasible solution to quantify a presumptive taxable base. One of the advantages of presumptive taxation is the encouragement of bookkeeping for tax purposes (Thuronyi, 2019). Proper records and accounts are fundamental to rebut the taxable income reached administratively. Presumption does not mean arbitrary income determination by tax authorities. It must admit proving that actual income calculated under tax accounting rules differs significantly from the presumed income.

5. Conclusive remarks: a new suggested approach for the TA

Considering the previous analysis, the following recommendations are proposed to improve the tax auditing process in the pig farming sector:

- i- When presumptive taxation is applied due to discrepancies between a taxpayer's margin and the median margin of a sample of firms in the same sector, the financial accounts of both the audited firms and the comparable firms demand a deep and detailed comparative analysis to assess whether the operational margin used by the TA is appropriate.
- ii- ii)) When delivering audit reports to the taxpayers, the sample of companies used to determine medians, averages, and other statistical metrics must be disclosed. Typically, only the interquartile range and the number of companies in the sample are shared. Without access to the economic, financial, and accounting specifics of the sample, taxpayers are at a disadvantage. If a sector has hundreds of firms, whose sales vary from some thousand euro to dozens of millions of euros, it does not make sense to compute all these firms to obtain statistical indicators. A more detailed and careful analysis should be done to compare a specific taxpayer with its real peers, not with the whole population. This lack of transparency is comparable to the “secret comparables problem” in transfer pricing context.
- iii- When taxpayers present evidence demonstrating that the GSM is flawed due to significant fair value adjustments, work in progress, or other relevant factors, the TA

- should carefully review and potentially revise the margin formula. For example, if an audited firm initially shows an operational margin of 2%, compared to a median margin of 8%, and the taxpayer provides evidence that corrects the margin to 7%, this should prompt reconsideration of the presumption-based tax adjustment.
- iv- Audit reports for pig farming firms should consider technical aspects, such as piglet mortality rates, which may distort the relationship between material consumption and sales. Applying generalized indicators across vastly different companies leads to inappropriate benchmarking. Risk assessments should group firms into deciles based on size, activity type, and revenue to enable more relevant statistical comparisons.
 - v- As financial accounting has been evolving fast, being a mix of legal, financial and economic rules, the in-house training for TA officers should not only emphasize the legal and interpretative issues linked to taxation, but also, in the context of corporate income taxation, be often directed to accounting issues. Middle-ranking officers should be authorized to challenge audit reports produced by junior staff. They should have the ability to reduce or nullify tax adjustments when they identify inconsistencies or errors. Currently, performance evaluations in TA regional offices prioritize additional tax revenue, and TA officers avoid being perceived as “taxpayer-friendly”.

More broadly, the divergence between accounting practices and the indicators employed by tax authorities to detect tax evasion exposes the flaws of applying presumptions based on such reasoning. Since taxable profit is derived from accounting income, tax audits require a more precise and comprehensive accounting and financial approach. When the indicators calculated by tax authorities result in an incorrect determination of tax liabilities and an unequal distribution of tax burdens among taxpayers, the right to challenge these estimations is supported not only by accounting regulations but also by the taxpayers’ own financial records.

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