



Impact Accounting

Assessing and monetizing a firm's impact through the lens of living wage

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Abstract

Title: Impact Accounting – assessing and monetizing a firm’s impact through the lens of living wage

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The traditional economic and business models are becoming increasingly inadequate in addressing the modern inequalities and societal challenges. In order to better reflect their broader impacts on people and the planet, these models must be updated. This thesis develops a framework for implementing the emerging concept of impact accounting within companies, with a particular focus on ensuring living wages. Employing an approach that includes a literature review, expert interviews, and benchmarking, the study uncovers significant insights. The research reveals a lack of standardized methods for calculating living wages and integrating these calculations into corporate financial reporting. Furthermore, the absence of predefined indicators and the diversity in methodologies create challenges, demanding that companies draw on academic literature, their internal structures, and industry benchmarks to establish appropriate metrics. Additionally, the study highlights that many companies do not report on their wage practices, emphasizing the importance of impact measurement and accounting in response to new laws and reporting standards. The resolution of these challenges enables companies to significantly improve their social responsibility practices. This thesis makes a valuable contribution to the field of impact accounting by providing insights and recommendations for companies seeking to incorporate living wages into their impact assessments. By advancing our understanding of how businesses can more effectively measure and report their societal impacts, this research paves the way for more equitable and sustainable economic systems.

Keywords: Impact Measurement, Impact Accounting, Impact Monetization, Living Wage, Minimum Wage

Resumo

Título: Contabilidade de Impacto - avaliando e monetizando o impacto de uma empresa através da lente do salário digno

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Os modelos económicos e empresariais tradicionais estão a tornar-se cada vez mais inadequados para fazer face às desigualdades e aos desafios sociais modernos. A fim de refletir melhor os seus impactos mais amplos nas pessoas e no planeta, estes modelos devem ser atualizados. Esta tese desenvolve um quadro para a implementação do conceito emergente de contabilidade de impacto nas empresas, com especial incidência na garantia de salários dignos. Empregando uma abordagem que inclui uma revisão da literatura, entrevistas a especialistas e benchmarking, o estudo revela percepções significativas. A investigação revela uma falta de métodos normalizados para calcular os salários dignos e integrar estes cálculos nos relatórios financeiros das empresas. Além disso, a ausência de indicadores pré-definidos e a diversidade de metodologias criam desafios, exigindo que as empresas recorram à literatura académica, às suas estruturas internas e aos parâmetros de referência do sector para estabelecerem indicadores adequados. O estudo salienta ainda que muitas empresas não comunicam as suas práticas salariais, enfatizando a importância da medição e contabilização do impacto em resposta a novas leis e normas de comunicação. A resolução destes desafios permite às empresas melhorar significativamente as suas práticas de responsabilidade social. Esta tese dá um contributo valioso para o domínio da contabilidade do impacto, fornecendo informações e recomendações para as empresas que procuram incorporar os salários dignos nas suas avaliações de impacto. Ao fazer avançar o conhecimento de como as empresas podem medir e comunicar mais eficazmente os seus impactos sociais, esta investigação abre caminho a sistemas económicos mais equitativos e sustentáveis.

Palavras-chave: Medição do impacto, contabilização do impacto, monetização do impacto, salário digno, salário mínimo

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List of Abbreviations

CFO	Chief Finance Officer
CSR	Corporate Social Responsibility
EP&L	Environmental Profit & Loss
ESG	Environmental, Social, Governance
EY	Ernst & Young
FAO	Food and Agriculture Organization
GAAP	Generally Accepted Accounting Principles
GAIP	Generally Accepted Impact Principles
IFVI	International Foundation of valuing Impacts
ILO	International Labor Organisation
MIT	Massachusetts Institute of Technology
NGO	Non-governmental Organization
OECD	Organization for Economic Cooperation and Development
PSI	Portuguese Stock Index
PwC	PricewaterhouseCoopers
SDGs	Sustainable Development Goals
TIFD	Taskforce on inequality-related financial disclosures
TNFT	Taskforce on nature-related financial disclosure
UN	United Nations
UNDAF	United National Development Assistance Framework
UNDG	United Nations Development Group
US	United States
VBA	Value Balancing Alliance
WB	World Bank
WEF	World Economic Forum
WHO	World Health Organization

1. Introduction

Article 23 of the United Nations Universal Declaration of Human Rights (1948):

„Everyone who works has the right to just and favorable remuneration ensuring for himself and his family an existence worthy of human dignity”.

In an era marked by growing inequalities, environmental degradation, and societal challenges, there is an urgent need to update traditional economic and business models to better account for their wider impacts on people and the planet. The current focus only on financial profitability has proven insufficient for driving truly sustainable value creation that benefits all stakeholders. As citizens, consumers, and investors increasingly demand corporate accountability beyond just profits, the integration of environmental, social, and governance (ESG) factors into decision-making has gained prominence (Henderson, 2018).

One significant area where conventional accounting practices have been found to be inadequate is in the accurate representation of the human impact of business activities, particularly on workers and their fundamental rights. Despite economic growth, there persists a glaring disparity in income, wealth, and labor standards globally, with millions of workers still lacking access to a living wage that covers basic needs (Bernstein, 2004). This not only perpetuates poverty and inequality but also undermines human dignity, social cohesion, and sustainable economic development.

In response to these challenges, innovative approaches to impact accounting have emerged, with the aim of quantifying and internalizing the positive and negative impacts of organizations on society and the environment. The Impact-Weighted Accounts methodology developed by Harvard Business School represents a pioneering effort to integrate impact valuations directly into financial statements, providing a more holistic view of value creation (Serafeim & Trinh, 2020). A crucial element of this framework is the living wage coefficient, which seeks to quantify the impact of a company's wage practices in relation to living wage benchmarks (Bernstein, 2004). By explicitly accounting for living wages, Impact-Weighted Accounts offer a powerful tool for businesses to align their operations with fundamental human rights principles, contribute to reducing income inequality, and drive long-term sustainability. However, the practical implementation and standardization of living wage coefficients remain complex, with ongoing debates around calculation methodologies, data availability, and the

inherent challenges of quantifying social impacts. As the world deals with persistent socioeconomic disparities and the imperative of sustainable development, thorough research into impact accounting approaches and living wage is crucial. This master's thesis aims to critically examine the theoretical foundations, empirical applications, and potential limitations of living wage coefficients within the broader context of impact valuation and ESG integration. By examining this developing field, the research aims to contribute to the ongoing debate on redefining value creation in the 21st-century economy. It will demonstrate how respect for human rights and the pursuit of equitable prosperity are inseparable from long-term business success.

1.1. Research purpose

This study aims to contribute to the emerging field of impact accounting by exploring practical approaches for integrating social impact valuations, specifically related to living wages, into corporate accounting and decision-making processes. The overarching objective is to develop a framework for defining, measuring, and monetizing a company's social impact to enable the implementation of impact-weighted financial accounts. Recognizing the persistent challenge of income inequality, this research will focus on the living wage coefficient as a critical social indicator for impact valuation. By examining leading practices and methodologies employed by pioneering companies in this domain, the study seeks to provide insights into the effective operationalization of living wage coefficients within impact accounting models. To ensure practical relevance and applicability, the living wage for different areas in Portugal will be estimated and a benchmarking analysis will be undertaken to assess industry standards in this area, allowing for a comparative evaluation and identification of potential areas for improvement. Furthermore, this research will incorporate expert interviews with professionals and thought leaders in the field of impact accounting and living wage. These interviews will provide valuable insights into the practical implementation challenges, data requirements, and future outlooks associated with integrating living wage coefficients and social impact valuations into corporate accounting frameworks.

The study will be structured into two distinct parts. The first part will consist of a comprehensive literature review, providing a theoretical foundation by exploring relevant concepts such as corporate social responsibility, impact measurement and monetization, impact accounting principles, and the underlying factors and consequences related to living wages. The second part will focus on the empirical research, detailing the methodologies employed,

presenting the findings from the calculation of the living wage, the benchmarking analysis, and expert interviews, and critically analyzing these results in the context of the literature review.

Ultimately, this thesis aims to contribute to the ongoing discourse on impact accounting by offering a practical roadmap for companies seeking to incorporate living wage coefficients within their impact valuation and reporting practices. By bridging theoretical concepts with real-world applications, the research endeavors to advance the integration of this critical social impact consideration into corporate decision-making, thereby fostering greater accountability, equity, and sustainable value creation.

1.2. Research Question

This research aims to answer the following questions:

- How can a company effectively measure and define its impact, particularly in terms of ensuring living wages?
- How companies can implement impact accounting, particularly in terms of ensuring living wage?
- How the living wage in Portugal can be calculated as well as identify any regional or family composition-related discrepancies?

1.3. Importance of research

This study explores the integration of living wages into impact accounting and measurement practices within organizations, filling a crucial gap in current sustainability reporting frameworks. In a world where income inequality and labor rights are pressing concerns, comprehending and accounting for living wage impacts is vital for fostering fair employment practices. By examining the methodologies, challenges, and opportunities associated with incorporating living wage data into organizational impact assessments, this study aims to provide valuable insights for enhancing the accuracy and comprehensiveness of sustainability reporting. Additionally, the current introduction of the Corporate Sustainability Reporting Directive and the European Sustainability Reporting Standards incorporates the reporting of adequate wages. Through its findings, this research contributes to advancing knowledge on fair labor practices and offers practical recommendations for organizations aiming to improve their living wage accounting practices, reduce risks, and demonstrate their commitment to social sustainability.

2. Literature Review

2.1. Evolution of Corporate Social Responsibility

Corporate social responsibility (CSR) has emerged as a significant aspect of modern business operations, reflecting a company's commitment to ethical practices and sustainability. Over the years, the concept of CSR has evolved alongside societal expectations, reflecting changes in corporate behavior and societal needs. The integration of CSR into business strategies has facilitated a shift towards responsible and sustainable practices that extend beyond financial profitability. Researchers and practitioners alike have explored various dimensions of CSR, including environmental stewardship, philanthropic initiatives, and stakeholder engagement (Latapi Agudelo et al., 2019). In the early stages of CSR development, initiatives such as the Social Responsibilities of Business Corporations by the Committee for Economic Development (Latapi Agudelo et al., 2019) laid the groundwork for corporate engagement with social issues. Over the years, CSR has progressed from a philanthropic endeavor to a strategic tool that integrates social and environmental considerations into business operations. During the 1990s and early 2000s, the international community emphasized the importance of sustainable development and called for a broader role for corporations in addressing global challenges. This period marked a shift towards the strategic implementation of CSR to create shared value and achieve a competitive advantage (Latapi Agudelo et al., 2019). As highlighted by Carroll (Carroll, 1999), CSR has become the centerpiece of competing frameworks, emphasizing the multifaceted responsibilities that corporations have towards society, the environment, and their stakeholders. The adoption of the Sustainable Development Goals (SDGs) in 2015 further reinforced the role of corporations in contributing to global sustainability efforts (Latapi Agudelo et al., 2019). The integration of impact into CSR frameworks represents a strategic shift towards holistic business practices that aim to not only address social and environmental challenges but also create long-term value for both the business and society. By measuring and valuing their impact, organizations can demonstrate their commitment to responsible business practices and contribute meaningfully to the advancement of sustainable development goals within the context of CSR.

2.2. The concept of Impact

In order to understand the concept of impact, measurement, valuation, and, monetization to finally implement impact accounting into a company's business strategy the term impact is

described. Impact can be defined as measuring an action's benefit to society and the planet, emphasizing the shift toward prioritizing societal and environmental benefits in the decision-making process (Cohen, 2018). Furthermore, impact can encompass the positive and negative, primary and secondary long-term effects produced by an intervention, either intended or unintended (OECD, 2021). The International Foundation for valuing Impacts define impact as a “(...) change in one or more dimensions of people’s well-being directly or through a change in the condition of the natural environment” (IFVI, 2024).

By gaining a clear understanding of the impact, the next critical step is to define effective and reliable methodologies for measuring it.

2.2.1. Impact Assessment

Measuring impact involves describing and expressing changes in different individuals and groups, intending to determine whether anticipated goals have been achieved. The preferred approach to quantifying impact is to use mixed methods, combining qualitative and quantitative data to determine both the extent of change and to understand how it was achieved. In addition, impact evaluation methods are used to assess the effects of a project or program and are typically conducted by trained evaluators, with a focus on assessing both positive and negative long-term effects (OECD, 2021). According to IFVI (International Foundation for Valuing Impacts) the identified impacts must be assessed and measured using the standardized impact pathways, which are tailored to specific topics and industries. In instances where an impact is considered significant based on unique circumstances, even if not adequately addressed by existing methodologies, it should still be measured, valued, and incorporated into the entity's impact assessments for transparency. It is the responsibility of the company to ensure that an impact pathway methodology is employed, that the measurement and valuation process adheres to the qualitative standards of impact information, and that the applicable measurement and valuation methods outlined in the methodology are followed (IFVI, 2024).

It is crucial to consider the nature and complexity of the different measurement methodologies that are used by different organizations. The field of impact measurement is continually evolving. One way of moving from traditional reporting to impact valuation and measurement is the Theory of Change using impact pathways (VBA, 2021).

2.2.2. Theory of Change

The theory of change serves as a framework that outlines the anticipated pathways through which a specific intervention will result in a targeted outcome. Rooted in causal analysis and

informed by existing evidence, it communicates the logical connections between actions and desired changes. Within the UNDAF (United National Development Assistance Framework), a comprehensive theory of change plays a vital role in shaping the formulation of effective, evidence-driven program strategies (UNDG, 2024).

When applying the Theory of Change to impact measurement the pathway would look like Figure 1.

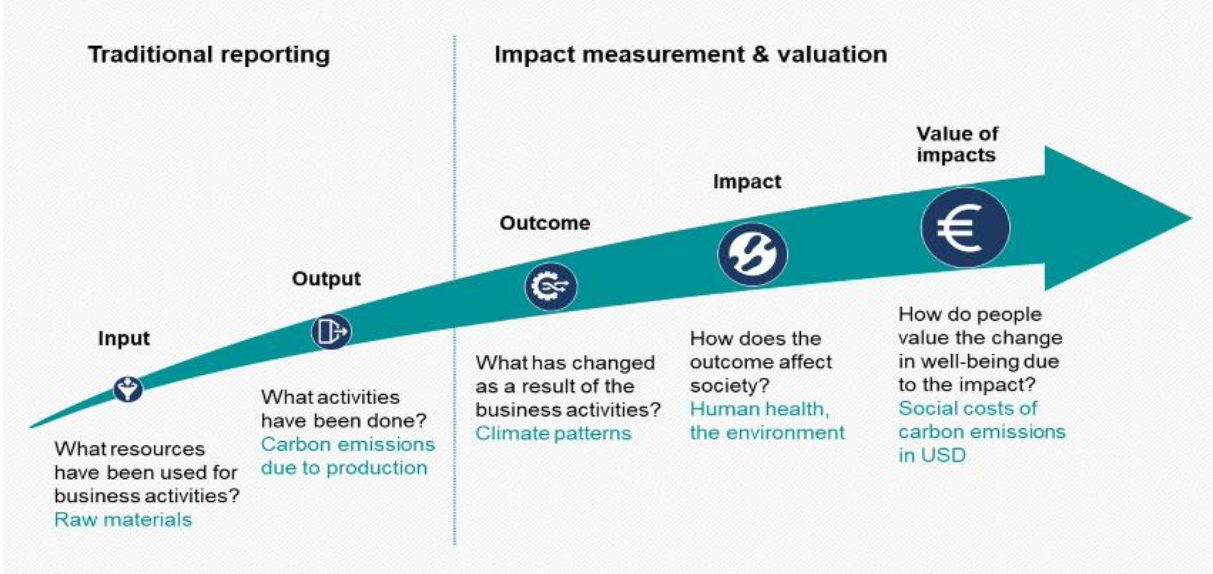


Figure 1: From inputs to valued impacts (VBA, 2021)

Input refers to the resources used and the business activities leveraged by the entity to carry out its operations. Output refers to the immediate outcome of an entity's activities, encompassing its goods or services. Outcome denotes the level of change experienced by individuals or the state of the environment, influenced by both the entity's actions and external factors. Impact implies the change in one or more dimensions of human welfare either directly or indirectly through changes in environmental conditions. Consequently, while outcome outlines the resulting state or situation, impact denotes the transformation and progression in this state or situation stemming from the entity's actions. Ultimately, the value of impacts refers to how people value the change in well-being due to the impact (IFVI, 2024).

This figure shows the pathway from traditional reporting on inputs and outputs to the impact measurement and valuation process of a certain entity. Additionally, it shows a practical example of how this route can look like regarding CO2 emissions of a business activity. In

particular on how specific raw materials as inputs are processed to achieve an output that emits CO₂ due to its production process. This moreover, leads to climate patterns like for example climate change and implies impacts on human health or environmental outcomes like global warming (VBA, 2021). The following chapter focuses on the last step in this pathway the impact valuation and monetization.

2.2.3. Impact Valuation and Monetization

The process of impact valuation involves the assessment of a company's impacts on society and the environment. This provides stakeholders with insights that are meaningful for decision-making. The Global Steering Group for Impact Investment and the Impact Management Project propose an innovative approach that includes weighting conventional financial accounts for impact by applying impact coefficients to key financial indicators such as sales, employment costs, and assets. This integrated method aims to generate an impact-weighted profit line, enhancing traditional financial analysis with a focus on impact-related performance (Cohen, 2018).

Monetization of impacts allows for the expression of the consequences of business activities in monetary terms, thereby providing a common language for stakeholders and enabling comparisons between different impact areas. By applying monetary valuation coefficients, companies can present impact-weighted accounts through Generally Accepted Impact Principles (GAIP), which mirror the establishment of Generally Accepted Accounting Principles (GAAP) for financial reporting (Cohen, 2018).

Furthermore, the methodology developed by the International Foundation for Valuing Impacts and the Value Balancing Alliance introduces a comprehensive system for valuing social and environmental impact, designed to integrate into financial analysis and organizational decision-making. The Valuation Technical & Practitioner Committee oversees the methodology, which draws upon the expertise of global leaders in impact, sustainability, accounting, business, and finance to ensure independence, credibility, and stakeholder involvement in the valuation process (IFVI, 2024).

2.3. Impact Accounting

Impact accounting is a method used by organizations to measure and quantify the effects of their activities on society and the environment. While traditional financial accounting focuses

on assets, liabilities, income, and expenses, impact accounting focuses on assessing the positive and negative outcomes of an organization's operations (VBA, 2021).

In impact accounting, the unit of measurement is monetary, allowing organizations to assign a financial value to the impacts they generate. This valuation enables a standardized approach to comparing sustainability-related data at scale. Impact accounting evaluates changes in people's well-being and the natural environment, whether direct or indirect, intended or unintended, positive or negative (IFVI, 2024).

While impact accounting is gaining traction, companies are still in the early stages of adopting this methodology. Some organizations have begun experimenting with monetizing aspects of their business impacts, primarily focusing on inputs and activities rather than overall impacts. The implementation of impact accounting involves conceptualizing impact valuation using monetary techniques to promote comparability in sustainability-related data (VBA, 2021).

2.3.1. Challenges and Opportunities of Impact Accounting

The development of impact-weighted accounts presents a notable opportunity with diverse benefits. Firstly, it fundamentally changes perceptions regarding impact creation, emphasizing the consequence of every action and its potential to generate impact. The absence of such accounting mechanisms risks continuing the misunderstanding that most commercial activities are impact-neutral, leading individuals to underestimate the significance of their decisions in employment, consumption, and investment. By clarifying business impacts, impact-weighted accounts have the potential to reevaluate perceptions concerning individual contributions to societal and environmental change, thereby fostering a more thorough approach to decision-making (Serafeim et al., 2019).

Impact accounting provides corporate managers with invaluable insights into the costs and benefits of their actions, facilitating informed decision-making and encouraging choices that yield positive impact. By quantifying impact in monetary terms, managers gain a holistic understanding of strategy options. This approach not only enhances management effectiveness toward long-term value creation but also reduces potential short-term profit losses (Serafeim et al., 2019). Furthermore, impact-weighted accounts provide an incentive for companies to enhance their impact. Positive impact can attract financial capital, while governments and regulators can incentivize impact improvement through tax rates or procurement requirements

linked to accounting performance. Consumer behavior may also shift towards products and companies with greater transparency, comparability, and accountability regarding societal and environmental impact, further reinforcing the imperative of impact-conscious business practices (Serafeim et al., 2019).

While there are benefits to be gained from implementing monetary impact accounting standards, there are also inherent challenges. These include the potential devaluation of social and environmental outcomes or an excessive dependency on monetary figures. Additionally, it is challenging to measure the impact along the whole value chain of a company including all stakeholders. Another challenge of impact accounting is the lack of standardization regarding impact valuation and impact measurement as there are no general applicable regulations. Even though several different organizations are working on this issue it is difficult for companies to decide on a methodology (IFVI, 2024).

However, the potential benefits of impact-weighted accounts in facilitating informed decision-making, enhancing accountability, and driving positive societal and environmental change outweigh these risks. As a result, they are a valuable tool for advancing sustainable development objectives (Cohen, 2018).

2.4. Living Wage

In a world with continuously rising costs, inflation, and increasing poverty it is extremely important to ensure an adequate remuneration for working individuals. Therefore the concept of living wages was established. A living wage refers to the income necessary for an individual or employee to cover essential expenses, supporting both themselves and their families. These expenses encompass basic necessities like food, housing, healthcare, transportation, and more. However, the specific amount required varies based on factors such as geographic location, family size, and prevailing living standards (Carr et al., 2016). Another definition of living wage provided by the Global Living Wage Coalition is: “the remuneration received for a standard workweek by a worker in a particular place sufficient to afford a decent standard of living for the worker and her or his family.” (International Labor Organisation, 2022).

Not only different organizations like the International Labor Organization or the Global Living Wage Coalition report about living wages. It is also encompassed in the Sustainable Development Goals established by the United Nations. The SDGs contain 17 interconnected goals, including eliminating poverty, promoting decent work and economic growth, reducing

inequalities, and ensuring sustainable communities. One crucial aspect of the SDGs relates to the concept of a living wage, aligning with Goal 8: Decent Work and Economic Growth, and Goal 1: No Poverty. Ensuring that individuals earn a living wage is essential for poverty eradication and promoting economic stability. By linking the notion of a living wage to the SDGs, efforts to establish fair wages that enable individuals and families to meet basic needs can contribute significantly towards achieving broader sustainable development objectives outlined in the SDGs (Letorey et al., 2023).

2.4.1. Minimum Wage vs. Living Wage

When talking about living wage it is important to showcase the difference between living wage and minimum wage. The difference between a living wage and a minimum wage lies in their respective purposes and calculations. A living wage is designed to provide individuals and families with enough income to meet their basic needs, support a decent standard of living, and participate meaningfully in society. It is often calculated based on the cost of living in a specific area, considering expenses such as food, housing, healthcare, and education (Anker, 2011). On the other hand, a minimum wage is the legally mandated lowest wage that employers can pay their employees. In countries like the US and UK they are typically established with careful consideration to maintain affordability for businesses (Werner & Lim, 2015). While the minimum wage aims to prevent exploitation and ensure workers receive fair compensation for their labor, it may not always align with the actual cost of living in a given region (Carr et al., 2016). The living wage, in contrast, sets a higher standard by aiming to cover essential needs and promote financial independence for workers and their families beyond mere subsistence (Letorey et al., 2023).

According to the WageIndicator Foundation, 26 out of 166 countries worldwide have a minimum wage higher than or equal to the living wage in the respective country. This represents 15.7% of all the countries where living wage data is available. Oceania is the best practice example with 66.7% of the countries having a higher minimum wage than living wage. Whereas in Asia only 13.6% of the countries have a higher minimum wage, America only 3.4% of the countries (representing Canada in this case), and in Africa 0% of the countries have a higher minimum wage than the living wage. In Europe, 41.5% of the countries have a higher minimum wage than living wage. Portugal in particular is one of the only countries in Europe with a minimum wage below the living wage (WageIndicator Foundation, 2024). Therefore this thesis

will investigate further the Portugal PSI16 companies and benchmark the available data to report on the living wage indicator in section 4.3.

2.4.2. Estimation of living wage

In general, there is no standardized way yet on how to calculate the living wage. Different organizations and NGOs have different methodologies and data sources. In this thesis, the focus lays on three different organizations calculating living wages for firms. This section examines three distinct living wage initiatives and methodologies. The MIT (Massachusetts Institute of Technology) living wage calculator is tailored to a specific region of the world, namely the US, while the other two adopt an approach suitable for both developed and developing regions, as seen in the WageIndicator Foundation and the Fair Wage Network. Typically, these methodologies have been devised by civil society organizations, non-profits, trade unions, community-based groups, academics, and employers, with occasional input from independent institutions (Balestra et al., 2023). There is general agreement among these initiatives regarding the fundamental components of the living wage concept. According to all initiatives examined in this section, a living wage is intended to afford workers and their families a modest yet dignified standard of living, considering the specific circumstances in a particular location and period (Balestra et al., 2023).

The Anker living wage methodology shows how the calculation can look like. The elaborated living wage organizations use this methodology as a benchmark. According to the Anker living wage methodology the basic living wage calculation displays like this:

- 1) Adding up the spending categories: cost of food, cost of housing, cost of other essential needs, and a small margin for unforeseen events = Cost of a basic but decent life for reference size family
 - 2) Cost of basic but decent life for reference size family ÷ Number of full-time workers per family = Net living wage
 - 3) Net living wage + Statutory payroll deductions and taxes = Gross living wage
- (Anker & Anker, 2017a)

For the precise analysis of the three living wage organizations, there are different spending categories used. These categories can be clustered into two main groups:

- Needs-based: Determine the needs of individuals within a particular context either through guidelines, benchmarks, expert suggestions, international or national consumption standards, and norms or via public consultations.
- Expenditure-based: Consider the actual lifestyle and purchasing habits of individuals, using data from official household expenditure surveys or surveys on consumption behavior.

(Balestra et al., 2023)

2.4.2.1. MIT Living Wage Calculator

Created in 2003, the Living Wage Calculator was designed to provide a detailed estimation of the earnings needed by a full-time worker to adequately support their family's basic needs in their local area. Over time, the calculator has evolved to include specific costs for essential items such as food, childcare, healthcare, housing, transportation, as well as additional necessities like clothing, personal care items, and broadband. It also incorporates tax considerations at the county, metro, and state levels, catering to the requirements of 12 distinct family configurations (MIT, 2024). This calculator includes seven different categories: food, housing, healthcare, childcare, transport, other necessities, and civic engagement. MIT uses different approaches to collect the data for these categories. For the needs-based categories, it estimates the data derived from expert knowledge. For the other categories, MIT uses expenditure-based data (MIT, 2024). Furthermore for the pricing strategies MIT is using the average of low cost for food, weighted average for rent, median and cheapest options for childcare, cheapest broadband plan, and a low-price cell phone. Secondary data like web surveys, expenditure surveys, market surveys, and handbooks (for taxes) are used. (MIT, 2024).

2.4.2.2. WageIndicator Foundation

The WageIndicator Foundation is an international, autonomous, non-profit organization. Since 2000, WageIndicator has expanded into a global entity dedicated to gathering, analyzing, and publishing data on actual wages, minimum wages, living wages, labor laws, gig and platform work, collective agreements, and a variety of other topics (WageIndicator Foundation, 2024). The foundation includes nine different categories in their calculation: food, housing, healthcare, clothing, childcare, amount for unexpected events, transport, utilities, and phone costs. The data collection for the needs-based categories are mainly guidelines from the Food and Agriculture Organization (FAO) of the UN, the International Labor Organization (ILO), and also recommendations from the World Bank (WB). For the expenditure-based categories, the

WageIndicator Foundation uses expenditure data, fieldwork investigations, and web-based surveys (Balestra et al., 2023). Moreover, for the pricing strategies the Foundation uses lower-range prices in stores/markets for food. For transportation, a regular monthly pass is used and for healthcare and education minimum monthly expenses are taken into account. In addition to that, secondary data from national statistical agencies, FAO databases and Numbeo databases are used (WageIndicator Foundation, 2024).

2.4.2.3. Fair Wage Network

The Fair Wage Network was founded in 2009 and sought to advance fair wage practices throughout global supply chains by fostering consistency in wage standards and facilitating connections between the proposed fair wage framework and various wage initiatives on both international and national scales (Fair Wage Network, 2024). The Network includes 8 different categories in the living wage calculation: food, housing, healthcare, clothing, childcare, amount for unexpected events, transport, and communication. They use guidelines of FAO, World Health Organisation (WHO), and UN to collect data for the needs-based categories. For the expenditure-based categories, Fair Wage Network uses workers' expenditures surveys and fieldwork investigations. Furthermore, the pricing strategy used is average prices for utilities, water, electricity, fuel, garbage, internet, and maintenance, and secondary data is used from WHO and FAO guidelines on food (Balestra et al., 2023).

Find a table overview of all the organizations mentioned in the Appendix A.

2.4.3. Challenges and Opportunities of living wage

The concept of the living wage presents both challenges and opportunities in the field of labor economics and social policy. Challenges include the resistance and skepticism from industry leaders and economic think tanks towards its implementation, as well as concerns about its potential impact on business organizations and the broader economy (Anker, 2011). Additionally, the complexities of determining an appropriate living wage level, addressing pay inequality, and navigating the changing landscape of welfare support systems pose significant hurdles (Collins, 2014). On the other hand, the living wage concept offers opportunities for promoting social justice, enhancing the dignity of individuals and families, and addressing the struggles of low-wage workers facing rising living costs and stagnant wages. Advocates of the living wage see it as a means to alleviate poverty, reduce income inequality, and empower workers, ultimately contributing to a more equitable and sustainable society. Expanding the scope of living wage initiatives and fostering dialogue among various stakeholders can

potentially unlock the transformative power of fair wages and economic security for vulnerable populations (Pollin, 1998).

2.5. Living wage and its impact

The impact of the living wage is multifaceted and has been analyzed across various dimensions in the literature. In this section, the impacts of paying a living wage will be elaborated through the lens of employees, employers, and the economy.

2.5.1. For employees

When employees receive a living wage, they possess the financial means to purchase sufficient food and afford more nutritious options, resulting in health advantages for the entire system. Improved nutrition reduces the susceptibility of workers to illness, absenteeism, and the need for healthcare, enabling quicker recovery periods when illness does occur (Heggie, 2024). For employees, receiving a living wage means a tangible increase in their gross hourly earnings, leading to improved financial well-being and reduced financial stress. Studies suggest that higher income levels resulting from the living wage allow employees to better manage their finances and allocate more time to family activities (Collins, 2014).

2.5.2. For employers

Employers face implications such as increased labor costs, potentially affecting their overall financial performance. However, research indicates that it can be reasonably anticipated that employers will experience enhanced productivity and engagement, decreased employee turnover, and a more affluent consumer demographic. (Collins, 2014). Additionally, a growing number of consumers show a preference for ethical brands and enterprises that are willing to assume a leadership role on issues that are important to them. These consumers tend to provide financial support to such brands, while also withholding their support from those that fail to meet their expectations in this regard (WEF, weforum.org, 2021a). Collectively, these outcomes will contribute to the improvement of local, national, and global economic performance (Heggie, 2024)

2.5.3. For the economy

Simulations suggest that extending the living wage policy to low-paid employees can lead to treasury savings, revenue gains, and reduced benefits and tax credits, contributing positively to the economy (Collins, 2014). The lifting of workers out of poverty wages has the effect of

expanding consumer markets, particularly in emerging and developing nations. This, in turn, has the effect of boosting consumer spending, driving increased demand, and generating additional economic opportunities (WEF, 2021b).

2.6. Impact Accounting of Living Wage

The Harvard Business School developed a methodology to account the impact of a firm for paying or not paying a living wage to its employees. The indicator of living wage is part of one out of four dimensions, namely the wage quality. This dimension shows the organizational impact of a company on its employees (Freiberg et al., 2020). According to the researcher from Harvard, the assessment of the employment impact encompasses six key dimensions. Initially, the focus is on establishing the overall wages paid by a company. Subsequently, adjustments are computed to measure the effects of wage quality, diversity, opportunity, local job creation, health and wellbeing, and career advancement. The following steps are necessary to calculate the employment impact:

- 1) Determine total wages paid by firm in the accounting year
 - 2) Subtract wage quality impact
 - 3) Subtract diversity impact
 - 4) Subtract opportunity impact
 - 5) Add local job creation impact
 - 6) Add/subtract health and wellbeing impact
 - 7) Add/subtract career advancement impact
- (Freiberg et al., 2020)

As illustrated in the steps above, the impact values for wage quality, diversity, and opportunity consistently result in either zero or negative values, thus necessitating subtraction. Conversely, values for local job creation are consistently positive and therefore require addition. Impact values for health and wellbeing, as well as career advancement, can vary, being either positive or negative. The wage quality impact includes living wage adjustments, income satiation adjustments and wage equity adjustments. For this research, the indicator of living wage will be elaborated further.

For the monetization of the living wage impact the data of the local annualized living wage benchmark and the annual wages earned for each employee in each location is needed. In the

first step, the categorization is done. Each employee's actual annual wage is compared to the local living wage benchmark. They are then categorized into one of five living wage categories: "Above living wage," "90% to 99% of a living wage," "75% to 89% of a living wage," "50% to 74% of a living wage," or "below 50% of a living wage.". In the next step for each living wage category, the adjustment is calculated using a formula that considers the proportion of the employee's actual wage compared to the living wage rate for that category. The living wage rate for each category is provided in the table. Concluding, the living wage adjustments for all employees are summed and then multiplied by -1 to obtain the final living wage adjustment value. The total living wage adjustment is the sum of individual adjustments for each living wage category identified for all workers. Further elaboration of the calculation and an example can be found in Appendix B.

3. Research Methodology

The following chapter will describe the used methodology to answer the research question of how companies can implement impact accounting in their business strategy. The sections will explain why the chosen procedures are suitable for the analysis and necessary to obtain high-quality results.

3.1. Research Design

The methodology adopted for this master's thesis encompasses a multifaceted approach aimed at comprehensively examining the complexities of impact accounting, with a particular focus on the implementation and assessment of living wage practices within organizations. To achieve this, the research will entail calculating the living wage for different regions and different family compositions in Portugal. Additionally, a benchmarking exercise will be undertaken, comparing the practices and outcomes of various companies within the PSI 18 companies to identify trends, gaps, and areas for improvement in implementing living wage practices. Lastly, expert interviews with individuals possessing deep expertise in impact measurement and living wage calculations were conducted. These interviews will serve to get insights into best practices, challenges, and strategies for measuring and defining the impact of living wages. This approach will offer a holistic perspective, enriching the findings and contributing to a nuanced understanding of impact accounting in the context of ensuring living wages.

3.2. Calculation of living wage in Portugal

The living wage for Portugal was calculated utilizing the Anker methodology, which considers several essential categories, including food, housing, transportation, mobile phone expenses, an allocation for unexpected events, as well as income tax and social security tax. This comprehensive approach aimed to provide a holistic representation of the financial requirements necessary to meet a basic standard of living in Portugal. To account for regional disparities within Portugal, particularly in consideration of variations in cost of living and tax regulations, the living wage calculations were further elaborated for specific regions. In this regard, living wage estimates were developed for major cities, including Lisbon, Porto, and Faro, which represent urban centers. In contrast, rural areas were represented by Guarda and Évora. Additionally, living wage calculations were conducted for the capital cities of Madeira and Azores, Funchal and Ponta Delgada, to account for the unique circumstances present in these regions. Living wages for single individuals, two working adults with two children, two

working adults with one child and one working adult, one non-working adult and one child were calculated. It is important to note that due to the scope limitations of this thesis, the living wage calculation included only a selected number of categories. Consequently, the analysis may be considered somewhat superficial in its coverage of the various factors influencing living wage estimates. However, the chosen categories were deemed to be foundational in understanding the basic financial needs of individuals and families within the Portuguese context.

3.3. Benchmarking PSI companies

The analysis of 16 PSI companies in terms of data availability for implementing impact accounting for living wage involved several steps. The primary focus was to gather data on the salaries paid by these companies to their employees across different regions. To acquire the necessary data, a comprehensive review of various sources was conducted, including the examination of company websites, financial reports, and sustainability reports. These sources were examined to identify any relevant information regarding employee salaries and wage practices within the organizations. Furthermore, efforts were made to ascertain whether the companies had disclosed any information indicating their adherence to living wage standards or provided comparisons between their wage levels and minimum wage requirements. This involved a thorough analysis of reported data, including any mentions of living wage policies or wage benchmarks in company disclosures. The study employed several research methods to evaluate the extent of data availability and transparency among the 16 PSI companies concerning their wage practices, with a particular focus on the feasibility of implementing impact accounting for living wage within these organizations.

3.4. Expert Interviews

Additionally, five expert interviews were conducted with professionals specializing in impact accounting and the living wage calculation. These interviews were conducted in a semi-structured format, allowing for consistency in the topics covered while also facilitating a natural conversational flow that encouraged open information exchange (Kallio et al., 2016). The selection of interviewees was based on their expertise in the respective fields, ensuring that insights were obtained from individuals with relevant knowledge and experience. Furthermore, one of the interviewees had previously worked as a researcher in the field of Accounting for Organizational Employment Impact at Harvard, providing valuable insights into the development of weighted impact accounts. These interviews served as a crucial component of

the research methodology, offering valuable perspectives and insights to complement the quantitative analyses conducted in the study. According to Mayring the interviews were analyzed with the “Qualitative Inhaltsanalyse” (Mayring, 1994). The responses were structured into 5 distinct categories, allowing for a systematic examination of the data and identification of recurring themes or patterns. This methodological approach enabled a comprehensive exploration of the interview data, providing valuable qualitative insights into the topics of impact accounting and living wage calculation. It is important to note that the detailed analysis of the interview data can be made available for review upon request, ensuring transparency and facilitating the validation of the research findings.

In the following chapter, the results and findings of the described methodologies are presented.

4. Results and Findings

4.1. Calculating living wage for Portugal

In the initial stage of the analysis, the author wanted to categorize Portugal into distinct regions to understand the variations in living costs across different areas. Consequently, cities, rural areas, and islands were identified as key categories for comparison. To achieve this, Lisbon, as the capital city, Porto, the second-largest city in the country, and Faro, a prominent tourist destination in the Algarve region, were selected as representative urban centers. Guarda and Evora were selected as a representation of rural areas. Funchal as the capital of Madeira and Ponta Delgada as the capital of the Azores were representing the islands. Subsequently, the decision was made to determine the categories to be included in the living wage calculation. In collaboration with professors from Católica Lisbon working on an impact accounting project, it was agreed that essential needs such as food, housing, transportation, utilities for a smartphone, and a 5% contingency for unforeseen expenses should be incorporated. Furthermore, tax consultants from PricewaterhouseCoopers (PwC) were consulted to clarify the different tax rates on income tax and social security tax across various regions in Portugal. However, due to the scope limitations of this thesis, only the aforementioned categories and taxes were included in the calculation.

The next step involved collecting data for all these categories across the different locations. According to the Food and Agriculture Organization of the United Nations, an individual's food basket should consist of 2400 calories, serving as a baseline for food expenses (FAO, 2024). For the category of housing, an average price for a rented apartment (one room for a single household and three rooms for families) in the city center was chosen. In terms of transportation, a monthly public transportation pass for regular pricing was selected and for the utilities of the mobile phone, a monthly plan with calls and ten gigabytes of data was used. The table in Appendix C provides a detailed description of the categories included in the living wage calculation, offering transparency regarding the factors considered in determining the living wage for Portugal.

The data for the cost categories mentioned was sourced from numbeo.com, which is recognized as the world's largest cost-of-living database. Numbeo serves as a crowd-sourced global repository of quality-of-life data, encompassing housing indicators, perceived crime rates, healthcare quality, transport quality, and other pertinent statistics. Given the credibility and

comprehensive coverage of the data source, the author decided to rely on data sourced from Numbeo for this analysis (Adamovic, 2024).

After the data was collected and summarized in an excel file the author started to calculate the living wages for the different regions. Firstly, the living wages for only one individual were calculated as shown in the table below. The costs for food, housing, transport, mobile phone, and 5% for unexpected events were added up, leading to the income a person has to earn to meet all these costs. From this sum, 11% for social security tax and 26% or 19.95% for taxes on personal income were then calculated and added to the sum. This results in a monthly living wage. This sum was then divided by 160, as a full-time job is assumed to be 40 hours per week, and a month is calculated as four weeks. This was used to calculate the living wage per hour.

The next step was to decide on which family compositions to include. The analysis included three different compositions:

- Family of four: two working adults and two children
- Family of three: two working adults, one child
- Family of three: one working adult, one non-working adult and one child

According to the World Bank, the Portuguese birth rate is at 1.4 children per woman, therefore it was decided to mainly focus on one child per family. As a reference one composition of a family of four was considered to observe how the living wage would change (World Bank, 2021). To simplify the analysis, the food costs were always multiplied by a factor of three or four, depending on the number of family members, and housing costs for larger apartments were also taken into account. However, transportation and mobile phone costs were only multiplied by a factor of two. The results of the calculations can be seen in the tables below.

Living Wage for one working adult:

		Food	Housing	Transport	Mobile Phone	5% for unexpected events	Social Security Tax 11%	Taxes on personal income	hourly living wage
Cities	Lisbon	246,86 €	1.200,00 €	40,00 €	23,33 €	75,51 €	174,43	412,28 €	13,58 €
	Porto	235,63 €	972,26 €	40,00 €	17,07 €	63,25 €	146,10	345,33 €	11,37 €
	Faro	228,09 €	806,25 €	24,00 €	17,25 €	53,78 €	124,23	293,64 €	9,67 €
Rural Areas	Guarda	210,89 €	350,00 €	30,00 €	15,00 €	30,29 €	69,98	165,41 €	5,45 €
	Evora	231,88 €	500,00 €	37,50 €	18,31 €	39,38 €	90,98	215,04 €	7,08 €
Islands	Funchal	266,68 €	800,00 €	30,00 €	18,50 €	55,76 €	128,80	233,60 €	9,58 €
	Ponta Delgada	260,38 €	250,00 €	50,00 €	18,50 €	28,94 €	66,86	121,26 €	4,97 €

Living wage for two working adults and two children

		Food	Housing	Transport	Mobile Phone	5% for unexpected events	Social Security Tax 11%	Taxes on personal income	hourly living wage
Cities	Lisbon	987,44 €	2.500,00 €	80,00 €	46,66 €	180,71 €	417,43	986,65 €	16,25 €
	Porto	942,52 €	1.524,00 €	80,00 €	34,14 €	129,03 €	298,07	704,52 €	11,60 €
	Faro	912,36 €	1.290,00 €	48,00 €	34,50 €	114,24 €	263,90	623,77 €	10,27 €
Rural Areas	Guarda	843,56 €	650,00 €	60,00 €	30,00 €	79,18 €	182,90	432,31 €	7,12 €
	Evora	927,52 €	1.200,00 €	75,00 €	36,62 €	111,96 €	258,62	611,29 €	10,07 €

Islands	Funchal	1.066,72 €	2.200,00 €	60,00 €	37,00 €	168,19 €	388,51	704,62 €	14,45 €
	Ponta Delgada	1.041,52 €	1.200,00 €	100,00 €	37,00 €	118,93 €	274,72	498,24 €	10,22 €

Living wage for two working adults and one child

		Food	Housing	Transport	Mobile Phone	5% for unexpected events	Social Security Tax 11%	Taxes on personal income	hourly living wage
Cities	Lisbon	740,58 €	2.500,00 €	80,00 €	46,66 €	168,36 €	388,92	919,26 €	15,14 €
	Porto	706,89 €	1.524,00 €	80,00 €	34,14 €	117,25 €	270,85	640,19 €	10,54 €
	Faro	684,27 €	1.290,00 €	48,00 €	34,50 €	102,84 €	237,56	561,50 €	9,25 €
Rural Areas	Guarda	632,67 €	650,00 €	60,00 €	30,00 €	68,63 €	158,54	374,74 €	6,17 €
	Evora	695,64 €	1.200,00 €	75,00 €	36,62 €	100,36 €	231,84	547,98 €	9,02 €
Islands	Funchal	800,04 €	2.200,00 €	60,00 €	37,00 €	154,85 €	357,71	648,75 €	13,31 €
	Ponta Delgada	781,14 €	1.200,00 €	100,00 €	37,00 €	105,91 €	244,65	443,70 €	9,10 €

Living Wage Calculation 1 working adult, 1 non-working adult and 1 child

		Food	Housing	Transport	Mobile Phone	5% for unexpected events	Social Security Tax 11%	Taxes on personal income 26%	hourly living wage
Cities	Lisbon	740,58 €	2.500,00 €	80,00 €	46,66 €	168,36 €	388,92	919,26 €	30,27 €
	Porto	706,89 €	1.524,00 €	80,00 €	34,14 €	117,25 €	270,85	640,19 €	21,08 €
	Faro	684,27 €	1.290,00 €	48,00 €	34,50 €	102,84 €	237,56	561,50 €	18,49 €
Rural Areas	Guarda	632,67 €	650,00 €	60,00 €	30,00 €	68,63 €	158,54	374,74 €	12,34 €
	Evora	695,64 €	1.200,00 €	75,00 €	36,62 €	100,36 €	231,84	547,98 €	18,05 €
Islands	Funchal	800,04 €	2.200,00 €	60,00 €	37,00 €	154,85 €	357,71	648,75 €	26,61 €
	Ponta Delgada	781,14 €	1.200,00 €	100,00 €	37,00 €	105,91 €	244,65	443,70 €	18,20 €

4.2. Findings of the calculation

The calculation of the living wage for Portugal reveals notable disparities among different regions, with housing prices emerging as a significant contributing factor. Across urban centers such as Lisbon and Porto, housing prices range from 900 to 1200 euros, whereas in rural areas, prices are substantially lower, typically falling within the range of 300 to 500 euros. This contrast serves to illustrate the pronounced impact of location on housing affordability, and the challenges faced by individuals residing in urban environments. Furthermore, the analysis highlights variations in food prices across different regions, with the highest prices observed in island locations. This discrepancy reflects the additional costs associated with transportation and logistics in remote areas, contributing to higher overall expenses for residents. Conversely, rural areas may benefit from lower food prices due to proximity to agricultural sources and reduced transportation costs.

Furthermore, the analysis revealed significant variations in transportation costs across the locations under consideration, with rates ranging from 30 to 50 euros. Similarly, mobile phone contract prices exhibited considerable differences, with rates varying from 15 to 23 euros across different regions. These findings highlight the complex nature of living expenses and the diverse economic landscapes present within Portugal. The analysis exposes the specific cost considerations across different regions, thereby providing valuable insights into the financial requirements necessary to maintain a basic standard of living in Portugal.

The calculation of the living wage to account for families reveals a substantial increase in the required income. This is because working adults must earn enough to ensure a decent standard of living for themselves and their children. Notably, there is a significant difference between households with one working adult and those with two. In the former scenario, the sole earner must support the entire family, while in the latter, the financial burden is distributed between two working individuals. Furthermore, housing prices tend to increase for larger apartments, thereby contributing to the overall increase in living wage requirements for families.

Despite these variations, it is evident that living wage estimates remain consistently lower in rural areas compared to urban centers, due to the generally lower cost of living in rural regions. Regardless of family composition, the living wage in Lisbon consistently emerges as the highest, reflecting the elevated living costs associated with residing in the capital city. Conversely, the lowest living wage is consistently found in Guarda, regardless of family

composition. This finding highlights the affordability of rural areas compared to urban counterparts. These results demonstrate the complex nature of living wage dynamics, which are influenced by factors such as family size, household composition, and regional cost disparities.

In conclusion, the calculated living wages for different regions and family compositions provide valuable insights into the financial requirements necessary to maintain a decent standard of living across Portugal. These living wage benchmarks could serve as crucial standards for companies, guiding them in determining appropriate compensation levels for their employees to ensure a dignified life in the respective areas. By aligning wage practices with living wage standards, companies can contribute to fostering social sustainability and enhancing employee well-being. This connection serves to highlight the significance of incorporating living wage considerations into impact measurement and impact accounting frameworks. Such incorporation enables organizations to assess their social impact and ensure responsible business practices that prioritize the welfare of their workforce. In the forthcoming chapter of the paper, it was investigated on the PSI16 companies to analyze their publicly available information regarding wage standards.

4.3. Benchmarking 16 PSI companies

For the benchmarking 16 companies in the Portugal Stock Index were included. According to Euronext the PSI consist of the observed 16 companies (Euronext, 2024). The benchmarking of 16 PSI companies involved several sequential steps designed to comprehensively assess their wage standards and ESG (Environmental, Social, and Governance) reporting practices. Initially, the companies were categorized into distinct industry sectors, including banking, basic resources, construction & materials, energy, industrial goods & services, personal care, drug & grocery stores, telecommunication, travel & leisure, and utilities. Subsequently, an excel spreadsheet was developed to facilitate data collection, encompassing key company attributes such as a brief description, number of employees, and revenue. The data collection process commenced with a focus on information availability regarding ESG practices within each company. This involved a thorough examination and validation of ESG disclosures provided by the companies. Furthermore, particular attention was directed towards the reporting of wage-related information, including statements regarding payment of a living wage or adherence to minimum wage standards.

The sustainability and financial reports of the companies formed the primary sources of information for this analysis. In the majority of cases, wage-related disclosures were found within the social category of these reports, where companies typically provide insights into employee-related matters such as training programs, wage structures, and employee benefits. The findings of this benchmarking exercise are presented in the table below, offering a comprehensive overview of each company's wage reporting practices and adherence to living wage or minimum wage standards. Subsequently, the implications and significance of these findings are discussed in further detail.

Name	Description	Employees	Revenue	Availability of ESG Information	Information on Living Wage
Bank Industry					
Banco Comercial Portugues (Millenium BCP)	Largest banking institution in Portugal, offering a wide range of banking and financial services.	15,688 (2023)	€ 3.54 bn (2023)	Yes; sustainability framework	N/A
Basic Resources					
Semapa	Diversified conglomerate with interests in paper and pulp, cement, and environmental services.	6,300 (2023)	€ 2.7 bn (2023)	Sustainability Report, not anually,	comparison to minimum wage
The Navigator Company	Prominent in the paper industry, especially known for its pulp and paper products.	3,000 (2023)	€ 1.95 bn (2023)	Sustainability Report, covering a lot of information on impact	comparison to minimum wage
Altri	Focuses on the production of bleached eucalyptus pulp, being one of the leading players in the sector.	800 (2022)	\$ 788 mio (2023)	Yes, ESG report "sustainability as competitive factor", have a purpose	N/A
Construccion & Materials					
Mota-Engil	Engaged in construction, civil engineering, and waste management.	38,500 (2022)	€ 5.67 bn (2023)	2022 sustainability report, sustainability roadmap, comittment to SDGs	mentioned paying a fair wage
Energy					
Galp	Integrated energy operator, known for its exploration and production of oil and natural gas	7,000 (2022)	€ 21.21 bn (2022)	Annual Sustainability Report, SDG commitment	comparison to minimum wage
Industrial Goods & Services					
Corticeira Amorim	world leader in cork production, providing a variety of cork-based products.	5,000 (2022)	€ 940 mio (2022)	Several document published: Sustainability Report, Impact Report	mentioned paying a fair wage
CTT Correiros de Portugal	National postal service of Portugal, also providing financial services.	13,385 (2023)	€ 906 mio (2022)	Detailed Sustainability chapter in the integrated report	comparison to minumum wage

Personal Care, Drug & Grocery Stores						
	Jerónimo Martins	Focuses on food distribution, being one of the leaders in Portugal and Poland.	134.079	€ 20.9 bn (2021)	ESG commitments and progress report (environment, food security, employees etc.)	comparison to minimum wage
	Sonae	Large retail conglomerate with a variety of brands in food, technology, and shopping centers	48.000	€ 7.59 bn (2022)	several different documents; sustainability report	N/A
Telecommunications						
	NOS	Offers a broad spectrum of telecom services including cable TV, mobile, and internet services	2,480 (2023)	€ 1.6 bn (2023)	Sustainability Strategy, SDG commitment	N/A
Travel & Leisure						
	Ibersol	Operates in the food service industry with a portfolio of various restaurant brands.	7,160 (2022)	€ 411 mio (2022)	SDG Information, ESG Reporting, sustainability report from 2019	comparison to minimum wage
Utilities						
	EDP Renovaveis	Specializes in renewable energy, particularly wind and solar power, with significant international presence.	3,086 (2022)	€ 2.4 bn (2022)	ESG Report, Climate Report	N/A
	EDP	Major player in the Portuguese electricity sector, operating across the entire value chain.	13,041 (2023)	€ 16.2 bn (2023)	ESG Report, Climate Report	comparison to minimum wage
	Greenvolt	Renewable Energies	500 (2022)	€ 260 mio (2022)	Sustainability Report and Strategy	N/A
	Redes Energeticas Nacionais	Manages the national electricity and natural gas grids, ensuring energy transmission	743 (2023)	€ 990 mio (2023)	ESG Report, Sustainability Strategy	N/A

4.4. Findings of the Benchmarking

The findings of the benchmarking exercise revealed several noteworthy trends among the PSI companies that were analyzed. Firstly, it was observed that all of the companies that were analyzed published a sustainability report or included a sustainability chapter in their integrated reports, indicating a general commitment to transparency and accountability in their business practices. However, a significant portion of the companies (7 out of 16) did not disclose any information on their wage policies. This lack of transparency is a cause for concern, as it suggests a lack of attention to fair wage practices and employee well-being.

On a positive note, seven out of 16 companies explicitly state in their reports that they pay above or equal to the minimum wage, indicating a degree of awareness and consideration towards fair wage policies. Additionally, two out of the 16 companies mention that they pay a fair wage to their employees. However, it is important to note that the statements regarding fair wage practices are often vague and lack detailed information, such as specific wage amounts or the sources used to determine fair wages. This lack of transparency limits the effectiveness of these statements in providing meaningful insights into the company's wage policies.

The findings indicate a need for improvement in wage reporting practices among PSI companies. Only around 43% explicitly mention compliance with minimum wage regulations, while a significant portion fails to disclose any information on their wage policies. In the context of impact measurement and impact accounting, the lack of wage reporting poses challenges, as it impedes the ability to accurately assess the company's impact on living wage standards. Consequently, it is of the utmost importance for companies to disclose salary information to facilitate comprehensive impact assessments and to encourage greater accountability in their business practices.

The following section will present insights gained from expert interviews on impact accounting and living wage calculations. These insights will offer valuable perspectives on potential strategies for improving wage reporting practices and advancing fair wage policies within PSI companies.

4.5. Expert Interviews

The methodology employed for conducting the expert interviews involved interviewing five professionals from diverse companies and backgrounds, each with expertise in impact accounting or living wage:

- Caroline Peyer, Impact Accountant at South Pole, specializing in environmental topics
- David Freiberg, Senior Manager at EY Tokyo, previously a Harvard researcher focusing on Weighted Impact Accounting
- Awaz Alfadil, Manager at Accenture, with prior experience at the VBA (Value Balancing Alliance)
- Dr. Nora Albu, Manager at Accenture, formerly associated with IFVI (International Foundation for Valuing Impacts)
- Paulien Osse, CEO and Founder of the Wageindicator Foundation, an expert in living wage issues

The interviews were conducted remotely via Microsoft Teams between 2 May and 14 May 2024, with each session lasting between 30 and 60 minutes. To ensure consistency, the same set of questions was used for the experts in impact accounting, while a separate set was tailored for Paulien Osse as a living wage expert (Appendix D). Prior to each interview, a brief introduction about the research paper and the topic was provided to prevent any misunderstandings. Consent was obtained from each interviewee to use the information from the interview for the thesis and to share their name. Furthermore, the questions were provided to the participants in advance of the interview, with the intention of facilitating thoughtful responses and discussion. This approach ensured that the insights gained were gathered in a systematic manner and collected in five different categories: benefits of impact accounting, challenges in implementing impact accounting, best practices for impact indicators selection, stakeholder engagement in impact accounting and future direction of impact accounting.

The following chapter will present a more detailed examination of these categories, based on the findings presented in the interviews.

4.6. Findings of the Interviews

In exploring the benefits of impact accounting, insights from Awaz Alfadil, Nora Albu, and Caroline Peyer highlighted its role in identifying supply chain hotspots, steering impacts to mitigate negative externalities, and fostering dialogue among stakeholders. They emphasized the importance of understanding the value chain and integrating financial perspectives to facilitate the transition to a sustainable society. David Freiberg's perspective offered a further dimension by emphasizing the creation of value for external stakeholders and the development of measurable pathways for impact. This reinforces the significance of impact accounting in driving meaningful change. However, the interviews also revealed challenges inherent in implementing impact accounting. Alfadil and Albu identified comprehension, data availability, processing, and transparency as significant hurdles. Freiberg echoed these thoughts, underscoring the complexity of building sustainable strategies and obtaining accurate data points. These challenges underscored the necessity for effective strategies to address them, such as managing expectations, setting goals, and creating industry benchmarks. With regard to the selection of impact indicators, Alfadil and Albu advocated for the use of benchmarks and the alignment of indicators with organizational strategies. Freiberg emphasized the importance of focusing on material topics, demonstrating long-term value creation, and aligning indicators with organizational goals. Stakeholder engagement emerged as a critical factor in the development and implementation of impact accounting. Alfadil, Albu, and Freiberg highlighted the importance of effective communication, understanding stakeholder perspectives, and incorporating their input into decision-making processes. This emphasis on stakeholder engagement underscored the need for organizations to actively involve stakeholders in their sustainability initiatives. In the future, Alfadil and Albu discussed emerging trends such as natural capital assessment (TNFT – Taskforce on nature-related financial disclosures) and the integration of social angles (TIFD – Taskforce on inequality-related financial disclosures) in impact accounting. Freiberg presented a vision of the future direction of impact accounting, which included integrating Environmental Profit and Loss (EP&L) statements, making them publicly available, and focusing on resilience, board engagement, and CFO perspectives.

The expert interviews yielded valuable insights into the multifaceted landscape of impact accounting. These insights were provided by practitioners with diverse backgrounds and experiences. They contribute to a deeper understanding of the benefits, challenges, best practices, and future trends in impact accounting within organizations.

The interview with Paulien Osse from the WageIndicator Foundation provided valuable insights into the complexities of calculating and implementing living wage policies, particularly within the context of impact accounting. Osse highlighted several methodologies and approaches for calculating living wages, including data collection from multiple sources, such as the Fair Wage Network and Anker, to account for differences in geographic location, family size, and living standards. She emphasized the importance of regular updates and guidance to reflect changes in living costs by country. Osse highlighted the importance of considering key factors when determining appropriate living wages, including industry-specific cost-of-living indexes and scenario thinking to address variations in wage needs across different locations. She emphasized the significance of transparency, fairness, and inclusivity in the calculation process, involving input from workers, unions, and other stakeholders to ensure legitimacy and acceptance. Osse also addressed the potential impact of implementing living wage policies on organizational performance and stakeholder perceptions. She emphasized the necessity of effective measurement and communication through impact accounting to demonstrate the positive outcomes of such policies on employee well-being, productivity, and overall organizational reputation. Several challenges were identified in incorporating living wage calculations into impact accounting practices. These included the management of conflicts, especially in organizations with diverse global operations, and the assurance of access to accurate and comprehensive data across different regions. Osse highlighted the importance of collaboration between companies, governments, and organizations such as WageIndicator to address these challenges collectively. Examples of successful initiatives and case studies were provided to illustrate how organizations have effectively integrated living wage policies into their broader impact accounting frameworks. Osse emphasized the role of transparency, dialogue, and collaboration in overcoming challenges and driving positive change.

Overall, the interview underscored the complexities and importance of incorporating living wage calculations into impact accounting practices. It highlighted the need for collaboration, transparency, and stakeholder engagement to ensure the effective implementation of living wage policies and their integration into organizational strategies and reporting frameworks.

With these valuable insights from the calculation on living wages for Portugal, the benchmarking and the expert interviews, the research questions are answered in the next chapter.

5. Discussion

While the literature on impact accounting and monetization is somewhat limited, there is more extensive information available on living wages. Insights gained through benchmarking and expert interviews with field specialists provided crucial information about impact accounting. These experts offered valuable perspectives on the practical challenges and benefits associated with measuring and monetizing impact.

To address the research questions on how companies can effectively measure and account for their impact, the literature suggests employing mixed methods. This involves combining qualitative and quantitative data to assess both the extent of change and the mechanisms by which it was achieved (OECD, 2021). Additionally, the theory of change framework, which outlines a specific pathway from inputs to valued impacts, is recommended (IFVI, 2024). For monetization, applying impact coefficients to key financial indicators such as sales, employment costs, and assets is suggested. This integrated method aims to produce an impact-weighted profit line, enhancing traditional financial analysis with a focus on impact-related performance. This approach provides a common language for stakeholders and facilitates comparisons between different impact areas (Cohen, 2018). Expert interviews highlighted the practical difficulties of this theoretical approach. Effective impact measurement and monetization require extensive data collection and analysis. Awaz Alfadil and Dr. Nora Albu emphasized the importance of understanding the value chain, while David Freiberg stressed the need to create value for stakeholders and develop measurable impact pathways. However, significant challenges include data availability, processing, and transparency. Freiberg noted the complexity of building sustainable strategies and acquiring accurate data points, reflecting the inherent difficulties in impact accounting. This underscores the complexity and diversity of methods available for impact measurement and the challenge of establishing an unified approach.

Similarly, when it comes to accounting for the impact of a living wage, the literature outlines various methodologies, emphasizing the need for companies to choose a suitable approach or collaborate with organizations such as the WageIndicator Foundation, Fair Wage Network or the MIT. Despite the availability of these methodologies, differences in calculation methods and data availability persist (Anker, 2011). Paulien Osse highlighted the importance of considering key factors when determining living wages, including industry-specific cost-of-living indexes and scenario planning. The holistic living wage calculations in chapter 4.1. reveal

significant variations based on region and family type, with rural areas generally having lower living costs than urban centers, and local tax laws further influencing these costs.

This study therefore suggests a six steps implementation plan for companies to successfully apply a living wage policy. Followed by the impact accounting according to Harvard Business School by monetizing the living wage adjustments. First, companies should define a clear policy and strategy, crucial for navigating the complexities of the supply chain, especially in larger organizations. Second, they should establish a database of living wage estimates, leveraging resources from organizations such as the WageIndicator Foundation, the Fair Wage Network or the MIT. Third, conducting a gap analysis is essential to identify wage disparities within the company and establish a baseline. The fourth step involves developing a feasibility and implementation plan, which should outline strategies to close wage gaps, engage stakeholders, and extend these practices throughout the supply chain. Fifth, companies should implement a reporting narrative and set commitments to transparency. Finally, these reports and commitments should be regularly reviewed to ensure ongoing compliance and improvement. In a next step the monetization and therefore implementation of impact accounting according to Harvard Business School (described in Appendix B) can be conducted and living wage adjustments can be determined.

6. Conclusion

This thesis makes a distinctive and innovative contribution to the field by addressing the relatively new concept of impact-weighted financial accounts and the scarce information on measuring the impact of living wages. The integration of theoretical frameworks and empirical methodologies has provided a comprehensive understanding of how companies can navigate the complexities of impact accounting and living wage implementation.

The significance of living wages as a critical component of corporate social responsibility (CSR) was underscored in this study. Moreover, it has demonstrated how traditional CSR initiatives have evolved to include more precise social impacts, such as fair wages, which are crucial for enhancing employee well-being and organizational sustainability. The concept of impact accounting has emerged as a valuable tool, enabling companies to quantify their impacts and integrate these metrics into financial decision-making processes. Expert interviews were used to examine the practical application of impact accounting, particularly in ensuring living wages. Several challenges were identified, including data availability, comprehension, and transparency. These challenges underscore the need for companies to adopt comprehensive data collection methods, establish clear benchmarks, and engage stakeholders actively. Additionally, transparent reporting and regular updates to reflect changes in living costs were emphasized as essential practices. The benchmark analysis, as well as the expert interviews, clearly show that there is still a significant issue for many firms to report on their wage practices, which makes it even more relevant for the implementation of impact accounting. In calculating living wages in Portugal, the Anker methodology provided a robust framework that considers essential living costs. The study revealed important regional discrepancies and the impact of family composition on living wage requirements. These findings highlight the necessity for tailored living wage calculations that consider local economic conditions and household structures.

In conclusion, it is important to identify, quantify and monetize the specific impacts that must be considered in order to successfully implement impact accounting within a business. Given the lack of established metrics in the context of living wages, it is advisable to review the existing literature, the organization and its objectives in order to develop an appropriate mechanism for measurement. Moreover, it is essential to evaluate the company's performance against benchmarks in the sector to be able to identify its position compared to other organizations and to determine whether living wages have a positive or negative impact.

6.1. Limitations and further research

The limitations of this research include data availability and reliability issues, the geographical focus on Portugal, and the constraints of the Anker methodology. Additionally, the scope of impact accounting covered in this thesis was limited to living wages, excluding other important dimensions such as environmental sustainability. The temporal constraints also imply that the findings need regular updates to remain relevant. Due to the novelty of the topic, the main source of research is provided by Harvard Business School, which may result in a degree of bias in the available information. Additionally, this study is limited to a few expert opinions in the field of impact accounting, and therefore does not cover a full range of case studies and best practices in terms of implementing living wage policies.

The scope of this research is not exhaustive and covers only a suggestion of how to implement living wage policies and furthermore how to calculate living wage adjustments. It is therefore not suggested how to implement these methods into the financial statements of companies.

Future research should extend the geographical scope to include a comparative analysis across different countries, conduct longitudinal studies to assess the long-term impact of living wage policies, and expand the scope to cover other dimensions of impact accounting. The use of advanced methodological approaches and the examination of the role of government policies can further enhance the understanding and implementation of living wages. The incorporation of a broader range of stakeholder perspectives will provide a more comprehensive view of the challenges and opportunities in this field. Additionally, the research on impact accounting should be continued and suggestions on how to successfully implement values of the impacts into the financial accounting balance sheets.

7. References

- Adamovic, M. (30. April 2024). *numbeo.com*. Von <https://www.numbeo.com/common/about.jsp> abgerufen
- Altri. (2022). *Our value is made of fibre; Integrated Report 2022*. Portugal.
- Anker, R. (2011). *Estimating a living wage: A methodological review*. International Labour Office.
- Anker, R., & Anker, M. (2017a). *Overview of the Anker living wage methodology*. Elgar Online.
- Balestra, C., Hirsch, D., & Vaughan-Whitehead, D. (2023). *Living wages in context: a comparative analysis for OECD countries*. OECD.
- Banco Comercial Portugues, S. (2023). *Annual Report 2023*. Portugal.
- Bernstein, J. (2004). *The Living Wage Movement. What Is It, Why Is It, and What's Known about Its Impact?* Chicago: University of Chicago Press.
- Carr, S., Parker, J., Arrowsmith, J., & Paul, W. (2016). *The living wage: Theoretical integration and a applied research agenda*. International Labor Review, Vol. 155.
- Carroll, A. (1999). *Corporate Social Responsibility*. Georgia: Business & Society.
- Cohen, S. R. (2018). *On Impact; a guide to the impact revolution*. Von onimpact.org: <https://www.onimpactnow.org/the-complete-guide-index> abgerufen
- Collins, M. L. (2014). *The Impacts and Challenges of a Living Wage for Ireland*. Nevin Economic Research Institute.
- Corticeira Amorim. (2023). *Sustainability Report 2023*. Portugal.
- CTT. (2023). *We make our path fully committed to deliver; Integrated Report 2023*. Portugal.
- EDP. (2023). *We chose Earth; Integrated Report 2023*. Portugal.
- EDP Renovaveis. (2022). *Integrated Annual Report 2022*. Portugal.
- Euronext. (30. April 2024). *live.euronext.com*. Von <https://live.euronext.com/en/product/indices/PTING0200002-XLIS/market-information> abgerufen
- Fair Wage Network. (23. April 2024). *fair-wage.com*. Von <https://fair-wage.com/about-us/> abgerufen
- FAO. (30. April 2024). *fao.org*. Von <https://www.fao.org/economic/the-statistics-division-ess/chartroom-and-factoids/chartroom/93-world-calories-total/en/> abgerufen
- Freiberg, D., Panella, K., Serafeim, G., & Zochowski, R. T. (2020). *Accounting for Organizational Employment Impact*. Harvard: Harvard Business School.
- Galp. (2023). *Delivering Energy for Life; Integrated Report 2023*. Portugal.

- Greenvolt. (2021). *Relatório & Contas 2021*. Portugal.
- Heggie, J. (24. April 2024). *nationalgeographic.com*. Von <https://www.nationalgeographic.com/environment/article/paid-content-toward-a-living-wage#:~:text=The%20positive%20impacts%20of%20a,of%20the%20world's%20poorest%20countries.> abgerufen
- Henderson, R. M. (2018). *More and More CEOs Are Taking Their Social Responsibility Seriously*. Harvard Business Review.
- Ibersol Grupo. (2023). *Integrated Management Report 2023*. Portugal.
- IFVI. (February 2024). *ifvi.org*. Von https://ifvi.org/wp-content/uploads/2024/02/IFVI_VBA_General-Methodology-1_Letter.pdf abgerufen
- International Labor Organisation (ILO). (2022). *Setting adequate wages: The question of living wages*. Switzerland: International Labor Organisation.
- Kallio, H., Pietilä, A.-M., Johnson, M., & Kangasniemi, M. (2016). *Systematic Methodological Review: Developing a Framework for a qualitative semi-structured Interview Guide*. Finland: University of Eastern Finland.
- Latapi Agudelo et al. (2019). *A literature review of the history and evolution of corporate social responsibility*. International Journal of Corporate Social Responsibility.
- Letorey, P., Gore, N., Osse, P., & Dragstra, F. (2023). *Living wage: An emerging standard*. PwC.
- Letorey, P., Osse, P., Gore, N., & Dragstra, F. (2024). *Working towards paying a living wage*. United Kingdom: PwC.
- Martins, J. (2023). *Annual Report 2023*. Portugal.
- Mayring, P. (1994). Qualitative Inhaltsanalyse. In A. Boehm, A. Mengel, & T. Muhr, *Konzepte, Methoden, Werkzeuge* (S. 159-175). Konstanz: UVK Univ-Verl.
- MIT. (22. April 2024). *livingwage.mit.edu*. Von <https://livingwage.mit.edu/pages/methodology> abgerufen
- Mota Engil. (2023). *Building with Purpose; Integrated Report 2023*. Portugal.
- NOS. (2023). *Integrated Annual Report 2023*. Portugal.
- OECD. (2021). *Social Impact measurement for the Social and Solidarity Economy*. EU: OECD Global Action.
- Pollin, R. (1998). *Living Wage, Live Action*. Planners Network.
- Redes Energeticas Nacionais. (2022). *Results Presentation 2022*. Portugal.
- Semapa. (2022). *Annual Report 2022*. Portugal.

- Serafeim et al. (2019). *Impact-Weighted Financial Accounts*. Cambridge: Harvard Business School.
- Serafeim, G., & Trinh, K. (2020). *A Framework for Product Impact-Weighted Accounts*. Harvard Business School Working Paper.
- Sonae. (2022). *Own what's next; Annual Report 2022*. Portugal.
- The Navigator Company. (2023). *Creating Value, Planting the Future*. Portugal.
- UNDG. (18. April 2024). *unsdg.un.org*. Von <https://unsdg.un.org/sites/default/files/UNDG-UNDAF-Companion-Pieces-7-Theory-of-Change.pdf> abgerufen
- VBA. (2021). *VBA Methodology Impact Statement General Paper Version 1.0*. Value Balancing Alliance.
- WageIndicator Foundation. (23. April 2024). *wageindicator.org*. Von <https://wageindicator.org/salary/minimum-wage/minimum-wages-higher-than-living-wages-by-country-and-by-region> abgerufen
- WEF. (21. January 2021a). *weforum.org*. Von <https://www.weforum.org/agenda/2021/01/this-is-why-were-ensuring-every-worker-in-our-supply-chain-earns-a-living-wage/> abgerufen
- WEF. (21. May 2021b). *weforum.org*. Von <https://www.weforum.org/agenda/2022/05/living-wage-business-benefits-unilever/> abgerufen
- Werner, A., & Lim, M. (2015). *The Ethics of the Living Wage: A Review and Research Agenda*. Journal of Business Ethics.
- World Bank. (2021). *data.worldbank.org*. Von <https://data.worldbank.org/indicator/SP.DYN.TFRT.IN?locations=PT> abgerufen

8. Appendices

Appendix A: Comparison of the three living wage organizations

	MIT Living Wage Calculator	WageIndicator Foundation	Fair Wage Network
Focus	On estimating the living wage necessary to meet basic needs such as housing, food, medical care, and other essential expenses in different regions of the United States.	On wages and working conditions worldwide, aiming to empower workers by providing transparent and reliable information.	Advocating for fair wages and ethical employment practices globally, aiming to ensure that workers receive compensation that meets their basic needs.
Data Sources	Uses data from government agencies, housing authorities, and other reputable sources to estimate living expenses.	Collects data through surveys, user contributions, and partnerships with government agencies, research institutions, and international organizations.	Conducts research, collaborates with local organizations, and engages with businesses to promote fair wages and labor standards.
Methodology	<p>FAMILY BUDGET AND LIVING WAGE CALCULATION The underlying data on the cost of basic needs is used to calculate the actual hourly living wage for each county and each family type through a four-step process, summarized in the figure below.</p> <p>1. Calculate the annual family budget less taxes. Sum together the cost of basic needs to arrive at the annual family budget (needed to cover all typical expenses except taxes).</p> <p>2. Identify the additional cost of income and payroll taxes. Using NEED TAXING, calculate the federal and state income and payroll tax liability, dividing parent tax by two to account for just the employee's portion.</p> <p>3. Divide by the number of working adults. Assume that both adults in a two-worker family contribute equally for 52 weeks per year.</p> <p>4. Generate an hourly living wage. Assume that the worker is full-time at 40 hours per week for 52 weeks per year.</p> <p>Family Budget (Less Taxes) + Federal and State Income & Payroll Taxes = Working Adults + 2,080 hours = Living Wage</p> <p><small>Family Budget (Less Taxes) refers to the actual family budget before taxes have been subtracted. While the relevant living budget includes income and payroll taxes to ensure that a family can afford to pay taxes.</small></p>	<p>Figure 16: The Anker method for estimating Living Wages</p> <p>Source: Anker & Anker, 2017, p. 17</p>	Extensive field work surveys being carried out among workers in factories/farms in the different locations that allows to capture what are the daily and also monthly expenditures of workers and their families, and also what do they consume and in what quantities. These surveys are then combined with surveys carried out in local markets and local shops to capture the right prices of basic goods and services.
Accessibility	The calculator is publicly accessible online, allowing individuals and policymakers to estimate living wages for different household compositions and locations	Provides online tools and resources, including living wage calculator and country-specific wage information, accessible to individuals and organizations globally behind a paywall.	Fair Wage engages in advocacy efforts, research initiatives, and partnerships to promote fair wages and improve working conditions globally behind a paywall
Geographic Focus	Primarily focuses on regions within the United States	Covers a wide range of countries and regions worldwide, offering localized information on wages and living conditions.	While Fair Wage addresses global issues related to fair compensation and labor standards, its initiatives and advocacy efforts may focus on specific countries or regions based on need and opportunity.
Source	(MIT, 2024)	(WageIndicator Foundation, 2024)	(Fair Wage Network, 2024)

Appendix B: Living wage adjustment

The table below is suggested by Harvard Business School and serves as a means for step 1: the categorization of the living wage.

Living wage category	Living wage rate
Above living wage	100%
90-99% of a living wage	95%
75-89% of a living wage	82.5%
50-74% of a living wage	62.5%
Below 50% of a living wage	0%

1. **Categorization:** $\left(\frac{\text{Actual Wage}}{\text{Living wage}}\right) \times 100\% = \text{Living Wage Category}$
2. **Calculation:** *Numbers of workers in the living wage category* $\times (1 - \text{living wage rate}) \times \text{living wage in that location}$
3. **Sum the living wage adjustments:**

$$\sum_{i=\text{Living wage category}} \text{Living wage adjustment} \times (-1)$$

Example:

Step 1:

Worker A is earning \$25,000 in an area where the living wage is at \$35,000

$$\left(\frac{25000}{35000}\right) \times 100 = 62.5\%$$

Worker B is earning \$40,000 in an area where the living wage is at \$45,000

$$\left(\frac{40000}{45000}\right) \times 100 = 89\%$$

According to the table above Worker A is in a living wage rate of 62.5% and Worker B is in a living wage rate of 82.5%

Step 2:

$$1 \text{ worker A} \times (1 - 0.625) \times \$35,000 = \$13,125$$

$$1 \text{ worker B} \times (1 - 0.825) \times \$45,000 = \$7,875$$

Step 3:

$$\text{Total living wage adjustment} = (\$13,125 + \$7,875) \times -1 = -\$21,000$$

Note: Adopted from *Practitioner Guide To Calculating Employment Impact-Weighted Accounts*, by A. Fadhel, August 2022, p. 5-6, Harvard Business School, Impact-Weighted Accounts Project (Fadhel, 2022, p.5-6)

Appendix C: Detailed description of the categories used for the living wage calculation

Category	Detailed description
Food	Monthly food basket for one person (2400cal) western food type
Housing	Rented apartment in city center monthly
Transport	Monthly pass (regular price)
Mobile phone	Monthly plan with calls and 10GB+ data
5% of unexpected costs	to include a small margin for unforeseen events (according to the Anker living wage methodology)
Social Security Tax	11%
Personal Income Tax	<ul style="list-style-type: none">• 26% (assuming an average annual income between 16.472€ and 21.321€) for mainland Portugal• 19.95% for Funchal and Ponta Delgada

Calculation for hourly living wage:

1. $Food + Housing + Transport + Mobile Phone + 5\% \text{ of unexpected costs} =$
Cost of basic but decent life
2. $(Cost \text{ of basic but decent life} \times 11\%) + (Cost \text{ of basic but decent life} \times 26\%) =$
Obligatory taxes
3. $(Cost \text{ of basic but decent life} + Obligatory taxes) \div 160 =$
hourly living wage

(Anker & Anker, Overview of the Anker living wage methodology, 2017a)

Appendix D: Questions for expert interviews

Expert Interview Impact Accounting:

1. What do you perceive as the benefits of impact accounting within organizations?
2. Can you discuss the key challenges organizations encounter when implementing impact accounting?
3. How can these challenges be addressed effectively?
4. From your experience, what are some best practices for selecting relevant impact indicators and metrics that accurately capture an organization's social and environmental performance?
5. In your view, what role does stakeholder engagement play in the development and implementation of impact accounting?
6. How can organizations effectively incorporate stakeholder perspectives into their reporting?
7. Could you share a best-practice example of impact valuation and accounting, particularly one that has been successful in addressing complex social issues?
8. What do you see as the future direction of impact accounting?
9. What emerging trends or developments do you anticipate in the field?

Expert Interview Living Wage:

1. What methodologies or approaches do you recommend for calculating a living wage, and how do these methods account for differences in geographic location, family size, and living standards?
2. From your experience, what are the key factors organizations should consider when determining the appropriate living wage for their workers, particularly in industries with varying cost-of-living indexes?
3. Can you discuss the potential impact of implementing a living wage policy on organizational performance and stakeholder perceptions, and how can this impact be effectively measured and communicated through impact accounting?
4. How can organizations ensure that their living wage calculations are transparent, fair, and inclusive, taking into account the perspectives of workers, unions, and other relevant stakeholders?
5. Could you provide examples of successful initiatives or case studies where organizations have effectively implemented living wage policies and integrated them into their broader impact accounting frameworks?
6. In your opinion, what are the main challenges organizations face when attempting to incorporate living wage calculations into their impact accounting practices, and how can these challenges be addressed?