

Diversity in Private Equity – Not So Private Anymore

Uncovering Deal Team Diversity and Examining Its Effect on Deal Performance at EQT

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ABSTRACT

The connection between increasing diversity and better performance has been established across industries, but research in a private equity setting is scarce. With the industry being a white man's world, this thesis investigates how gender and nationality diversity on deal teams affect deal performance. This is done using proprietary performance and human resources data from EQT, one of the world's largest active private equity firms. Methodologically, the analysis is based on two unique datasets that track deal team composition and performance for EQT's private equity flagship and mid market funds over time. A descriptive analysis followed by the application of multiple regression and a fixed effects model demonstrates that diversity (i) never has a statistically significant negative effect on performance, and (ii) in some contexts shows a statistically and economically significant effect on several performance metrics.

Keywords: Private Equity, Diversity, Deal Performance, ESG, Corporate Sustainability, DEI

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Disclaimer - Confidentiality, Correctness, and Completeness of the Data

Due to the sensitivity of the underlying data, we are legally bound to disclosure restrictions imposed to EQT by financial authorities in a variety of legal contexts. Given this, we are unable to disclose certain information on performance and strategic insights. All respective information has been masked accordingly, and, if necessary, referenced appropriately.

All diversity related disclosures are in line with the disclosure regulations governing EQT's Annual Report. The numbers underlying the analysis are based on certain assumptions detailed throughout the thesis, and EQT takes no legal ownership or responsibility for the correctness or completeness of the information. It should be emphasized that none of the information provided in this thesis should thus be interpreted as an official statement made by EQT or any of its entities.

Semantics: Usage of Certain Terms in the Light of Diversity, Equity, and Inclusion

The authors acknowledge that the terminological trio of Diversity, Equity, and Inclusion ("DEI") entails complex and interwoven concepts. In a simple analogy, this disclaimer will attempt to differentiate between the terms, and thereby also shed light on how each of them are distinct yet belong together.

Diversity can be understood as who sits at the table. It refers to the presence of differences among people, expressed for example in concrete and tangible categories such as gender, gender expression, sexual orientation, ethnicity, religious beliefs, mental and physical disability, but also more intangible and complex characteristics, such as cognitive differences and cultural association. A lot of times, these differences interlink in clusters related to example demography, culture, identity, and cognitive patterns.

While diversity refers to the mix or composition of a group at the dinner table, inclusion determines who is allowed to eat. It describes practice and state in which all group members are invited to participate in the group structure, based on their true identity and expression.

Equity, overarching the previous two concepts, describes who may sit at the table, and to that end probably who is able to choose what they want to eat. The eXtension Foundation defines Equity as "promoting justice, impartiality and fairness within the procedures, processes, and distribution of resources by institutions or systems. Tackling equity issues requires an understanding of the causes of outcome disparities within our society."

For the purposes of simplifying the thesis research, writing, and reading, a certain set of terms are used to reflect a certain definition of the term. The usage of the term *gender* in this thesis refers to cisgendered male and cisgendered female. Unless otherwise indicated, the usage of the term *minority* in this thesis refers to ethnic and/or nationality-based minorities and may differ based on context. For example, in a study based in America diversity may refer to the ethnicities latinx and Black whereas a study in Western Europe may refer to diversity as non-European nationalities. The usage of the term *diversity* in this thesis refers to female and/or ethnic and/or nationality-based minorities, and may differ based on the context.

¹ https://dei.extension.org/ – Accessed on 30-11-2022.

Word used in thesis	Definition
Gender (expression)	For the purposes of this thesis, gender is treated as binary for simplification as well as based on EQT's gender recording system, which does not contain any third gender identifiers as of now. In general terms, gender expression means identity expression as male, female, or another identity expression not corresponding to the established binary system of either of the two sexes (male and female). A person's gender expression is especially considered with reference to social and cultural differences rather than biological ones.
Male or Man	Cisgendered male
Female or Woman	Cisgendered female
Minority	This thesis centers around two minority groups specifically: Women, and nationally diverse individuals. In general, minority refers to any member of a group diverging from heterosexual white men. Including, but not limited to minorities based on gender expression, sexual orientation, ethnicity, ability, and socio-economic background.
Diversity	The state of being diverse as a constitution of a variety of people with differing attributes based on, but not limited to, gender expression, sexual orientation, ethnicity, ability, and socio-economic background. For the purposes of this thesis, unless otherwise stated, diversity refers to a variety of people in terms of cisgender expression and nationality.
Equity	An approach ensuring that everyone has access to the same opportunities – taking differences into account. Equity is a process that begins by acknowledging that unequal starting place (advantages and barriers exist) and makes a commitment to correct and address the imbalance. Also

known as 'leveling the playing field'.

Glossary

Word used in thesis	Definition			
Private Equity ("PE")	Private equity			
Limited Partners ("LP")	Investors in a private equity fund			
General Partners ("GP")	Managers of a private equity fund			
Investment Professional ("IP")	Investment advisor working on a deal team			
EBITDA	Earnings Before Interest, Tax, Depreciation, and Amortization			
EBIT	Earnings Before Interest and Tax			
Internal Rate of Return ("IRR")	IRR is a discount rate that makes the net present value (NPV) of all cash flows equal to zero in a discounted cash flow analysis.			
Multiple on Invested Capital ("MOIC")	The value or performance of an investment relative to its initial cost, commonly used within private markets.			
Tobin's Q	Market Enterprise Value Total Asset Replacement Value			
IPO	Initial Public Offering: When a company is offered to the public equity market for the first time			
LTM	Last Twelve Months (in reference to financial metrics)			
SFDR	European Union Sustainable Finance Disclosure Regulation			
GDPR	European Union General Data Protection Regulation			
AIFM	European Union Alternative Investment Fund Manager Directive			
UN PRI or PRI	United Nations Principles of Responsible Investment. PRI is a UN-supported network of institutional investors.			
ILPA	Institutional Limited Partners Association (who e.g. defines a globally standardized due diligence questionnaire many GPs include in their fundraising materials).			
DDQ	Due Diligence Questionnaire			
EQT MM	EQT Mid Market fund			

EQT MMEU EQT Mid Market Europe fund

EQT MMUS EQT Mid Market US fund

EQT MMAS EQT Mid Market Asia III

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1. Introduction

"Every culture, every nationality, every single person sees the world in a different way.

Similarly, every culture, nationality, and person has different knowledge, perspectives, and points of view. When all of these different views are shared together, miracles can happen."

— Steps4Change, 2022

In an increasingly interconnecting and globalizing world, a series of geoeconomic crises projected around the screens of the world have contributed to an increased awareness of the challenges humanity faces. In the business world, the concept of sustainability is being picked up by firms, consumers, and regulators alike, and manifested as ESG investing in the financial markets.

A topical area of high importance in this regard is social justice, or more specifically, the equitable treatment of a diverse set of humans, each of which deserves to be included. Incorporated in multiple of the UN Sustainable Development goals, the singularly most valuable goal to achieve, Gender Equality, is estimated to contribute more than USD 28 Trillion to the global economy.² Zoning into a specific industry, private Equity as an industry has, like the financial industry as a whole, been a white man's world since its beginnings. In spite of a multitude of research, the tides only seem to turn slowly.

The effects of diversity have been of great interest to many researchers. The general question driving the minds' curiosity is: Does diversity improve financial and non-financial aspects of companies, and if so, how (see e.g. Cumming et al., 2015; Engbo Christiansen et al., 2016; Conyon & He, 2017; Bernile et al., 2018; Giannetti & Zhao, 2019)? More diverse companies, on board-level as well as employee-level, display several attractive traits such as improved learning, creativity, flexibility, organizational and individual growth, and the ability for companies to adjust rapidly and successfully to market changes (Thomas & Ely, 1996), in addition to better return on assets (Engbo Christiansen et al., 2016; Conyon & He, 2017). So, how come that an industry that is completely focused on improving companies financially and operationally – namely private equity – employs so few women and minorities (Allbright, 2017; Baboolall et al., 2021)?

Researchers have tried to answer the question whether more diverse private equity firms yield better returns, but the underlying analysis is based on ownership- or partner-level

² https://www.unglobalcompact.org/what-is-gc/our-work/social/gender-equality – Accessed 01-12-2022

and thus dismissed the effects of diversity in deal teams (see e.g. Gompers & Kovvali, 2018; Gottschalg, 2020). Additionally, prior research looks at US data and tends to focus on ventures (see e.g. (Gompers & Kovvali, 2018; Gompers & Calder-Wang, 2021; Baboolall et al., 2021). In this thesis, funds from Europe, Asia, and the US will be represented, and it will be strictly focused on private equity, not venture capital. Additionally, the reported diversity numbers from private equity firms are oftentimes not distinguished between investing and non-investing roles. A general empirical observation is that investment teams are typically composed of white men (International Finance Corporation et al., 2019), while central and supporting functions typically employ a more diverse workforce, consisting of women and other minorities (Nee & Quigley, 2022).

This research aims to fill some of these gaps by analyzing financial performance within private equity comprising a unique dataset of deal team diversity metrics and deal performance. In doing so, we are cooperating with the international private markets investment firm EQT – an organization that has manifested its commitment to promoting diversity, equity and inclusion in its statement of purpose. By doing this research project with EQT, we get the opportunity to work with and analyze proprietary data, a rare opportunity within research in this field. By combining several different kinds of data, the research provides an opportunity for deeper analysis and understanding of the topic of diversity at EQT, and in the private markets industry in general.

Given the wealth of data available to us, the chosen focus lies on EQT's private equity business lines, namely its flagship funds (starting with EQT I in 1995) and its mid market strategy (starting with EQT Mid Market in 2013). EQT provided us with full access to its performance tracking platform, alongside general access to confidential data sources including for example fund reports to LPs. Our datasets are constructed by combining deal and portfolio company performance data with trackable diversity data of investment professionals. These two distinct pieces of information are consolidated using performance review and investment committee presentations as source material, enabling us to create a detailed tracker of who is on what deal team at what point in time. The information was available for most deals active in 2012 or after. Based on this information, we have constructed several diversity variables describing gender and nationality diversity. These efforts have resulted in two distinct datasets: a cross-sectional dataset of 157 deals cumulating deal performance over the entire ownership period, as well as a panel dataset with the same number of companies.

The datasets span between Q3 1995 and Q2 2022 and count 218 unique deal team members. 24 unique nationalities as represented, and 45 women. On average, a deal team consists of three to five members and has on average 18% women for 46% of the ownership period. Half of the deal team members typically have different nationalities. We find that female-led deals have more gender-diverse teams, with a 50/50 split in men and women on average, whereas all-male led deals have 14% women on the team. 25% of deals only have one nationality represented on the deal team, and these teams have 15% female deal team members on average. These teams display lower MOIC and IRR compared to average deals, whereas other deals (average, all-female, all-male, at least one nationality) show similar results for MOIC and EBITDA.

In order to make an inference on whether diversity on deal teams in terms of gender and nationality actually has a positive effect on the performance of a deal, we apply multiple regression to the cross sectional dataset, and a fixed effects model for the panel dataset. Given data availability and exclusion processes, the majority of the analysis is conducted based on information for 85 deals in the cross-sectional dataset, and 104 deals in the panel dataset. All models estimated have high explanatory powers, and almost every single one proves high goodness of fit and joint significance of the underlying variables.

In order to answer the research question, we use gross MOIC as an explained variable for both datasets. Given the unique data availability, we create additional specification series for the cross sectional dataset, in which we use IRR and cumulative EBITDA growth as explanatory variables. In summary of the results, it can be stated that diversity (i) never has a statistically significant negative effect on performance, and (ii) in some instances displays a statistically significant positive effect on performance metric. This is true for the gender diversity in relative terms (i.e. share of women) in at least one specification for MOIC, IRR, and EBITDA, and for nationality diversity for one specification on MOIC and both IRR specifications. Finally, the panel analysis yields statistically significant and positive effects on MOIC for all employed diversity variables except partner gender. In all cases, the effect can be considered to be economically material, with gender diversity showing a stronger effect on MOIC and EBITDA, while nationality diversity seems to have a greater influence on IRR.

There are several previously published research papers and studies which can provide an explanation for the positive effect that diversity has on performance. Starting with financial performance, it is evident in the broader private equity industry (including venture capital) that diversity shows a positive correlation with MOIC, IRR, and Total Value Paid In (Gompers et al., 2019; Gottschalg, 2020), and in other industries diversity has a positive

effect on e.g. return on assets and return on equity (Engbo Christiansen et al., 2016; Conyon & He, 2017). In addition to financial performance, diversity also correlates with other desirable traits in organizations: learning, creativity, flexibility, organizational and individual growth, ability to adjust rapidly and successfully to market changes, innovation and turning it into increased revenues, lower employee turnover, and reduced risk and frequency of fraud and financial reporting mistakes to name a few (Thomas & Ely, 1996; Torchia et al., 2011; Cumming et al., 2015; Lorenzo et al., 2018; Wahid, 2019; Maurer & Qureshi, 2021). We present the non-financial performance effects as potential explanations as to why diversity impacts financial performance positively. However, this does not imply neither that women perform better than men, nor that all deal teams should consist exclusively of women. Science does not support the claims that the sexes are different "by default" (Thomas & Ely, 1996; Tinsley & Ely, 2018). Neither does science support the claim that people of different nationalities have any different predisposition to be successful, e.g. on an EQT deal team. Instead, the results from this study should vouch for the benefits of diverse teams. It is important to note that this does not mean that neither men and women, nor locals and internationals are treated the same. Due to organizational structures, company practices, and patterns that position men and women differently, men and women are faced with systematically created different experiences - but the differences are not rooted in fixed gender traits (Tinsley & Ely, 2018). The same is true for internationals working in culturally heterogeneous teams. Alas, the different treatments of men and women as well as of majorities vs. minorities in ethnicity and nationality provide the individual and group with taught or expected traits, which is why diversity is achieved when women and minorities are present in teams. Examining the world through the lens of previous research and the results presented in this study, we believe that diversity is key for superior performance, and inclusion unlocks the benefits.

With EQT having a strategic history and interest in the topics of DEI, a crucial statement the organization has made is that "EQT truly believes that there is a strong and direct link between higher diversity and increased returns." This research provides data-driven support of this belief, and we invite you to examine the evidence yourself.

2. Literature Review

The purpose of this chapter is two-fold: firstly, it aims to provide background and understanding of both the topic of diversity (in the context of the broader topic of sustainability) and the topic of private equity value creation. Secondly, it is the base for the research questions developed for this thesis.

This chapter starts with a background on different sustainability concepts and their practical application within companies and investment practices.. Thereafter, a short introduction to the academic research on private equity performance is presented, followed by how value is created in private equity-owned companies. The latter is intentionally kept short given that this thesis examines *if*, and not *how*, diversity is related to performance. Next, the relationship between diversity metrics and performance in a general setting is reviewed. Lastly, the relationship between diversity and performance in a private equity setting is reviewed. The final part also includes research on the perceived glass ceiling in private equity.

2.1 From Corporate Social Responsibility to ESG investing – a Brief History of the Concept of Sustainable Investments³

This section provides an overview of the development of concepts surrounding companies' roles and responsibilities in society beyond creating economic value. In connection to that, investors' evaluation criterias and their evolution in relation to sustainable value creation will be presented. The first part distinguishes Corporate Social Responsibility ("CSR"), Corporate Sustainability ("CS"), and Environmental, Social, and Corporate Governance ("ESG"). Thereafter, a general assessment on the performance of ESG investments is conducted. Finally, the section finishes with an overview of ESG investing in the private markets industry.

2.1.1 From Shareholder Value Perspective to Creating Shared Value

2.1.1.1 Shareholder Value Perspective

When it comes to integrating environmental and social considerations into operational decisions, economic literature has long promoted the shareholder value perspective, i.e.

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³ Several parts of this Section relating to the conceptual background of Corporate Social Responsibility, Corporate Sustainability, and Creating Shared Value are either directly taken or only slightly amended from Leyhausen & Duong (2019).

corporations existing to provide value for its shareholders (and no one beyond that). The perspective is connected to two fundamental theories of economic thinking: the pursuit of self-interest by consumers and corporations results in economic efficiency (Smith, 1776) and that the state is responsible for market failures, externalities, and inequalities (Pigou, 1920). One of the most pronounced advocates of the shareholder perspectives, Milton Friedman, stated:

"In a free-enterprise, private-property system, a corporate executive is an employee of the owners of the business. He has a direct responsibility to his employers. That responsibility is to conduct the business in accordance with their desires, which generally will be to make as much money as possible while conforming to the basic rules of the society, both those embodied in law and those embodied in ethical custom."

– Milton Friedman in the New York Times Magazine (1970)

The shareholder value perspective argues that corporations are not responsible for, for example, giving money to charities – instead, the corporation should pay its shareholders dividends, enabling the shareholders to use their capital in whichever way they like. Under this view, consideration of a stakeholder outside the firm could be a source of agency problems. A stakeholder approach would introduce further complications as interest, both within and outside the corporate, are likely to differ, especially with respect to societal impact.

2.1.1.2 Stakeholder Theory and Corporate Social Responsibility

In 1984, Edward Freeman introduced the concept of stakeholder theory, which contrasts a pure shareholder approach to corporate governance and responsibility. He argues that corporations affect and are affected by multiple stakeholders in society, and therefore have responsibilities beyond their shareholders' best interests (Freeman, 1984). Born was the concept of CSR, defined by Aguinis (2010) as: "[CSR is a] context-specific organizational actions and policies that take into account stakeholders' expectations and the triple bottom line of economic, social, and environmental performance".

The concept imposes corporations with a (partial) responsibility to correct market failures and externalities resulting from the inefficiencies in governments (Bénabou & Tirole, 2010). Additionally, companies can use CSR as a tool to promote its own values that are not

necessarily shared by the state or policymakers. The idea of CSR has been centered about the expectations of shareholders and obligations from society, thus leading to the belief that CSR is partially motivated by reputation (Porter & Kramer, 2011). As such, CSR is seen as an add-on, something that is done after making profit, and is thus associated with ex-post profit distribution (Freeman, 2010). Tradeoffs, however, still imply a conflict of interest – how can these be aligned?

2.1.1.3 Aligning Interests – the Concept of Corporate Sustainability

The term "corporate sustainability" (or "CS") is frequently used, with research offering different definitions of CS. A commonly used definition is suggested by Dyllick and Hockerts (2002), who define CS as "meeting the needs of a firm's direct and indirect stakeholders [...] without compromising its ability to meet the needs of future shareholders as well".

There are three dimensions to CS: economic sustainability, social sustainability, and environmental sustainability (Dyllick & Hockerts, 2002). These dimensions can be viewed as different sources of capital, i.e. economic, social, and natural capital, which are collectively referred to as the "triple bottom line". In short, ecologically sustainable firms address environmental problems and consume natural resources at a rate below the natural reproduction level without polluting above the capacity of the natural ecosystem (Dyllick and Hockerts, 2002). Within the social sustainability dimension, firms add value to society while simultaneously aligning their motivations and values with stakeholders (Dyllick and Hockerts, 2002). The three dimensions should be seen as interrelated and interdependent, since solely pursuing economic sustainability is only seen as viable in the short run (Elkington, 1998).

2.1.1.4 Sustainability and Profit are Synergistic – the Concept of Creating Shared Value

Michael Porter (2011) introduced the notion that solving the world's most crucial problems carries the highest potential for economic value creation. As such, the concept of CSV suggests that the best way for businesses to impact social and environmental aspects in society is through the business itself, and by doing so in an economically sustainable way as well (Porter & Kramer, 2011). In other words, the primary goals of companies should be meeting societal needs at a profit.

Companies can create shared value on three levels: level one is the actual products or services that contribute to a better society, level two refers to the value chain, for example

sustainable sourcing, and level three is the business environment itself and refers to what the company can do to affect the community it operates within (Porter & Kramer, 2011). Additionally, Porter says in an interview, CSV is not exclusively for companies but can, and should, be applied by investors as well – investors should find companies that generate value by addressing important societal issues in their business model (Christensen, 2016).

2.1.2 Environmental, Social, and Governance Factors as Part of Investor Decision-Making

The concepts of CSR and CS refer to operational activities of the firm. CSV goes a step further. The theory claims that firms who address society's needs through its business directly, while also managing their operations sustainably, would perform better than their peers (Porter & Kramer, 2011). Therefore, an investor can, beyond considering risk and return, incorporate ESG factors into their investment (Matos, 2019). Thus, ESG is often interchangeably referred to as "sustainable investing" and "responsible investing".

Investors typically assess ESG factors based on non-financial data, relating to environmental impact (e.g. emissions, resource use, power consumption), social impact (e.g. employee satisfaction, equitable practices), and governance impact (e.g. transparency, accountability, and ownership) (Matos, 2019). By definition, this means that firms that only engage in CSR perform worst on ESG criteria, firms who run their business sustainably perform better, and firms who create shared value perform best in terms of ESG factors – and will therefore be chosen by the "sustainable investor".

Sustainable investing is a spectrum. Figure 1 below, which is accessed from EQT Foundation's Annual Report 2021, describes capital deployment under different degrees of consideration for sustainability as expressed by ESG criteria. It ranges from a pure focus on financial return with no ESG-factor consideration all the way to outright philanthropy, which does not take financial return into consideration when allocating capital, but only focuses on the impact the capital will have in terms of ESG criteria.

Figure 1: The Spectrum of Sustainable Capital

Traditional Investing	Responsible Investing	Sustainable Investing	Finance First Impact Investing	Impact First Investing	Philanthropy
Seeks financial returns regardless of ESG impact.	Investments are screened based on ESG risk and excludes industries such as tobacco, alcohol, weapons, gamling, and pornography.	Sustainability factors and financial returns drive investment selection. Examples of considered factors are carbon footprint, resource use, waste reduction, and gender equality.	Targeted themes and financial returns drive investment selection. The targeted themes are solutions for climate change, population growth, water scarcity, food systems, inequality, and health and wellbeing.	Social and environmental considerations take precedence over financial returns.	Financial returns disregarded in favor of social and environmental solutions.
← Market rate returns →					í
← Avoid harm →					
← Benefit stakeholders →					
← Contribute solutions →					ns →

With respect to the different degrees to which ESG criteria are included in investment decisions, it should be noted "Traditional Investing" – as the name suggests – was coined before the notion of ESG factors was introduced, in theory and practice (ref. Section 2.1.1). Its longtime counterpart is the opposite practice of philanthropy, i.e. giving away money without seeking any financial return. As the concepts and notions surrounding sustainability and shared value were introduced and have developed, so have the classifications of degrees of ESG factor considerations. The Impact Management Project⁴ has coined the underlying classification terms of "Avoiding harm", "Benefiting stakeholders", and "Contributing solutions" as means to distinguish the different classifications with ESG outcomes resulting from the respective practices.

2.1.2.1 The Evidence – Is Sustainability 'Worth It'?

It is observable that investors in the public equity markets, lenders in the debt capital markets, and investors in private equity are impacted by the companies' ESG profiles and initiatives.

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 $[\]frac{https://impactmanagementproject.com/wp-content/uploads/A-Guide-to-Classifying-the-Impact-of-an-Investmen}{t-3.pdf} - Accessed 28-11-2022$

Besides the fact that investing in ESG-friendly companies is considered "good" in ethical terms, critics question the actual impact of these activities and whether they create real value. An emerging field of empirical literature examines whether CS and CSR activities lead to enhanced profits or not.

Some of the economic theories explained above suggest that responsible companies deliver lower return on investments for shareholders because investors pay a premium for more ESG-friendly companies (Matos, 2019). As such, the cost of capital (referring to cost of equity) is lowered, as the premium infers a lower expected return (Matos, 2019). This, according to Matos, is how ESG investing may affect real corporate investment choices: companies are rewarded for "doing good" by obtaining lower costs of capital. In contrast, "sin stocks" (companies within industries such as tobacco, gambling, and alcohol) experience a higher cost of capital and thus investors expect a higher return (Matos, 2019).

So how does this hold up in reality? One meta-analysis, that is often referred to by the UN PRI and other players and associations in the financial industry, examines 60 review studies that combine over 2,200 unique primary studies. The conclusion is that 90% of the academic research on the topic found a non-negative relationship between ESG-friendly practices and financial performance (Friede et al., 2015). Although the review proves a strong business case for ESG at a first glance, it is not specified what kind of ESG aspects were measured, nor are the time periods for each piece of research, the geographical differences, or data comparison methods, amongst other criteria.

Matos (2019) also questions the direction of causality and asks whether a company is "doing well by doing good" or if they can do good because they are doing well. To provide nuance to the topic, researchers have investigated "sin stocks". These companies experience higher expected returns, lower analyst coverage, and less ownership from investors restricted by negative or normative exclusion criteria, such as pension funds (Hong & Kapcerczyk, 2009). Intuitively, this implies that investors are more reluctant to hold companies with low ESG-performance and thus create a lower demand for these types of stocks, resulting in a lower stock price today and higher returns in the future (Matos, 2019).

Although research on ESG impact has mainly been conducted from the perspective of public equities, other asset classes may have a greater influence on ESG operations. A good example are debt capital markets. Activities such as withholding new debt financing, refusing refinancing, or high interest expenses are more likely to affect a company than investor activity on the secondary market. A study by Chava (2014) shows that companies with a higher environmental risk profile, for example due to hazardous chemicals, high emissions,

or climate change concerns, are charged with higher interest rates than companies without these concerns. By looking at risk through environmental and social frameworks on a country-level, companies face higher interest rates if they are located in a country with higher sustainability risks (Hoepner et al., 2016). The research finds that a decrease of one unit in sustainability risk corresponds to a 64 basis-point decrease in interest rates. Additionally, the environmental aspect is twice as impactful compared to social risk. However, a relationship cannot be established on company-level, only at country-level. A study on green bonds shows a small yield differential, suggesting that companies with a higher ESG score can be expected to earn a slightly lower return (Zerbib, 2019).

While private markets are affected by the development of public equity and debt markets in their ordinary course of business, investment decisions and ownership initiatives are significantly more active. Hence, ESG investing in the context of private equity is an interesting topic to look into next.

2.1.2.2 In Practice – ESG in Private Equity

Since the financial crisis, several geoeconomic conflicts and international crises, most recently the COVID-19 pandemic, have contributed to an increased awareness for climate change and societal challenges such as gender and racial inequalities (International Finance Corporation, 2020). Many private equity investors testify about increased pressure from their limited partners to invest in companies with a strong ESG performance (Yang et al., 2019). A study conducted by Bain and ILPA shows that 93% of LPs say they would walk away from a potential investment opportunity if it posed ESG concerns, and 50% cite better investment performance as a key reason to incorporate ESG⁵. With regulators picking up (e.g. through the EU SFDR), this trend is expected to fortify and accelerate in the near future⁶.

Empirically, one recent industry study suggests that companies with stronger ESG practices not only prove to be more resilient, but actually outperform their peers (Whieldon & Clark, 2021). In a chicken-or-egg situation, many PE firms have introduced ESG factor considerations into their asset allocation, incorporated ESG-oriented value creation practices, or even introduced ESG-centric investment strategies such as impact investment funds (PRI, 2022). However, while ESG factors might gain increasing traction and relevance, the degree of urgency with which the underlying topical areas of environmental, social, and governance factors are being picked up varies.

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⁵ ESG in Private Equity | Bain & Company – Accessed 24-11-2022 ⁶ ESG in Private Equity | Bain & Company – Accessed 24-11-2022

Propelled by investor demands, and framed by key regulatory frameworks surrounding private markets⁷, a majority of ESG factor considerations surround environmental disclosures and governance mechanisms (Seretakis, 2015). For environmental disclosures, regulators as well as industry associations (e.g. ILPA) define concretely measurable targets and disclosure topics for environmental impact, such as CO² (and equivalent) emissions, and resource use (ILPA, 2021). With regulation being increasingly more scrutinous on governance and control mechanisms, considerations mainly revolve around disclosure and auditing requirements, for firms, funds, and assets. As governance requirements are legally defined in a rigid way, meaning that requirements are easily understandable (Seretakis, 2015). On the "S" in ESG, determining measurable targets is tougher, as the underlying human complexity is harder to manage and quantify. While considerations surrounding the "S" in ESG may include a variety of topics, many PE firms lack concrete targets and definitions as of today. One of the main reasons for this could be the to date incomplete social taxonomy definition of the EU (European Union Platform on Sustainable Finance, 2022).

2.2 Value Creation in Private Equity

This next section of the chapter relates to how private equity compares to other asset classes, and how private equity firms create value within their portfolio companies in order to deliver returns to their investors. Starting off with a general introduction to private equity returns on an asset class level, the section subsequently explores different value creation strategies within operational, financial, and governance engineering as well as exit dynamics.

2.2.1 Private Equity Performance

The goal of a private equity investment is to sell the company at a higher value than it was purchased for (Folus & Boutron, 2015). In order to establish whether private equity firms provide value or not, research comparing returns of private equity funds with public market returns have been conducted over many decades (Gompers & Lerner, 1997; Acharya et al., 2013; Sorensen & Jagannathan, 2015; Brown & Kaplan, 2019). Many researchers find that private equity funds provide excess returns on a risk-adjusted and net-of-fees basis (Sensoy et al., 2014; Harris et al., 2014; Korteweg & Sorensen, 2017; Korteweg, 2019), while others argue that private equity fund performance is below the ones of public equity indexes

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⁷ https://www2.deloitte.com/de/de/pages/sustainability1/articles/sfdr-changing-dynamics-in-private-equity.html – Accessed 15-11-2022

(Kaplan & Schoar, 2005; Phalippou & Gottschalg, 2009). Additionally, private equity placements face an illiquidity premium (Maurin et al., 2022), described as a compensation for the extra risk that an illiquid investment entails. In order to generate the "higher than needed returns" that arise due to management fees and illiquidity, the excess return needs to be created in the underlying assets, i.e. the portfolio companies (Axelson et al., 2014). Some argue that the excess return relates to a skill or complexity premium, meaning that private equity firms obtain higher return on investments because the investment professionals are better at sourcing, selection, deal execution, transformation, and exit strategies (McCourt, 2017; Schroders, 2021). This leads to the next part of this section, namely value creation in private equity.

2.2.2 Private Equity Value Creation

Private equity firms can create value throughout the whole deal process and holding period; from entry value (purchase) to exit value (sale). The three primary methods to increase the exit value are free cash flow generation, EBITDA/earnings growth, and multiple expansion (Folus & Boutron, 2015). These methods are exemplified in a 2016 survey where 79 private equity firms were asked about their expected sources of value creation (Gompers et al., 2016), as the most common expected sources if value creation are increased revenue/"impact demand factors" (80% of deals, median), improved incentives (73%), follow-on acquisitions (50%), purchase at an attractive price relative to industry (50%), and facilitating a high-value exit (44%).

Kaplan and Strömberg (2009) have introduced a framework suggesting that value creation activities can be divided into operational engineering, financial engineering, and governance engineering. In the early years of private equity, that is, the early 1980s and sometimes referred to as Private Equity 1.0, financial and governance engineering was the main tools that private equity funds utilized in order to deliver high returns to its investors (Moon, 2006; Indahl & Gunvor Jacobsen, 2019). The operational engineering was more prominent in Private Equity 2.0 in the 1990s and Private Equity 3.0 in the 2000s until recent years, referring to operating efficiencies and "buy-and-build" strategy (Indahl & Gunvor Jacobsen, 2019). Lastly, exit strategies play a pivotal role in generating returns on a deal (Folus & Boutron, 2015).

2.2.2.1 Operational Engineering

Operational engineering is conducted throughout the holding period of the portfolio company. Some of the most well-known and reputable researchers within private equity explain that operational engineering was a tool to achieve a competitive edge in the early 1990s, when most private equity firms competed solely on governance and financial engineering (Moon, 2006).

Operational engineering is described as top-line growth, operational improvements, and cash management (Biesinger et al., 2020). Examples of top-line growth activities are increasing market share, pursuing add-on acquisitions, changes in offering mix, expansion into new markets, changes in pricing strategy, improvements in marketing, and enhancement of quality with the goal of growing revenues for the portfolio company. Operational improvement activities target both the asset side of the balance sheet and the income statement, for example buying, selling, or upgrading fixed assets and capital expenditures, divesting and spinning off companies, and reducing costs in COGS and operating expenses (Biesinger et al., 2020). Additionally, operational improvements include digital transformation, logistics, and revamping organizational structure (Biesinger et al., 2020). Cash management refers to improving or optimizing working capital, i.e. through cash conversion and inventory management (Biesinger et al., 2020).

Moreover, private equity-backed companies demonstrate better operational performance than industry peers, higher EBITDA-to-total-assets, and better net-cash-flow-to-total-assets than non-private equity-backed companies (Guo et al., 2011; Cohn et al., 2014). Private equity-owned firms also have higher productivity than the industry average (Lichtenberg & Siegel, 1990; Davis et al., 2014). The value creation through revenue growth and margin improvement might lead to multiple expansion, which is prominent in large private equity funds (Acharya et al., 2013). Thus, previous research shows that private equity ownership is associated with improved operational performance – but why, exactly, is that the case?

Relating back to the skill and complexity premium, performance is attributable to the skills of the investment professionals of the private equity firm. Acharya et al. (2013) argue that the professional background of general partners is partly associated with the outperforming deals – partners with a background in consulting or the relevant industry are connected to internal value creation whereas partners with a banking or accounting background are connected to value creation through significant M&A strategy.

Other favorable capabilities and skills that a private equity firm leverages to improve portfolio companies include a structured approach to utilizing industrial networks, for example assisting in due diligence processes and board contribution, processes for inducing change, and supporting functional teams, for example in-house tech, HR, operations, etc. (Gompers et al., 2016).

2.2.2.2 Financial Engineering

Financial engineering plays a role both at entry and throughout the holding period and refers to creating value through leverage. Although financial engineering was more important in the 1980s (Kaplan & Strömberg, 2009; Harris et al., 2014), it still is an important factor for value creation in more recent environments (Cohn et al., 2014).

This is partially due to debt having incentive benefits – Jensen (1989) established that companies with excess cash and low leverage levels aren't subject to the ongoing discipline of capital markets. With tighter financial conditions one cannot get by with complacency, as high leverage forces management to deal with problems in a timely manner. Leverage also imposes restrictions on management and can improve cash discipline (Kaplan & Strömberg, 2009). The leverage is not changed post LBO – not even for companies with excess cash flow after interest payments (Cohn et al., 2014). A negative aspect, however, is that the high leverage may impose demanding debt obligations and therefore provide constraints on pursuing potentially attractive profit opportunities (Klein et al., 2013).

A crucial aspect of financial engineering that private equity firms make use of is the alignment of incentive structures, which has been identified as a key value driver (Jensen, 1989; Guo et al., 2011). This is orchestrated by encouraging the management team to make a meaningful and often substantial investment in the company. Although this type of compensation structure has become more common in public companies as well in later years, it was unique to private equity from the 1980s to early 2000s (Moon, 2006). Through different types of shares (common and preferred), warrants, and options, the management upside is greater than that of private equity investors – although the same is true in case of a non-successful deal. The second and equally important part of this structure is that the investment of the management team (and the private equity firm) is illiquid – unlike publicly traded stocks, the capital is "stuck" within the company until the value is realized (Moon, 2006).

2.2.2.3 Governance Engineering

Governance engineering refers to creating value through the management team and board of the portfolio company, and is typically constructed at entry and is continuously worked on throughout the holding period. The aim of governance engineering is to reduce agency risks and improve shareholder value, where the former is achieved partially by aligning the objectives between the management team and the private equity firm (Jensen, 1986). Historically, in the early days of private equity, Jensen (1989) identified that agency problems that occurred between shareholders and boards in public companies could be eliminated in a private equity structure. The alignment is further induced by incentive programs, as mentioned in the section above.

Governance engineering relates to the improvement of the corporate governance with activities such as professionalization of rules, structures, best practice and internal controls, and re-organization of the board or ownership structure (Biesinger et al., 2020). Additionally, replacement of key management members (for example CEO or CFO) might occur – either due to lacking performance or skills of the current management, or because the members of the management team are also owners pre-acquisition and choose to leave their position upon "cashing out" when bought by a private equity firm (Klein et al., 2013).

The structures of private equity governance makes owners act as active managers and makes managers behave like owners and therefore result in a more entrepreneurial form of governance compared to public companies (Klein et al., 2012). For example, one benefit from the private equity governance structure is that managers, who are also owners, display a stronger degree of entrepreneurial judgment over the use of assets compared to salaried executives of publicly traded companies (Klein et al., 2012). Private equity-backed companies, in comparison to public companies, allow managers to have a long-term perspective without worrying about quarterly earnings, and allow them to develop strategies and business units without disclosing these activities to the public (Klein et al., 2013).

2.2.2.4 Exit Strategies⁸

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The final part of value creation under a private equity ownership occurs at the time of exit. The purpose of the exit is to transfer value from the private equity fund to its investors, and thus the number and value of successful exits heavily influences the private equity funds

⁸ If not stated otherwise, the information in this section is derived from the chapter Exit Strategies in Private Equity written by Folus and Botrun (2015) in the book Private Equity.

ability to raise succeeding funds and attract investors. Private equity firms create value by positioning the portfolio company well in time for exit.

The exit value is typically determined by an exit multiple. Although the multiple expansion can be created during the operational engineering phase, it is not realized until exit (Acharya et al., 2013). Private equity funds can also increase the exit multiple by timing the macroeconomic environment and utilizing the growth trajectory of the portfolio company. There are three ways for a private equity firm to exit an investment: selling to a strategic investor⁹, selling to a financial investor¹⁰ (for example to another private equity firm, a so-called secondary buyout), or through an IPO. McKinsey maps out that during 1995-2013, sales to strategic investors was the most common exit, comprising more than 50% of exits, followed by secondary buy-outs. IPOs were the least common. In the years 2014-2018, secondary buy-outs grew in popularity – approximately 85% of exits were split between sales to financial and strategic buyers (Cazalaa et al., 2019). Strategic investors tend to pay a higher purchase price which is due to how they price the potential synergy effects of buying a company in the same industry. Financial buyers, especially in secondary buy-outs, are more sensitive to the macroeconomic environment in terms of interest rates, as private equity firms use a larger portion of debt when acquiring companies compared to other financial investors and strategic buyers. The number of IPOs are also dependent on the macroeconomic market dynamics – taking the global financial crisis as an example, IPOs represented 35% of exits in 2007 while dropping to 5% in 2008. In 2009, 2010, and 2011, IPOs reached high levels again, representing 23%, 30%, and 25% respectively of total exits (Cazalaa et al., 2019). Similarly, the IPO levels (including SPACs) increased rapidly in 2021 following the Covid-19 pandemic (MacArthur et al., 2022).

Typically, IPOs are the most profitable type of exit, but the decision to exit through an IPO is impacted by the stock market and economic environment, and the length of the holding period – the longer a company is held by the private equity firm, the more likely it is to exit through an IPO. The IPO exit also allows for a partial exit, meaning that the private equity firm can remain as a majority or minority shareholder after realizing (part of) the return.

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⁹ Strategic buyers are sometimes referred to industrial buyers or a "trade sale", meaning that the buyer is another company, typically in the same industry as the target company.

¹⁰ This includes cross-fund transactions to a fund managed by the same company.

2.3 Diversity and Performance in a General Setting

This section focuses explicitly on the *actual* performance of corporations connected to a specific portion of ESG, namely diversity, equity, and inclusion. This part of the review is thus focused on diversity and performance in a general setting, i.e. including industries other than private equity. The primary reason for including other sectors and industries is to provide a sturdier theoretical background to the topic of diversity and performance. A main rationale for this is that the research on the topic within the private equity industry is scarce. An underlying reason is the lack of diverse individuals and women working as investment professionals in private equity, which makes it increasingly difficult to show significant results as they comprise only a small sample in any given data set. As private equity-owned portfolio companies are (naturally) active within a variety of industries, understanding how these are impacted by diversity is highly relevant.

Furthermore, this review section includes both academic and company-led empirical research. The reason for including the latter, in addition to providing an empirical nuance to the academic findings, is because research on diversity in terms of ethnicity and nationality has been more prominent in company-conducted studies than academic research.

2.3.1 Gender Diversity and Financial Performance

Gender diversity is positively correlated with financial performance on a variety of financial metrics. Starting with gross- and net-margins, there is a positive correlation with profitability and the presence of women in executive leadership positions and board positions (Noland et al., 2016). There is also a positive correlation between female presence and return on assets ("ROA") in boards (Conyon & He, 2017) and senior corporate positions (Engbo Christiansen et al., 2016). For the latter, the correlation is more prominent in sectors where women form a larger portion of the labor force, such as the services sector, and sectors where complementarities in skills and critical thinking are high in demand, such as high-tech (Engbo Christiansen et al., 2016). In the research by Conyon and He (2017) on women on boards, a positive effect on Tobin's Q in addition to ROA is also established, but the effect for both metrics is not, as previously believed, homogenous. Instead the research shows that female directors have a larger positive impact in high-performing firms relative low-performing peers (Conyon & He, 2017).

Similar results have been produced in company-led studies, although one should note that these types of research do not impose the same research credibility standards as peer-reviewed research published in academic journals. McKinsey conducted a report on 366 companies in 2015, and found that the companies in the top quartile for gender diversity were 15% more likely to have returns above the industry mean (Hunt et al., 2015). An extended version of the study was conducted in 2018 – this time examining over 1,000 companies in 12 countries. The results remained: top-quartile companies on executive-level gender diversity worldwide have a 21% likelihood of outperforming their fourth-quartile industry peers on EBIT-margin. Additionally, the lowest-performing quartile is more likely to under-perform on profitability compared to their peers (Hunt et al., 2018). Credit Suisse shows that large cap companies with one or more women on the board outperform their peer group without any women on the board in terms of returns on equity ("ROE"), valuation (price/book value), and growth in net income (Credit Suisse, 2012). More recent research shows that teams with >20% women in senior managerial roles, compared to <15% women, leads to higher cash flow return on investment and higher EBITDA-margins (Credit Suisse, 2019). It should be noted that the company-conducted studies imply correlation, but cannot and should not be interpreted as causality.

Although team heterogeneity is proven to have an overall positive effect on market share and profits, some negative aspects have been identified as well (Hambrick et al., 1996). Diverse management teams may be slower in their actions and responses and less likely to respond to competitors' initiatives (Hambrick et al., 1996). Similarly, research shows that board diversity is not equally effective in all circumstances. The benefits from a diverse team are more prominent in firms with more R&D intensity and growth profiles, while the effect of board diversity decreases in more volatile conditions when quicker decisions processes and swifter reactions are more beneficial (Bernile et al., 2018). A meta-analysis examining 20 research papers including over 3,000 companies shows that there is no significant correlation between percentage of women in corporate boards and financial performance (Pletzer et al., 2015). Even though the meta-analysis does not support the business case for (board) diversity, the authors suggest that that (board) gender diversity should be promoted for ethical reasons to promote fairness: if a larger representation of female directors does not matter with regard to firm performance, females, if equally qualified, should be given priority when promotion decisions are made. An explanation to the varying results is that the positive effect of gender diversity is conditional based on normative and regulatory acceptance in the country and industry in which the company operates in - the more gender diversity is accepted in the country or industry, the more gender-diverse firms experience positive market valuation and increased revenue (Zang, 2020).

2.3.2 Ethnic Diversity and Financial Performance

The topic of ethnic and nationality-based diversity and its correlation with financial performance is not extensively researched in academics, hence, this part of the literary review is more reliant on company-conducted studies and findings. However, the research on ethnic and nationality-based diversity is more extensively researched when examining non-financial effects, as presented in the upcoming section.

Additionally, some research is "blended", meaning that ethnicity and gender diversity is researched in bulk and effects cannot be separated – for example in research by Erhardt et al. (2003) who established a positive correlation between board diversity (gender and ethnicity) and financial performance. It is also worth emphasizing that most of the research on ethnic minorities is based in the U.S., whereas research in a European setting focuses on diversity in nationality. A primary reason for this is the European GDPR, which to a large degree prohibits employers from passing on sensitive information to third parties (including researchers).

Gianetti & Zhao (2018) examine ancestral diversity in boards, which allows the authors to capture both the cultural and genetic differences of board directors. They conclude that diversity has pros and cons, leading to high performance volatility, and yields higher stock returns. The findings are further supported by examining the M&A announcement returns by companies with diverse boards, which shows higher volatility. This eliminates the risk of reverse causality in the research, making the authors more confident in their research findings (Giannetti & Zhao, 2019)

As for empirical research, the studies by McKinsey (Hunt et al., 2015; Hunt et al., 2018) also provide information on ethnic diversity. In the report from 2018, top-quartile companies based on ethnic diversity in executive-level show a 33% (35% in 2015) likelihood of outperforming their fourth-quartile industry peers on EBIT-margin. Additionally, the lowest-performing quartile for both gender and ethnic diversity are more likely to under-perform on profitability compared to their peers by 29% (Hunt et al., 2018). Similar findings were replicated by research analysts at the Wall Street Journal: the top 20 companies in the S&P 500 based on diversity metrics, such as share of women in leadership roles, presence of inclusion and diversity programs, and board demographics, have a higher operating margin of 12% compared to the lowest diversity-performing companies of 8%. The more diverse companies also outperform the less diverse companies in terms of stock returns on both a five and ten year horizon (Wall Street Journal, 2019).

2.3.3 Diversity and Non-Financial Performance

In addition to financial performance, researchers find positive associations between diversity and non-financial performance. Diversity in the workplace encompasses learning, creativity, flexibility, organizational and individual growth, and the ability for companies to adjust rapidly and successfully to market changes (Thomas & Ely, 1996). Thomas and Ely (1996) argue that companies should not view women and minorities simply as a tool for accessing and understanding the minority group of which the individual belongs to – instead employees from a diverse background should be viewed as a source to new perspectives which the corporation can benefit from. A study conducted by the Boston Consulting Group also shows that companies with a more diverse workforce are more innovative, and more successful in turning the innovation into increased revenues (Lorenzo et al., 2018). Additionally, companies with diverse boards also experience a higher score on employee engagement diversity and inclusion (National Association of Investment Companies, 2021).

Several non-financial effects from gender diversity are established. To name a few: more women contributes to lower employee turnover (Maurer & Qureshi, 2021), reduces the risk and frequency of fraud and financial reporting mistakes (Cumming et al., 2015; Wahid, 2019), and improves innovation (Torchia et al., 2011). In addition, gender diverse teams are better at performing complex tasks (Higgs et al., 2005) and boards with greater gender diversity are associated with higher likelihood of deal closure in M&A (Ravaonorohanta, 2020). Recent research shows that gender diversity in boards is more likely to increase upon public attention to events connected to gender equality, and the effects are more prominent for firms with a corporate culture that is sympathetic to gender equality (Giannetti & Wang, 2021). When public attention to gender equality increases, firms reach out to a larger pool of women, for example women without industry experience or outside their network. Additionally, female directors do not appear to be dilutive of the board's skills (Giannetti & Wang, 2021). Researchers have tried to explain why more women in a workplace lead to positive outcomes, such as the ones listed above, by examining the differences of the sexes. Women are more caring, cooperative, and more mission-driven compared to men (Tinsley & Ely, 2018), which could be the underlying reasons for the non-financial performance. Additionally, the non-financial performance may translate into better financial performance. However, it is important to note that these traits do not stem from rooted fixed gender traits, but rather are a symptom to the creation of systematically different experiences for men and

women based on organizational structures, company practices, and patterns of interaction that position men and women differently (Tinsley & Ely, 2018).

As for ethnicity, the U.S.-based research by Hewlett et al. (2005) shows that ethnic minorities are more likely to be engaged in leadership activities outside the workplace, such as non-profit organizations, church, and mentorship programs within their communities. Despite rigorous outside-work leadership experience, the companies fail to recognize the leadership experience in minority employees, which, according to the authors, is considered a missed opportunity to leverage minority employees' skills. The study by Gianetti & Zhao (2018) on ancestral diversity in boards concludes that diversity has pros and cons, leading to high performance volatility. For example, benefits of diverse boards include strategies which conform less to the ones of industry peers, and more numerous and cited patents. On the other hand, negative aspects related to diverse boards have more meetings and make less predictable decisions. The authors therefore suggest that board diversity may lead to inefficiencies in boardroom decision-making processes and conflicts (Giannetti & Zhao, 2019).

The topic of diversity beyond ethnicity, nationality, and gender has gained traction in recent years. One example is socio-economic diversity – research shows that GDP is higher in countries where managers come from lower-class origins. Workers from this socio-economic background show more creativity, motivation, and capabilities. In spite of this, they are less likely to be promoted into managerial roles (Ingram, 2021). Moreover, Reynolds & Lewis (2017) examines cognitive diversity. In their previous research, they examine how teams of different compositions referred to age, ethnicity, and gender perform tasks. To their suspense, the performance of diverse teams was highly volatile. Their search for an answer led them to cognitive diversity, i.e. the diversity in perspective and knowledge processing styles. Cognitive styles are independent of age, ethnicity, and gender, as well as education, culture, and other social conditioning. Naturally, it is not as easy to detect either. That is why some teams, who are non-diverse on "surface-level" (for example a group of all-white middle-aged men), can perform better than a team composed of different genders, educational backgrounds, ethnicities, and ages. The reason is that cognitive diversity is a reason for bias, for example in recruitment processes – people tend to hire people who are similar to themselves, even on a cognitive level. This is exemplified in the research on a biotech R&D team – despite their surface-level differences, they were homogenous in the sense of how they liked to process and think about change, and therefore took a long time to finish the task (Reynolds & Lewis, 2017).

In conclusion of this section, it is apparent that most of the research implies that diversity has a positive impact on both financial and non-financial performance. But how does this hold up in a private equity setting?

2.4 Diversity and Performance – Private Equity

This part of the literature review contains both academic and non-academic research which is due to the novelty of the topic – purely academic research on the topic is scarce, whereas global consultancy firms and national organizations and associations have provided relevant reports. The conducted research primarily has a geographical focus on the U.S. and is centered around venture capital to a larger extent than on private equity. The reason for venture capital being favored in research is due to data reasons; it is easier to measure individual performance for venture capital investors as most venture capital deals are individually sourced (Gorman & Sahlman, 1989; Gompers & Calder-Wang, 2021).

To reflect the current status of the topic in academia, a literature review was recently made by the Institutional Allocators of Diversity, Equity and Inclusion (IADEI) which examines 146 articles on the topic of diversity and performance in private equity (including venture capital, buyout, and growth). There is a clear consensus supporting DEI as 115 articles support it, four oppose it, and 21 are inconclusive (Forbes, 2022). A selection of these articles, as well as other academic research, will be further reviewed in the following subsections.

As for empirical evidence, several consultancy firms have conducted reports that establish that private equity firms lag both corporate America and the American demographic split in terms of percentage of women and minorities (Baboolall et al., 2021). Although the representation of women and minorities are lagging, there is an increase of both minority-and women-owned private equity firms when comparing two studies from the Knight Foundation¹¹ on American private equity firms conducted in 2017 and 2021 respectively. In 2017, only 2% of American private equity funds were women-owned and less than 4% were minority-owned (Knight Foundation, 2017), but in 2021 the corresponding numbers are 7.2% for women-owned firms and 5.1% for minority-owned (Knight Foundation, 2021). However, women-led firms only represent 1.6% of the total private equity AUM and minority-led firms represent 4.5% (Knight Foundation, 2021). In a report by Allbright on the Swedish private equity scene, only three out of 92 partners listed in the report are women (Allbright, 2017).

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¹¹ Knight Foundation is an American non-profit organization

On a team-level, women make up 14% (Allbright, 2017). To examine the effects of diversity in private equity, the (American) National Association of Investment Companies conducted an index of diverse private equity firms and compared this with a general index from Burgiss and could establish that diverse firms yield better returns than the average private equity firm (National Association of Investment Companies, 2021). Again, it is important to note that company-conducted research does not present the same methodological rigor as peer-reviewed research published in academic journals.

2.4.1 Gender Diversity and Financial Performance in Private Equity

Gender diversity in private equity has been examined on ownership, investment committee, and partner levels. In venture capital, it is also examined on an individual investor level. In venture capital funds, Gompers et al. (2019) find that during 1990-2018, a 10% increase in female diversity implies a ~1.5% higher IRR. Looking at buyout funds, investment committees with at least one woman in the committee outperform all-male committees by 12% in IRR, 0.52x higher Total Value Paid In ("TVPI"), and lowered the average capital loss ratio from 8% to 14% (Gottschalg, 2020). The non-profit organization Knight Foundation uses linear regression statistics to research the relationship between women-led firms and performance in the US and concludes that there is no statistical significance for gender diversity and performance (Knight Foundation, 2021).

2.4.2 Ethnic Diversity and Financial Performance in Private Equity

As previously mentioned, the research on ethnic- and nationality-based diversity in private equity is scarce. Academic research on the topic has not been identified, and the company-conducted studies on the topic oftentimes have a 'blended' approach, meaning that women and minorities are analyzed together as a "diverse" component, but not distinguishing the fraction of minorities and women respectively.

One example of this type of research is the one from the National Association of Investment Companies (2021). As mentioned, the research was conducted by creating an index of diverse private equity firms, with 53% diversity on average, and comparing to an index of average private equity firms. It concludes that the diverse private equity firms outperform the average private equity firms on MOIC, IRR, and Distributed-to-Paid-In Capital ("DPI") (National Association of Investment Companies, 2021). The only report we have come across solely focusing on the financial effects of minority-owned private equity firms is the study conducted by Knight Foundation (2021), which finds that no significance

could be established between minority-owned firms and fund performance when using linear regressions (Knight Foundation, 2021).

2.4.3 Acquired Traits and Financial Performance in Private Equity

In a 2018 Harvard Business Review article, Gompers & Kovvali examine diversity within venture capital. The research shows that diverse teams, both in terms of endowed traits (gender and ethnicity), and acquired traits (education and work history), result in better financial performance on portfolio company-level as well as overall fund returns. The performance difference is especially prominent in the early stage strategy and recruitment efforts in start-ups. Additionally, venture capital firms that increase the proportion of female partner hires by 10% see on average a 1.5% increase in overall fund returns and 9.7% more profitable exits (Gompers & Kovvali, 2018).

A similar relationship was recently examined in a private equity setting and resulted in partially contradictory results. Hammer et al. (2022) find that higher socio-demographic diversity was associated with higher deal returns and multiple expansions, whereas the opposite relationship is true for occupational diversity (professional experience, educational background, and university affiliation). The research was conducted by analyzing the diversity in lead partner teams with the object of examining the net effects of diversity, i.e. the positive aspects from diverse teams, such as improved decision-making from a broader set of perspectives, contra the negatives aspects of diverse teams, such as deteriorated decision-making due to a potential of clashes and lack of cooperation.

2.4.4 Diversity and Non-Financial Performance in Private Equity

On deal level, diversity impacts industry, deal closure in M&A, and holding period length. Research by Gottschalg (2020) show that the gender of the deal lead has an effect on which industry the deal is in: women-led buy-out deals are more often observed in biotech and IT industries, and less often in industrials, business services, and technology, media, and telecommunications ("TMT"). Gottschalg's research also shows that women-led deals tend to have longer holding periods, which, according to the author, can be a sign of more fundamental transformation or that an indication of deals being held until full value creation potential is realized, in contrast to being sold prematurely.

2.4.5 The Glass Ceiling for Women and Minorities in Private Equity

Despite the positive association between gender diversity and financial performance in private equity, a glass ceiling is perceived to exist. In private equity, women-led deals have decreased in the past 35 years in audited performance data trailing 1986 to 2015: from 5% in deals before 1995 to 1% from 2006 and onwards (Gottschalg, 2020). On board level, private equity is trailing by a 2:1 ratio compared to boards in the broader financial services. Although the private equity industry outperforms corporate America in terms of number of female junior hires in recent years (Baboolall et al., 2021), women only hold ~10% of senior roles in private equity (Gottschalg, 2020). So, why are there less women in private equity?

In a survey of female professionals in private equity, venture capital, and hedge funds, the most common reasons stated for the low participation of women in the alternative investment industry are the lack of existing positions for women where they can build a track record, fewer women wishing to enter the alternative investment industry, and the lack of investor access – women have historically had less access to capital than their male counterparts (Rothstein Kass Institute, 2013). In the same survey, 61% of respondents said their gender makes it more difficult to succeed in their industry, and 47% of respondents agreed that being a woman impacts their ability to do business (Rothstein Kass Institute, 2013). Gottschalg (2020) provides the following explanation:

"The answers hypothetically could be at several levels: there is an underrepresentation of women graduates from business schools; of these graduates, a small proportion go into the financial industry [...] Women may still be forced to be twice as tough and streetwise as men to make it to partner or directorship levels — another compromise to a healthy work/life balance which male counterparts appear more willing to accept."

- Oliver Gottschalg in Financial Times (2019)

Reflecting on the survey findings and quote above, it is important to note the reasons why there are fewer female graduates from business schools. Women state that the lack of female role models, incompatibility of business careers with work/life balance, lack of confidence in math skills, and lack of encouragement from employers as the main reasons for not attending

business school¹² (Catalyst, 2000). Up to 30% of women state that obtaining funds is the largest obstacle to attending business school (Graduate Management Admission Council, 2016). Once women attend business school, they are facing other issues: students, professors, and trade associations alike point to the trend of few women choosing a career path in finance is partially due to the predominant share of male professors teaching these subjects at business schools (Allbright, 2017). This narrative is supported by recent research examining the gender differences at business schools by Krishna and Orhun (2020). The researchers establish that female business school students perform worse than their male peers in quantitative courses. For example, women's grades in quantitative courses are 11% of a standard deviation lower than the mens' grades. The authors do not believe this is due to a difference in intelligence or capabilities – instead it is hypothesized that the observed effect relates to gender stereotypes – women are believed to do worse in quantitative courses which leads to a negative impact on both interest and performance. However, when female professors teach quantitative courses, there is an increase in female students' interest, expected performance, and actual performance (Krishna & Orhun, 2020).

When entering the private equity industry, several qualitative research studies address what it is like being a woman in the industry by interviewing both men and women. A masters' thesis at the Stockholm School of Economics ties the lack of role models to a lacking female representation in senior positions, perceived macho culture, and a work culture that is difficult to combine with family life (Österlund & Deshpande, 2021). Similar interviews from the U.S. also testify to an "old boys' network culture" and "subtle ways women are discouraged from participating in the finance industry" (Rothstein Kass Institute, 2013). The same statements are found in the Allbright report from 2017, focused on the gender diversity problems in Swedish private equity (Allbright, 2017). Additionally, the report surveys business students and finds that only 17% of women, compared to 62% of men, want to work within private equity (Allbright, 2017). The reason for this is that women, without having experienced the industry as an employee yet, believe the industry to be male-dominated, macho, and displaying undesirable misogynistic traits¹⁴. 92% of women also declare that equality in their future workplace is important, compared to 77% of men, and that having role models of the same gender is crucial.

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¹² In the case of this research report, this statement is in reference to completing an MBA program at university.

¹³ The findings are based on an examination of the Swedish private sector dynamics.

¹⁴ Thesis authors' translation of the Swedish "Mansdominerad, grabb-betonad och med sunkiga ideal" (Österlund & Deshpande, 2021)

In venture capital, the existence of a glass ceiling has been indicated in recent research; an experimental working paper from March 2022 shows that male start-up entrepreneurs favor male investors, despite investor expertise. The worse performance the fictional venture capitalist performed, the stronger the aversion toward female investors (-7%), whereas for the best performance the aversion just differed 1% and is not statistically significant. Women show no favoritism for either gender in the experiment. Additionally, the research shows that women in general are rated as less likely to be helpful compared to men – for junior venture capitalists the difference is 2.96% whereas amongst senior venture capitalists the same number is 4.35% (Feng et al., 2022).

The patterns for ethnic minorities resemble the ones for women - despite above-performing numbers for junior hires in private equity compared to corporate America, ethnic minorities lack representation in more senior and C-suite roles (Baboolall et al., 2021). Despite this, gender seems to matter more than ethnicity when it comes to 'fitting in' culturally. A qualitative study in the field of sociology examines the tokenism that women and Afro-American men experience in the private equity industry. By conducting interviews with members from the two minority groups as well as members from the majority group in the industry (white men), it is implied that both women and Afro-American men face high entry barriers to the industry, but once employed, their day-to-day experience differs a lot. Women and men alike find that women struggle to fit in culturally, referring to the non-professional workplace talk being centered around male-dominated sports, as well as the belief that the demanding nature of private equity work hours is difficult to combine with traditionally gender-stereotyped roles, such as motherhood. On the other hand, Afro-American men were described to fit in well due to common interests with the majority work force and sharing the gender that is believed to have non-conflicting interest with roles such as parenthood (Turco, 2010).

3. EQT Overview – a Purpose Driven Global Investment Organization

Against the broad background established in this section, the focus now moves towards the focal firm of this research peace: EQT. The following sections give an overview of EQT as a player in the private markets industry, before diving into the topic of DEI (or the "S" in ESG). With respect to the latter, this section provides an overview of governance and

responsibilities with respect to DEI, DEI incorporation in investment decisions, and DEI practices on a corporate level.

3.1 Organizational Overview

EQT was founded in 1994 by Swedish industrial holding company Investor AB together with the US-based private equity group AEA Investors, the Swedish bank SEB, and Conni Jonsson¹⁵. The founders formed a private equity advisory firm with the ambition to combine the industrial heritage of the Wallenberg companies with financial expertise to advise funds on investing in and improving businesses¹⁶.

Today, EQT defines itself as a "purpose-driven global investment organization" focused on active ownership strategies. EQT's vision is "to be the most reputable investor and owner" (EQT AB, 2021). Its values, culture, and business model are linked to its purpose of "future-proofing portfolio companies", meaning, amongst other things, seeking to improve operations, drive efficiency, enhance resiliency, minimize risk of disruption, and any other potential downside risk to position the portfolio companies.

In 2012, all activities (including both the fund management activities and the advisory functions) were organized under one holding entity onshore in Europe and in 2018, EQT AB was established as the ultimate parent company in the EQT AB Group. EQT Partners AB, which, together with its subsidiaries, advises the managers and general partners of the funds within EQT's various investment strategies, is a wholly-owned subsidiary of EQT AB. As of 24 September 2019, EQT is listed on Nasdaq Stockholm¹⁷.

Since inception in 1994, EQT has taken an active ownership approach with the aim of being "more than capital" – thereby referring to a value-based, purpose-driven culture, and multi-stakeholder approach. With EQT's global reach and its increasing number of employees, assets under management ("AUM"), and portfolio companies, the organization has formalized a Statement of Purpose, recognizing its responsibility towards the planet and society (EQT AB, 2020).

The first buyout fund advised by EQT Partners, EQT I, was launched in January 1995, followed by EQT II in 1998. Since the establishment of the first office outside of the Nordics, in 1999 EQT has expanded the scope of its investment strategy to include other sectors and geographies. Today, EQT Funds operate across two defined business segments:

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¹⁵ Conni Jonsson was the first CEO of EOT and remains Chairperson of EOT AB.

¹⁶ https://eqtgroup.com/about/history - Accessed 24-11-2022

¹⁷ https://eqtgroup.com/ipo-on-nasdaq-stockholm - Accessed 24-11-2022

Private Capital¹⁸ and Real Assets¹⁹. As of Q3 2022, EQT has approximately €92.3bn in AUM, 1,550 full-time employees ("FTEs"), and is present in 24 countries (EQT AB, 2022)²⁰.

3.2 Investment Approach

EQT's Equity Funds apply a thematic investment approach, meaning that EQT attempts to participate in the opportunities arising from structural shifts in economy and society, which for example include demographic change, urbanization, innovation, and resource availability (Peixotto et al., 2021). Given this, EQT is targeting high-quality companies with a strong potential for development and value creation. As a result of its thematic investment approach, EQT Equity has increasingly focused on investments within healthcare and technology, with such investments representing close to 75% of invested capital across the last three EQT Equity funds (EQT VII to EQT IX). Other focus sectors include industrial technology and services. Geographically, EQT Equity generally focuses on investing in portfolio companies in its core European and North American markets²¹.

With respect to value creation, EQT's approach has evolved over time to focus on thematic investing with a digitalization and sustainability angle. The "EQT Value Creation Toolbox" is a collective term for strategies employed in supporting value creation in portfolio companies. It focuses on generating returns through growth, margin expansion, and strategic repositioning, enabling portfolio companies to grow and transform into better and more sustainable businesses under EQT Equity Funds' ownership. Expertise from EQT Advisors is utilized as part of the value creation approach, drawing from a global network of more than 600 EQT Advisors with deep industry knowledge and senior leadership experience.

As part of its statement of purpose alongside several senior management statements, EQT considers sustainability as an essential and synergistic driver to economic value creation (EQT AB Annual Report 2020). Hence, it has commenced the integration of ESG factors into its investment and ownership approaches through formalized policies, such as the organization's Responsible Investment and Ownership Policy. It defines an integrated approach to ESG investing and "Sustainability", which is further detailed in internal

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¹⁸ The segment includes th strategies: EQT Equity, EQT BPEA (pan-asian buyout), EQT Mid Market, EQT Future (impact-linked longer hold), EQT Growth, EQT Ventures, EQT Life Sciences (healthcare ventures), and EQT Public Value.

¹⁹ The segment includes the strategies: EQT Infrastructure, EQT Active Core Infrastructure, and EQT Exeter (real estate).

²⁰ This refers to the numbers prior to the completion of the merger with Baring Private Equity Asia.

²¹ https://eqtgroup.com/private-capital/private-equity – Accessed 24-11-2022

operational and strategic guidelines. But what do these concepts actually entail from a financial perspective, and where do they stem from?

3.3. Empirical Background: The "S" in ESG – an Overview of Diversity, Equity, and Inclusion at EQT²²

"EQT recognizes that Diversity, Equity & Inclusion [("DEI")] all have a positive impact on EQT's investors, employees and society. [...] EQT believes in equal opportunity, and that all dimensions of diversity such as gender, ethnicity, religion, age, nationality, sexual orientation, educational and socioeconomic background are important, and that diverse teams drive better results. [...] Fostering an environment that not only respects, but also values differences in experiences, knowledge and perception is crucial for decision-making ability and business success. EQT firmly believes that its role as an investor includes a duty to be socially conscious and to use its platform to take action for a more equitable and meritocratic tomorrow."

- Excerpts from EQT X's ILPA Due Diligence Questionnaire

3.3.1 Governance, Ownership, and Principles on EQT Group Level

Diversity is a topic on both the EQT Board of Directors and Executive Committee agenda. In collaboration with the Human Resources and the Sustainability functions, the relevant committees are responsible for discussing and approving diversity related firm-wide targets and strategies. Individual business lines then have independent DEI goals based on where they can drive most change, set by the Business Line Head and Head of HR.

EQT as a firm has started formalizing its DEI efforts through a board-approved Human Resources policy in 2014. Furthermore, EQT's commitment to DEI and a harassment-free workplace is formalized in documents such as the EQT's Code of Ethics (2012) and the EQT Diversity & No-Harassment Guidelines (2014). Along with the rest of the Group policy portfolio governing matters related to DEI, it is reviewed at least annually and updated to ensure adequate policy requirements on the business based on regulations, risk, and the desired level of monitoring, both within the EQT Group as well as for the portfolio companies.

²² Unless otherwise stated, the information provided in this section stems from EQT's most recent ILPA DDQ Sections on DEI and HR. These respective sections are based on a synthesis of interviews, internal information documents on practices and structures, firmwide policies, and internally collected data.

To date, EQT's focus on diversity has been focused on gender. The ambition to revamp and strengthen its DEI strategic transformational efforts fundamentally began with the establishment of newly designated roles focused on Social & Human Sustainability, including DEI and Human Rights expertise. In addition, the newly established DEI Incubator facilitated by EQT Foundation is designed to develop and pioneer new DEI-related initiatives, leveraging capabilities of companies invested in line with the Foundation's "Equity & Inclusion" investment theme.

3.3.2 DEI Integration in the Investment Process

During the investment screening and selection process, ESG factors are a mandatory agenda item considered in the evaluation of any potential investment across all business lines. As such, DEI considerations are integrated into the investment sourcing, evaluation, and decision-making process, but can contain different aspects for the respective deals.

One example of how EQT incorporates DEI factors in the deal sourcing process is through its artificial intelligence sourcing tool Motherbrain. To make automated assessments less biased, EQT's developers use several techniques. The most frequently utilized one is referred to as weak-supervision which makes it possible to augment the underlying training data and update it to weigh, for example female founders, higher than what the historical datasets are showing (Ratner et al., 2019). Another crucial part of the due diligence process is a cultural assessment of the potential investment, especially with respect to whether it provides a fertile ground to accelerate DEI developments.

As part of its ownership engagement, EQT has set sustainability expectations of portfolio companies since 2015, requesting the portfolio companies to report certain key performance indicators ("KPIs"). A number of these core KPIs directly address topics related to human sustainability and DEI.

Furthermore, to improve on board gender diversity within portfolio companies, EQT has set a long-term goal of having the underrepresented gender constitute at least 40% of the independent board members that are appointed in all new control investments. The reason for this commitment is to improve on board gender diversity during the ownership period, and is thus also included in the pricing mechanisms for certain EQT funds that have ESG linked financing structures, as well as in the EQT AB Sustainability-linked bond launched in 2021.

ESG linked debt financing essentially defines a miscellaneous number of ESG-related targets which effectively function similarly to financial and operational covenants. They might in some instances also affect credit conditions and interest rate (Bloomberg, 2019).

EQT and the EQT Equity portfolio companies are thus expected to develop roadmaps to reach the ESG-linked credit facilities' specific sustainability targets with the results from the portfolio companies' ESG efforts compared with the key performance indicator targets impacting overall interest rate. ESG-linked financings have also been introduced at the asset-level for a variety of portfolio companies.

3.3.3 Corporate DEI Strategy – How is Diversity Increased and Inclusion Unlocked?

During recent years, EQT has conducted several internal assessments to understand the lack of representation of underrepresented groups within the organization. Based on these findings, several mitigation strategies have been initiated, most notably: DEI-centric alterations in recruitment processes, improved and equal family friendly support regardless of gender or family set up, mandatory mental health programs, and outreach activities towards students and young professionals of underrepresented minority groups. A few concretely measurable improvements (in some business lines, including Private Capital) include: de-biasing EQT's candidate assessment process; increasing the understanding of bias through training; and a tailored recruitment playbook to guide all managers through an unbiased and thorough recruiting process.

A crucial contributor to such progress is the EQT's Women's International Network ("EQT WIN"), which is an internal organization aimed at increasing the attractiveness of EQT as an employer, retaining top talent and accelerating the performance of women at EQT. EQT WIN launched in 2018 and has developed a framework to help improve gender diversity across the EQT organization. This collaborative framework developed by Human Resources, WIN, and senior leaders includes action points such within topical areas such as recruiting, retention, mentorship, training, performance review, and service provider diversity.

With Sustainability (and inherently, DEI) forming an integral part of the EQT Private Capital business plan, it impacts personal performance evaluations, and associated remuneration. Specifically, business line achievements with regards to sustainability (including diversity) performance of the investment organization and the portfolio companies are reviewed as an integrated factor with regards to the allocation of the annual bonus pool across all EQT Private Capital Investment Advisory Professionals ("IPs"). This is true also on the individual team level.

EQT tracks several (legally measurable) diversity metrics across its entire platform, these being gender, nationality, and age. The Human Resources team provides senior

decision-making bodies with quarterly updates on these numbers as a basis to make decisions.

4. Research Questions

The impact of diversity on performance is currently not tracked at EQT, but "EQT truly believes that there is a strong and direct link between higher diversity and increased returns" (EQT X ILPA DDQ, 2022). This thesis is thus the first attempt to examine this connection using data analytics. The underlying research question attempted to be answered in the following sections thus is:

Does deal team diversity have a positive effect on deal performance?

The two diversity dimensions of interest are **gender** and **nationality**.

As established in the literature review, measuring and determining the degree of diversity is an undertaking in itself. With framing allowing for different ideas of what can be considered diverse, several supplementary questions are needed to give nuance to the answers: Is the mere presence of a woman, or a second nationality, enough to yield better financial performance? Or, is there rather a "the more the merrier" aspect for diversity to give results? What role does time play in this – do deals with a longer time period of diverse teams perform better? How does diversity affect underlying value drivers such as EBITDA growth? The underlying data and methods are described in the following chapter.

5. Data and Methodology

5.1 Data Overview

As this thesis investigates the influence of deal team diversity on deal performance, the chosen units of observation are "deals", thereby meaning the companies owned through EQT's fund portfolio. Recognizing that EQT has several investment strategies, returns and performance are not inherently comparable across different asset classes (Preqin, 2014). The wealth of data available steered the choice of focusing on EQT's private equity buyout strategy, given that it has existed since the firm's inception and as such accounts for the highest number of deals closed.

Within EQT's private equity business segment, EQT has closed nine flagship funds, as well as a number of smaller establishments of its Mid Market business line, which totals four funds. To ensure that deals are comparable, the chosen focus lies on all funds that have employed a similar investment strategy, and held a final close before 30 of June 2022.²³ The tables below give an overview of the population deals on fund level as of 30 June 2022.

Table 1: Overview of EQT's Flagship Private Equity Funds

Please note that the below table contains publicly available information on Fund Size and net performance. The analysis will be based on proprietary data and thus use Gross MOICs, which are significantly higher across all funds. Unless otherwise indicated, the information in these tables is publicly available via EQT's website through press releases or performance announcements.

	General Information			Status	Performance
Fund	Vintage	Size (EURm)	# of Deals	Fully Realized, Exiting, Developing, Investing, Fundraising ²⁴	Net MOIC ²⁵
EQT I	1995	350	11	Fully Realized	4.2x
EQT II	1998	670	9	Fully Realized	2.1x
EQT III	2001	2,000	13	Fully Realized	1.7x
EQT IV	2004	2,500	7	Fully Realized	2.2x
EQT V	2006	4,250	15	Fully Realized	1.6x
EQT VI	2011	4,800	16	Fully Realized	2.0x
EQT VII	2015	6,800	17	Exiting	2.2x
EQT VIII	2018	10,750	17	Developing and Exiting	2.0x
EQT IX ²⁶	2020	15,400	15	Developing and Investing	1.2x
Total		47,520	120		

²³ As a consequence, we have chosen to exclude EQT Denmark, EQT Finland, EQT Expansion Capital, EQT Greater China II, and EQT Future based on investment strategy, as well EQT X given its recent launch in 2022 and its first close in July of this year.

²⁴ Assessment based on information available to the researchers. This is a fully subjective assessment and based on the number of portfolio exits (all of which have been announced publicly).

²⁵ Information taken from Pregin.

²⁶ EQT IX has two currency denominations, EUR and USD. All values cumulative based on historical exchange rates.

Table 2: Overview of EQT's Mid Market Funds

Please note that the below tables contain publicly available information on Fund Size and net performance. The analysis will be based on proprietary data and thus use Gross MOICs, which are significantly higher across all funds. Unless otherwise indicated, the information in these tables is publicly available via EQT's website through press releases or performance announcements.

	General Information			Status	Total
Fund	Vintage	Size (EURm)	# of Deals	Fully Realized, Exiting, Developing, Investing, Fundraising ²⁷	Net MOIC ²⁸
EQT Mid Market	2013	1,050	16	Exiting	1.4x
EQT Mid Market US ²⁹	2015	620	6	Fully Realized	1.7x
EQT Mid Market Asia III ³⁰	2016	630	14	Developing	1.2x
EQT Mid Market EU	2016	1,600	16	Developing	2.0x
Total		3,900	52		

Since inception, EQT has raised over EUR 50 billion in commitments across the 13 funds displayed. EQT's Equity and Mid Market funds cumulatively closed a total of 172 deals. With the first fund EQT I closing EUR 349 million, EQT IX held its final close at nearly EUR 15.5 billion in fund commitments. As of today, all funds displayed are close to fully invested. EQT VIII and IX alongside EQT MMAS and MMEU are still actively developing companies, while funds with prior vintages have exited a majority of their portfolio.

5.2 Sample Selection

5.2.1 General Note on Data Collection and Resulting Bias

Given the level of access to proprietary data, the chosen period of observation starts with the first investment closed during July 1995, and ends at the most recent available and audited information as of 30 June 2022.

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²⁷ Assessment based on information available to the researchers. This is a fully subjective assessment and based on the number of portfolio exits (all of which have been announced publicly).

²⁸ Information taken from Pregin.

²⁹ EQT Mid Market US's fund reporting currency is USD. All values calculated based on historical exchange rates

³⁰ EQT Mid Market Asia III's fund reporting currency is USD. All values calculated based on historical exchange rates.

For the purposes of data collection, EQT provided full access to its performance database system iLevel, in which financial and operational information on every deal is captured. This entails information on the respective portfolio company itself (e.g. income statement items), but also metrics on the investment (e.g. enterprise value, responsible deal partner, and return multiples). Wherever data could not be extracted (e.g. due to a lacking entry), information was manually collected from fund reports, internal exit announcements, portfolio workbooks used in the fundraising process, or publicly available sources (for deals exited through an IPO). All of these data sources are audited externally, ensuring a high level of validity.

The main piece of data collection has thus been conducted through generation of formulas that pull information from the database into Microsoft Excel, where the data has been organized and prepared for analysis in STATA. It is important to note that the construction of the dataset as well as the extraction of quarterly data trailing back until the mid-1990s might contain errors of technical nature due to several changes in accounting systems, including a move from in-print to digital, as well as human error stemming from (potentially) incorrect handling of data.

A vast majority of the funds use EUR as reporting currency, with the exception of EQT MMUS and EQT MM, which use USD as reporting currency. The historical USD/EUR exchange rate has been used to create a common currency basis for the entire dataset³¹. The same was applied for the USD denomination for EQT IX, subsequently aggregating the USD investments with the EQT IX EUR denomination to express a unisone return profile. In order to ensure that currency translation had no effect on the performance metrics (as these are based on cash flows), a manual cross-check for all deals affected by this has been conducted, with no divergence to be detected.³²

In total, the funds in focus have closed a total of 172 deals. This excludes any add-on acquisitions of fund portfolio companies, but includes a spin-out from an existing portfolio company, as well as cross-fund transactions which have different return profiles and deal teams depending on the fund. All of these were considered for inclusion in the dataset. Given this, neither confirmation bias nor historical bias affect the data chosen for analysis. In spite of this, several exclusions had to be made for practical or research validity reasons. Two deals

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³¹ The exchange rate applied is the average daily transaction rate. All exchange rates have been taken from ExchangeRates.org.

³² It is important to note that the currency translation might have, to smaller degrees, shown an impact on operational performance of underlying portfolio companies. It is important to note that such impact already occurred when translating local reporting currency into fund reporting currency.

have been excluded fully based on their lack of data availability (all of which closed during or before 2005). An additional four deals had to be excluded due to lack of comparable data availability resulting from their nature as either spin-outs from existing portfolio companies, or because they were cross fund transactions. Consequently, concerns surrounding a selection bias arise. However, these six deals represent only about 4% of all deals in question, meaning that such a bias can be considered to have minimal impact on the research.

Furthermore, nine additional deals have been excluded from the research either because the deal industry did not permit an accurate comparison with other deals (one deal³³), or because the deal's exogenous circumstances caused developments completely outside the deal team's sphere of influence on the deal, causing the deal to perform extraordinarily strong or weak (eight deals)³⁴. Selection bias can be subdued given the low number of deals (less than 8%) against the population. Corresponding adjustments to avoid bias are described in the respective sections below.

In summary, 157 deals remain as units of observation in both datasets after initial exclusion. As will be detailed later (ref. Section 5.3), a majority of the analysis will be based on 85 deals for which granular team information (and thus variables) could be constructed. A full list of exclusions, including their reasoning for omission in the dataset, is displayed in Appendix A.

5.2.2 Cross-Sectional Data Set

The cross sectional dataset contains 157 observations and includes information for all deals as of exit or most recent valuations. Therefore, the information captured is that over the entire duration of ownership (i.e. cumulative changes). The sample is constituted from deals across all of the funds in focus.³⁵

5.2.3 Panel Data Set

The panel data set contains 1708 observations³⁶ of deals as of a specific time during the ownership period, starting with entry date and ending with the exit or latest financial results

³³ The portfolio company in question is an insurance firm. Relevant performance indicators do not match those of the other portfolio companies.

³⁴ An example would for example be an airport logistics company which lost above 95% of its revenue at the onset of the COVID-19 pandemic. Exogenously positive effects that translate into superior performance are excluded by means of capping the maximum MOIC, as described in Section 5.5.1.1.

³⁵ As explained later, robustness checks have led to further exclusions, resulting in the majority of the analysis being based on either 127 or 85 deals based on granular data availability.

³⁶ Note that the number of observations does not correspond to the total number of companies times quarters in the cross-sectional dataset. It is based on data availability. More on this in the following sections.

as of 30 June 2022. It provides an overview of deal characteristics at a given point in time during the ownership period.

Choosing quarters as intervals is due to practical reasons. EQT requires portfolio companies to report their performance on a quarterly basis. The quarters follow a standard financial calendar, meaning: Q1 is January 1st to March 31st; Q2 is April 1st to June 30th; Q3 is July 1st to September 30th; and Q4 is October 1st to December 31st. EQT issues fund reports to LPs for every financial quarter, respectively providing updated valuations and performance metrics.

5.3 Variable Construction

5.3.1 Explained Variables

In the private markets industry on the deal level, MOIC and IRR are used to report returns to LPs, as well as to analyze them in an academic context (see e.g. Gompers et al., 2016; Braun et al., 2017; Harris et al., 2022).

MOIC is a financial metric that divides the total cash inflows by the total cash outflows for a given particular investment. Therefore, it is a clean indicator of how much cash is received from an investment given the fund's total equity contribution. The IRR of an investment adds a temporal element to measuring returns, taking into account the timing of cash flows and equating their net present value to zero. An important consideration when examining IRR is the fact that funds employ bridge facilities³⁷ as an intermediary to boost IRR profiles. This is because IRR is sensitive to the timing of cash flows, and thus does not represent a return indicator uniquely attributable to performance (see e.g. Brealey & Myers, 2020). Henceforth, while IRR is a good indicator for returns over the lifetime of a deal, it might be less suitable in accurately representing returns at any given point during the ownership period (Childs, 2019).

Given these considerations, the chosen return indicator is MOIC, which will be used to measure performance when analyzing both datasets. IRR will only be used as a reference point for the analysis of the cross-sectional dataset. An examination of the IRR for each deal over time demonstrated the metric to be an unreliable performance indicator, given its volatility until the late stages of ownership.

³⁷ "Bridge financing, often in the form of a bridge loan, is an interim financing option used by companies and other entities to solidify their short-term position until a long-term financing option can be arranged. Bridge financing normally comes from an investment bank or venture capital firm in the form of a loan or equity investment." taken from https://www.investopedia.com/terms/b/bridgefinancing.asp - Accessed 01-12-2022

Because private equity value creation can occur through a variety of different levers (ref. Section 2.2), we will also examine the effect that deal team diversity has on portfolio company performance in operational terms beyond a pure deal perspective. As it has been established that diversity contributes positively to better and more efficient decision making, and increased performance and efficiency (ref. Section 2.3), we will also use cumulative EBITDA growth from entry to exit as explained variable. A summary of the different explanatory variables is available in Figure 3 below:

Table 3: Variables for Cross-Sectional and Panel Data Sets

		Specifications		
Variable	Description	Cross-Sectional	Panel	
MOIC	Multiple over invested capital	MOIC over entire ownership period (i.e. entry to either exit or as of Q2 2022)	MOIC at a given point of ownership period	
IRR	Internal rate of return	IRR over entire ownership period (i.e. entry to either exit or as of Q2 2022)	Not applied in panel data given the shortcomings of the metric.	
EBITDAG	Cumulative EBITDA Growth over entire ownership period	Measured based on LTM EBITDA at entry and LTM EBITDA as of exit or Q2 2022	Not applied in panel data.	

While exit valuations are fully transaction based, EQT's valuation of active portfolio companies is conducted in line with the International Private Equity and Venture Capital Valuation Guidelines Board's Valuation Guidelines. For more information on the valuation practices at EQT, please consider Appendix B. As explained in above (ref. Section 5.2.1), currency adjustments have been made for EQT MMAS, EQT MMUS, and EQT IX.

5.3.2 Independent Variables

5.3.2.1 Collection of Data

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The first step of constructing the diversity variables was to detect the deal team composition for each deal at a given quarter during the holding period. The information was accessed by manually examining portfolio company presentations aimed for quarterly, semi-quarterly, or annual updates to the corresponding recommendation committees.³⁸ In the case of the

³⁸ In the case of this research, data has been collected from presentations to the New Deal Committee ("NDC"), the Equity Partners Investment Committee ("EPIC"), and the Portfolio Performance Review Committee

underlying information (i.e. the presentations) being less frequent than quarterly, it was assumed that the deal team remained unchanged until new information was presented. For example, if a portfolio company has one presentation from Q1 and one from Q3, it has been assumed that the deal team in Q2 is the same as in Q1. Whenever presentations were not available (due to the portfolio companies being listed or because the limited partnership agreement of the fund did not stipulate a mandatory performance review format with an underlying presentation), datagaps have been filled through reaching out to IPs who have served on the deal team for the longest time. The fact that the name of at least one partner and one associate on the deal team is accessible through iLevel provided an opportunity to cross-check data entries, and correctness could be ensured by asking clarifying questions to the deal team members if needed.

Given that the mandatory documentation through committees as described above was introduced in 2012, the detailed deal team composition was only traceable for all deals still active thereafter. This includes EQT V and more recent funds, for some of which we have assumed the deal team composition before 2012 in accordance with the assumptions described above. For the earlier funds, namely EQT I, EQT II, EQT III, and EQT IV, the only observed team member is the partner responsible for each deal.

The second step of the diversity metrics construction was to link the deal team members to their HR data. The data points of interest were gender and nationality, which are legally trackable under the EU GDPR. The data has been sourced and synthesized from EQT's current employee management system Workday, HR Analytics reports and trackers, biographies used for fundraising purposes³⁹, and historical employee files for investment professionals who have left the firm during the period in focus supplied by the Human Resources team. Under GDPR, an employer is allowed to retain employee data up to a certain number years after termination.⁴⁰ For employees that are missing from the EQT-provided databases for reasons explained above, the information about gender has been accessed through external biographies⁴¹, stated pronouns on LinkedIn, or, as a last resort, assumed based on the person's name and picture.⁴² The nationality data was complete for all deal team members for the period of interest.

^{(&}quot;PPR"). Please refer to Appendix C for a more detailed description of the relevant committees and their responsibilities within the investment process.

³⁹ These biographies include nationalities and are confidential.

⁴⁰ This depends on the regulatory environment of the respective entity under which the employment contract was made (or terminated).

⁴¹ Biographies refer to a text about the person on its current employers' website.

⁴² Picture refers to a LinkedIn profile picture or picture connected to the biography explained above.

Based on the dataset, deal teams generally consist of about three to five people at any given point in time, irrespective of deal size.⁴³ An overview of the deal team member data⁴⁴ from funds EQT V and onwards is found in Table 4. Please see Appendix D for a detailed overview including partner data from funds EQT I-IV.

Table 4: Deal Team Members Overview

From EQT V and beyond. Percentage based on total unique deal team members.

# Unique Deal Team Members	218
# Women	45 (21%)
# Unique Nationalities	24

5.3.2.2 Construction of Variables

Once the data was collected and structured, the variables could be constructed. First, the gender was coded as "1" for female and "0" for male, which allowed every deal quarter to constitute a row of gender binary indicators. The first variable conducted was female presence, meaning that for each deal quarter, it is noted if there is at least one woman on the team. This is a binary variable. Secondly, the fraction of women on each deal quarter is calculated, meaning that the number of women is divided by the total number of deal team members. Please note that deals from funds EQT I, EQT II, EQT III, and EQT IV are not examined in the panel data set, and thus no granular variables are constructed for the early funds.

The nationality variables were computed in a slightly different way. Instead of attributing nationalities to numbers, as was done with genders, the unique nationalities represented by deal team members was noted by using the formula "COUNTUNIQUE" in Excel. The minimum value would be 1, meaning that all deal members share the same nationality. The maximum number would be the same as the number of deal members on a deal. The variables were then constructed in the same way as gender, meaning one binary variable indicating the presence of at least two nationalities, and one fraction-based variable, dividing the number of nationalities on the number of deal team members. These variables

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⁴³ In the instances where two funds invest in the same portfolio company (either as co-invest or as cross-fund transaction), the deal team members differ. On cross-fund transactions, this is a measure taken to ensure the validity of the transaction in terms of valuation.

⁴⁴ Due to the reasons explained prior, this does not reflect the total number of investment professionals that have worked in the respective business lines over the observation period, but does include all IPs that have worked on the deals in question.

are used in the panel data, as presented in Table 5 below. They also provide the basis for the variables in the cross-sectional dataset.

The cross-sectional dataset variables needed to capture the whole holding period. For nationality, this was done by computing the average fraction using the nationality fraction for each deal quarter ("AVNATIONALITY"). For gender, there are three variables. The first one is gender fraction, computed the same way as nationality fraction ("AVGENDER"). The second one is gender presence, meaning noting if there was ever a woman in any quarter of a deal which is a binary variable ("FEMALE"). The third one divides the number of quarters with at least one woman present with the total number of quarters ("FEMALET"). The variables are presented in Table 5 below together with the panel data variables.

For the deals in the earlier funds where only deal partner gender is examined, the only variable examined is the binary gender presence variable. Granular diversity-related variables could be computed for 85 of the deals in focus.

Table 5: Variables for Cross-Sectional and Panel Data Sets

Female is generally denoted as 1 and Male as 0. The same is true for international as 1 and nationality homogeneity as 0. All data has been constructed based on availability of information from a total of 85 deals (over time of the deal).

		Specific	cations
Variable	Description	Cross-Sectional	Panel
PGENDER	Partner gender	Constructed as a dummy variable.	Constructed as a dummy variable.
FEMALE	Female presence	Constructed as a dummy variable. Notes if there has been at least one women on the deal team at some point during the holding period.	Constructed as a dummy variable. Notes if there is at least one female deal team member during the quarter in question.
AVGENDER	Fraction of deal team members that are female	Measured as the averages for AVGENDER from the panel data	Measured as total number of women in deal team divided by total number of deal team members during the quarter
FEMALET	Fraction of female presence throughout a deal	Measured as a the number of panel data GENDER = 1 divided by total number of quarter for a deal	Not applied in panel data.
NATIONALITY	Presence of at least two nationalities	Constructed as a dummy variable. Notes whether there is one or more nationalities represented in the deal team during the deal.	Constructed as a dummy variable. Notes whether there is one or more nationalities represented in the deal team during a giving a quarter.
AVNATIONALIT Y	Fraction of deal team members with different nationalities	Measured as the averages for AVNATIONALITY from the panel data	Measured as total number of unique nationalities in deal team divided by total number of deal team members during the quarter.

5.3.3 Control Variables

5.3.3.1 Deal-specific Information

Table 6 below shows a description of thes control variables, and insights on the variable specific construction⁴⁵. Alongside this, a distinction between their economic application is made for the two different datasets.

⁴⁵ Detailed information on the general collection process and assurance of validity are explained in section 5.2.1.

Table 6: Deal-specific Control Variables

		Specifications			
Variable	Description	Cross-Sectional	Panel		
SALES	Net Sales of the Portfolio Company	Measured as average change (in %) from entry and exit LTM sales (i.e. cumulative change divided by holding period)	Measured as net sales LTM, logarithmic transformation applied		
EBITDA	EBITDA of the portfolio company	Measured as average change (in %) from entry and exit LTM EBITDA (i.e. cumulative change divided by holding period)	Measured as EBITDA LTM		
SALESO	Net Sales at Entry, natural logarithm	Measured as LTM Net Sales at Entry	Not applied		
MARGIN	EBITDA margin calculated as EBITDA/Sales	Measured as LTM EBITDA/ LTM Net Sales at Entry (variable name: MARGINO)	Measured as Net Sales/EBITDA based on LTM values		
DEBTO	Net debt multiple	Measured Net Debt/ EBITDA at entry	Not applied due to endogeneity problem (debt is paid down faster in better performing deals)		
SIZE ⁴⁶	Size of the deal as indicated by the enterprise value ("EV") at entry	EV at deal entry	EV at deal entry		
PARTNERC	Binary dummy indicating whether the partner has changed over the period of ownership	Yes (=1) if the primary partner has changed during the ownership period	Yes (=1) if the primary partner has changed since deal entry respective to the observation period in question		
HOLDING ⁴⁷	Holding period in years	Total holding period from entry to exit or as of Q2 2022	Holding period at respective point in time		

⁴⁶ Firm size (*SIZE*) has often been considered a prime determinant of firm performance. Reasons for this for example include the availability of slack (financial) resources (Waddock and Graves, 1997). Even though many different proxies for firm size exist, this paper will use the natural logarithm of Enterprise Value since this is how many private equity funds classify deal size.

⁴⁷ Holding period as a variable might have a slight endogeneity problem given that underperforming deals might be held longer than average. Nevertheless, we choose to include the variable and subsequently check how its omission affects the results.

5.3.3.2 Grouping and Fixed Effects⁴⁸

Geography

EQT's investment strategy has expanded from only Swedish firms (EQT I and II) to other regions in Europe, as well as into the US and APAC regions. Therefore, a geographic classification is used as means to control for fixed effects stemming from location. Due to the low number of observations for certain countries, all deals have been sorted into the following regional groups: Nordic, DACH, Other Europe ("EUROPE"), and Rest of World ("ROW").

Sector

EQT has consistently categorized all of its investments over time in accordance with a number of "focus sectors", meaning each deal is classified by industry. Given the elimination of the companies outside these sectors (view 5.2.1), binary dummies are applied to classify all observations into EQT's focus sectors: Healthcare, Services, TMT, Industrial Technology⁴⁹, and Consumer Goods.

Time

In line with prior research, the analysis assumes fixed effects for time (e.g. Cumming & Dai, 2019, or Acharya et al., 2013). Therefore, deals have been grouped in accordance with their entry during five distinct time periods with particular macroeconomic circumstances. Dummy variables are used to capture fixed effects characteristics. Henceforth, all deals are categorized into five characteristically distinct time periods: "Dot-com Bubble" (1995-2001), "Pre-financial crisis" (2002-2007), "Financial Crisis" (2008-2012), "Post-financial crisis boom" (2013-2018) and finally, the "COVID-19 pandemic" (2019-2022).

Ownership

It is crucial to control ownership for fixed effects as the deal team's ability to influence decisions within the portfolio company varies drastically whether it is a minority or majority ownership stake. All deals have been checked for altering ownership structures at entry and exit, and the only cases in which changes have been fundamental were cross-fund

⁴⁸ The number of deals refers to the number of portfolio companies in the cross-sectional datasets classified accordingly. "Number of Observations" in turn refers to the number of observed quarters for companies with the same classification.

⁴⁹ The sector was referred to as "Industrials" prior to 2010.

transactions (during which EQT still controls a majority of voting rights, just distributed through different vehicles) and IPOs (in which EQT consistently remains the largest blockholder and under board control before final share selldown). Due to the fact that only four out of 127 deals in the cross sectional sample are non-control deals in which EQT took a lead role, the control for fixed effects related to ownership are omitted.

Status

As value creation intensifies in the final periods of ownership before exit or through multiple expansion at exit (ref. Section 2.2.2), the deals in the cross-sectional dataset have been grouped into current and exited investments. In total, the dataset comprises 97 exited deals and 60 current deals.

5.4 Deductive Philosophy

Taking a positivist research stance, statistical methods will be applied to answer the research questions of whether diversity on deal teams correlates with deal performance. Ontologically speaking, the paper can be classified as lying within the realm of internal realism. Consequently, it is believed that facts are concrete, but not directly accessible, which is why econometric modeling is applied to explain the relationship between diversity on deal teams and deal performance. Therefore, the chosen approach is based on deductive reasoning, i.e. the econometric model is used to answer the research questions.

5.5 Research Design: Estimation Methods and Diagnostic Testing

5.5.1 Cross Sectional Dataset: Multiple Regression

Not trying to reinvent the wheel, it is sensible to follow established practices with respect to researching deal-level returns (see e.g. Achleitner & Figge, 2014). Thus, the chosen method for analysis of the cross-sectional dataset is an ordinary least squares ("OLS") regression model with robust standard errors to test for the hypotheses developed in section X. Equation (1) shows the theoretical basis for such a model:

(1)
$$y_i = \alpha + \beta_0 + \beta_1 x_{1i} + \dots + \beta_n x_{ni} + \varepsilon_i$$

where, in this case,

- y_i is the performance metric (dependent variable) observed for deal i
- x_n represents the independent and control variables for deal i
- β_n are the coefficients for x_n
- β_0 is the y-intercept (or constant term)
- &Ei is the error term

5.5.1.1 Robustness Checks

When examining effects on performance for deals in private equity (ref. Section 2.2), it was established that most of the value creation occurs towards the later periods of ownership. In order to avoid an apple-to-pear comparison, we choose to exclude all current deals with a holding period below 1.5 years, given that little value creation occurs during this period. A total of 18 deals were excluded in respect to holding time.

Upon looking at the distribution of returns, a positive skew towards the upside is evident. Given that several lower performing outliers have been excluded prior (ref. Section 5.2.1), a counterpart on the other tail-end would be the exclusion of the highest performing deals. Henceforth, all deals with a *MOIC* exceeding a certain number⁵⁰ have been excluded from analysis, amounting to a total of twelve deals.⁵¹

Even though the return profile is now much closer to be normally distributed, previous research suggests additional ways of dealing with positive outliers in terms of deal performance. Many studies have thus used the logarithms of returns rather than the returns themselves (e.g. Aigner et al., 2008). In order to determine whether this is a feasible option, we employ a Box-Cox test in order to examine whether logarithmic transformations of MOIC and IRR are more suitable in this context than their linear counterparts.⁵² The results do not indicate support for a log-transformation⁵³ of *MOIC*. However, we do apply a logarithmic transformation to deal size (i.e. SIZE = ln(EV)) and sales at entry (i.e. SALESO = ln(Net Sales)

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⁵⁰ Due to confidentiality reasons, we cannot disclose the exact MOIC multiple that is the basis for exclusion. Statistically speaking, it is 270% higher than the average MOIC, or approx. three standard deviations.

⁵¹ Other measures include winsorizing and trimming the data as well as running quantile regressions (see, e.g. Braun et al., 2017). Having run the model with winsorized values, we see that it does not combat the skewing issue, which is why we opted for full exclusion from the sample.

⁵² In the Box-Cox, the estimated parameters for the dependent variable MOIC of λ =0.823. When λ equals 0, it implies that a logarithmic transformation of the dependent variables is favorable. By the same logic, λ equal to 1 is equivalent to the linear functional form of the dependent variables.

⁵³ Additional reasoning for not employing a logarithmic transformation is the fact that some returns are negative, implying that a transformation might distort the observation sample and take away from its ability to count as representative for the deal population.

LTM at entry)) in order to avoid problems related to an uneven distribution. As most of the other variables resemble normal distributions, we keep them in their original form.⁵⁴

Having examined the distribution of *EBITDAG*, outliers towards creating a positively skewed distribution have been identified. Given that the values are otherwise normally distributed, the decision to winsorize the values has been made in accordance with previous academic practices (e.g. Braun et al., 2017). *EBITDAG* has been capped at a certain cumulative growth rate, affecting a total of 16 deals.

In summary, the model used to compute estimations thus is:

(2)
$$Y_i = \alpha + \beta_0 + \beta_x X_i + \beta_c Control_i + \beta_{FE} FE_i + \epsilon_i$$

with $i = deal = 1, 2, 3, \dots, 127$

where the respective variable categories are summarized by " Y_i " for explained variables (ref. Section 5.3.1), " X_i " for explanatory variables (ref. Section 5.3.2.2), " $Control_i$ " for control variables (ref. Section 5.3.3.1) and finally, " FE_i " for fixed effects (ref. Section 5.3.3.2).

Looking at the variables constructed, multicollinearity is an obvious issue when putting more than one variable relating to gender or nationality into the same model. Henceforth, each estimation model can thus only include a single explanatory variable (which in turn allows for a clearer interpretation in its isolation).⁵⁵ Thus, analysis will consist of a variety of different specifications based on the one hand on different explanatory variables, but also on the consideration of certain control variables that might be included or intentionally left out depending on the estimation.

5.5.2 Panel Dataset: Fixed Effects Model⁵⁶

The most appropriate way to granularly capture the time aspect of diversity on deal teams is linear regression analysis for panel data. The following Equation 3 shows a general linear regression panel model:

⁵⁴ It should be noted, however, that MARGIN is positively skewed (and cannot be transformed due to a few negative values in the observation range).

⁵⁵ Given the scope of this thesis as well as the potential difficulties in interpretation, no interaction terms will be analyzed econometrically.

⁵⁶ Several parts of this Section relating to panel data analysis are either directly taken or only slightly amended from Leyhausen & Duong (2019).

(3)
$$y_{it} = \beta_0 + \beta_1 x_{1it} + \beta_n x_{nit} + \gamma_1 z_{1it} + \gamma_n z_{nit} + \alpha_i + \varepsilon_{it}$$

with $i = 1, 2, 3, ..., N$; $t = 1, 2, 3, ..., T$

where, in this case,

- y_{it} is the dependent variable observed for deal i in quarter t
- β_0 is the constant integrated by the nature of the model
- x_{nit} represents the independent and control variables that change across time
- z_{nit} stands for the independent and control variables that remain the same in different quarters
- β_n and γ_n are the coefficients for x_{nit} and z_{nit}
- α_i is the error term that varies across observational units, though remains the same in different time periods (i.e. random effects)
- ε_{it} is the error term that has a different value for each deal in each quarter

There are different approaches towards the estimation of a panel data regression model, i.e. variations of the model above. A common distinction is the one between random effects ("RE") and fixed effects ("FE"). These two models differ from each other with respect to the time invariant effects αi . More specifically, they are assumed to be correlated with Xit in an FE model, but uncorrelated in a RE model. Consequently, FE models control for all time invariant factors and contextual factors that change over time, hence also for possible omitted variables. In contrast to that, the core assumption of random effects model ($Cov(Xit, \alpha i) = 0$) means that the impact of time invariant factors can be estimated, but does not control for omitted variables (Woolridge, 2016).

Even though it has been common to report the estimates for both models in academic research (Woolridge, 2016), the Hausmann test can help in determining whether to apply RE or FE estimation methods in the analysis. It helps determine whether the core assumption for the random effects model (see above) holds true.⁵⁷

For every regression model that was generated, the Hausman test indicated that FE estimation methods are more fitting (which makes sense given our sample and input

⁵⁷ Given that the null-hypothesis was rejected for all models computed, there is proof that there is a correlation between the unobserved factors and the explanatory variables, implying that FE estimation should be used.

variables). Therefore, only the results of the FE within-effect estimation will be reported.⁵⁸ The regression model underlying this:

$$\begin{aligned} \textit{MOIC}_{it} &= \beta_0 ++ \beta_x X_{it} \beta_1 SALES_{it} + \beta_2 EBITDA_{it} + \beta_3 MARGIN_{it} + \beta_4 HOLDING_{it} \\ &+ \beta_5 PARTNERC_{it} + \gamma_1 SIZE_{it} \beta + \alpha_i + \varepsilon_{it} \end{aligned}$$
 with $i = deal = 1, 2, 3, \dots, 104$; $t = \text{quarter} = Q2\ 2007, \dots, Q2\ 2022$

5.5.2.1 Robustness Checks

In line with the results from the cross-sectional robustness checks, the Box-Cox test also implies that logarithmic transformation should not be applied to MOIC. However, SIZE is once again expressed through logarithmic transformation of the enterprise value at entry (which is put in as a constant for robustness). Similarly, multicollinearity can be avoided by only including a single explanatory variable examining gender or nationality in the model (ref. Section 5.5.1.1). Given the advantage of following the same deals over time, a comparison of units over time allows to include all deals, even those recently closed.

From an econometric perspective, a common practice applied in panel data analysis is to use lagged values rather than the actual values of the respective time period, i.e. using variables values at time t-1 to explain MOIC (performance) at time t (Leszczensky & Wolbring, 2022). We deal with this consideration in a slightly different way, which is to use LTM values for the relevant variables, thereby capturing past performance and how it impacts *MOIC* in the given period t.

6. Analysis

This section contains the main elements of the analysis. Starting off with a descriptive analysis of the cross sectional dataset, different descriptive statistics and observations are displayed and described for dependent and explanatory variables, fixed effects, and control variables. Thereafter, a smaller descriptive analysis for the panel dataset is conducted, a main element of which is the comparison and relation to the values shown as part of the cross-sectional descriptive analysis. Next, the econometric estimations are introduced through two specification series on MOIC, two IRR specification series, and one specification series

⁵⁸ By the nature of FE models, dummy variables relating to any of the exogenous fixed effects described in 5.3.3.2 are obsolete as they are already controlled for.

on cumulative EBITDA growth. Finally, the section ends with a fixed effects estimation for the panel data (also on MOIC).

6.1 Descriptive Analysis

6.1.1 Cross Sectional Dataset

6.1.1.1 Dependent and Explanatory Variables and Returns

Table 7 below gives an overview over the main descriptive analytics for the dependent and explanatory variables. MOIC and IRR resemble normal distributions around their mean, indicating a strong deal performance over time. The same is true for *EBITDA*.

Table 7: Summary Statistics for Dependent and Explanatory Variables and Returns

Due to the sensitivity of the information, concrete numerical values cannot be disclosed for any performance-related variables. Hence, descriptive statistics are expressed in percentage terms of the mean and median for any performance related variables.

Variable	Obs	Mean	Median	Std. Dev.	Min	Max
MOIC ⁵⁹	127	μ	98.6%	57.9%	n.a.	258%
IRR	127	μ	83.2%	143.0%	-31.8%	1014.0%
EBITDAG ⁶⁰	127	μ	75.2%	121.3%	-181.6%	301.5%
AVGENDER	85	17.7%	7.35%	20.5%	0.0%	100.0%
FEMALET	85	45.9%	27.3%	43.4%	0.0%	100.0%
AVNATIONALITY	85	48%	52.6%	35.6%	0.0%	100.0%

Dummy Variable	Obs	Mean	Median	Std. Dev.	# of Observ. =1	% of total
PGENDER	127	-	-	-	10	7.87%
FEMALE	85	-	-	-	56	65.88%
NATIONALITY	84	-	-	-	65	77.38%

⁶⁰ Note: Reminder that all values for *EBITDAG* above a certain cumulative growth rate have been winsorized (ref. Section 5.5.1.1).

⁵⁹ Note: Reminder that all deals above a certain *MOIC* have been excluded from the analysis (ref. Section 5.5.1.1).

Table 8: Summary of Descriptive Analysis – Performance

Findings from Descriptive Analysis. Percentages are based on the average MOIC and IRR respectively. Due to the sensitivity of the information, concrete numerical values cannot be disclosed for any performance-related variables. Hence, descriptive statistics are expressed in percentage terms of the mean and median for any performance related variables.

	# of Deals	MOIC	IRR (%)
Average	85	μ	μ
Deal teams with at least 1 woman	56	97.7%	95%
All-male deal teams	29	104.7%	110%
Deal teams with at least 2 nationalities	66	104.2%	110%
Deal teams with 1 nationality	19	85.6%	55%

Table 9: Summary of Descriptive Analysis – Diversity Metrics

Percentages are averages calculated as arithmetic mean.

	# of Deals	Gender diversity, %	Nationality diversity, %
Average	85	18%	48%
Female partner led deals	8	53%	49%
Male partner led deals	77	14%	48%
All-male deal teams	29	0%	49%
All-female deal teams	1	0%	100%
Deal teams with at least 2 nationalities	65	18%	62%
Deal teams with 1 nationality	19	15%	0%

Gender Diversity

The first dimension of diversity in focus is gender, information of which is contained in the variables *PGENDER*, *FEMALE*, *AVGENDER*, and *FEMALET*. On average, less than one out of five deal team members is female (as indicated by the mean of *AVGENDER* of 17.7%). When looking at median, this number is even lower, with at least half of the deals not even having every 13th deal team member to be a woman (as indicated by *AVGENDER* median of 7.35%).

Only one in every 13 deals $(7.87\%)^{61}$ have had a female deal partner at some point during their ownership period, indicating a decreasing female representation with increasing seniority. Based on the more granular HR information available for 85 out of these deals, deals led by female partners consisted of a higher relative number of women on average, with *AVGENDER* being equal to 53% (i.e. gender parity). The average return for the exited female-led deal teams were higher than average performance, while the 29 deals that had an all-male deal team performed in alignment with the average performance.

As of the end of Q2 2022, only one deal has had an all-female deal team. While a total of 65.88% of deals had some sort of female participation (*FEMALE*), it is evident that women were only present on deal teams, on average, for about half of the time from entry to exit (*FEMALET* mean is 45.9%). At least half of the deals did not have a woman staffed on the team for barely a quarter of the holding period (*FEMALET* median is 27.3%). When in turn examining only the deals with at least one female (i.e. *FEMALE*=1), *FEMALET* is at 70%, i.e. much longer.

Zooming out, the female participation over time can be approximated by the development of *AVGENDER* totals per EQT Fund (as displayed in Figure 2 below). It is noted that the fraction of women in deal teams have had an U-shaped trend line over time for the deals in question. EQT V and EQT VI had 14% and 7% women respectively, and EQT VII, EQT VIII and EQT IX have 9%, 17%, and 18% respectively. The Mid Market strategies have 19% on average.

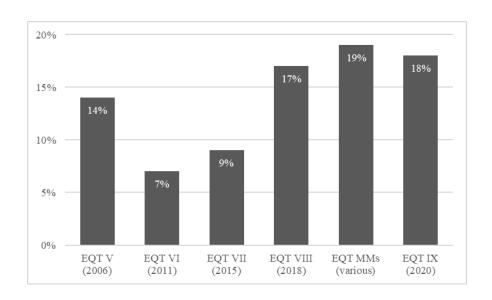
Figure 2: Gender Diversity Across EQT Funds

Aggregated levels of AVGENDER per Fund. Based on n=85 deals with granular information. 62

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⁶¹ Please note that this refers to the total number of deals, not just the 85 deals in the sample.

 $^{^{62}}$ It should be noted that the aggregated value for EQT V is derived based on not even half of the deals in the fund portfolio, meaning that the average might be misrepresenting the actual total.



Nationality Diversity

When focusing on nationalities, *AVNATIONALITY* indicates the degree of diversity of nationalities: 100% would describe a deal team where all deal team members have different nationalities, whereas 0% indicates that all deal team members share the same nationality. The average deal team had 48% nationality diversity (as expressed by *AVNATIONALITY's* mean). In general, it is to be observed that for the 85 deals with granular data, *NATIONALITY* shows that at least 78% of deal teams had at least one member with a different nationality than their colleagues.

In terms of performance, 65 deals with at least one team member with a different nationality performed on average, while non-diverse deal teams performed worse on average. Deals with a non-diverse team displayed a lower than average MOIC and IRR.

The more recent funds are more diverse as displayed in Figure 3 below. EQT IX, EQT MM, and EQT VIII have nationality diversity ranging from 53% to 58%, meaning that less than half of the deal team share the same nationality. The earlier funds, EQT V, EQT VI, and EQT VII range from 32% to 42%. This is a natural development given EQT's geographical expansion in the past 14 years.

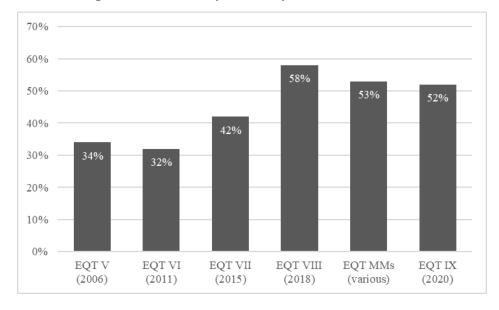


Figure 3: Nationality Diversity Across EQT Funds

6.1.1.2 Fixed Effects

Table 10: Fixed Effects Overview

The last two columns indicate whether the respective group indicates above (+), approximately equal (=) or less (-) diversity than the mean for gender (17.7%) and nationality (48.0%). Calculations for this are, however, only based on the 85 deals in question for which granular data is available.

Category	Group	# of Deals out of 127	% of Total Deals	Gender diversity, %	Nationality diversity, %
	Nordic	60	47.24%	=	=
Geography	DACH	26	20.47%	-	-
	Other Europe	17	13.39%	=	+
	Rest of World	24	18.89%	=	=
	Healthcare	28	22.05%	=	=
	TMT	34	26.77%	=	=
Industry	Services	21	16.54%	=	=
	Industrial Technology	27	21.26%	-	-
	Consumer Goods	16	12.60%	=	-
	Dot-com bubble (1995 - 2001)	17	13.39%	n.a. ⁶³	n.a.
	Pre-financial crisis (2002 - 2007)	17	13.39%	=	-
Time (of entry)	Financial crisis (2008 - 2012)	14	11.02%	-	-
	Post-financial crisis boom (2013 - 2018)	56	44.09%	=	=
	COVID-19 pandemic (2019 - 2022)	23	18.11%	=	+
Status	Current	40	31.50%	=	=

⁶³ Since none of the deals closed during the time period are amongst the 85 deals for which granular HR information is available, the average cannot be determined. Based on the researchers estimation, both categories should lie below average.

The table above displays the fixed effects used in the cross-sectional data analysis. It is worth noting that most of the deals in question are located in the Nordic and DACH countries. This is in line with EQT's overall historic portfolio distribution. It is also unsurprising that a majority of the deals in the sample was closed during the Post-financial crisis boom, given that most funds had their vintage during said period (aside from the fact that the macroeconomic environment during that period was very beneficial). EQT has shifted, overtime, away from the Consumer Goods industry, which is why the respective number of observations is smaller than for the other industries.

With respect to diversity, no particularities or surprises that were not anticipated are visible. Interestingly, DACH seems to be less diverse on average than other regions.

Looking at sector, Industrial Technology is an inherently male-dominated industry, but also an industry which seems to prompt deal teams to be less diverse in terms of nationality. The Consumer Goods sector also has below average nationality diverse teams, which can be attributable to the nature of the sector in terms of customer contact. Finally, the deals overtime demonstrate the same picture as the fund development has before.

What might appear odd given the development (increase) of diversity over time is the fact that current deals remain on average relative to the entire sample. However, it should be noted that the 85 deals examined in detail are all from later periods, meaning that current deals would display higher levels of diversity if the entire population of deals were included.

6.1.1.3 Control Variables

Table 11 below gives an overview over the main descriptive statistics of the control variables. A covariance matrix can be found in Appendix E. As covariance levels are in accordance with expectations, such data has been excluded here given that no problems with multicollinearity were detected.

Table 11: Descriptive Analysis of Explanatory and Control Variables

Percentages based on the mean. Due to the sensitivity of the information, concrete numerical values cannot be disclosed for any performance-related variables. Hence, descriptive statistics are expressed in percentage terms of the mean and median for any performance related variables.

Variable	Obs	Mean	Median	Std. Dev.	Min	Max
SALES (%)	127	μ	49.5%	148.5%	-71.3%	787.1%
EBITDA (%)	127	μ	81.6%	112.9%	-150.3%	459.9%
SALESO ⁶⁴ (EURm)	127	μ	33.9%	195.5%	2.5%	1322.6%
MARGINO (%)	127	μ	88.6%	66.7%	-95.4%	4101.3%
DEBTO (Multiple)	127	μ	106.7%	54.8%	-37.0%	226.0%
SIZE ⁶⁵ (EURm)	127	μ	35.7%	0.2%	1.9%	1.0%
HOLDING (years)	127	μ	4.8	4.5	2.1	1.1

As evident from the numbers, *SALES* and EBITDA demonstrate positive averages, meaning that EQT has, on average, managed to increase performance across the 127 deals in question. It should be noted that *SALES* displays a significant difference between mean and median, indicating that several high growth deals push up the average. The same is not true for *EBITDA*, however. It is to be noted that while all variables display quite a wide range, *MARGINO* displays some extreme variations. This is attributable to a number of technology sector deals within the EQT MMEU fund, which, as explained above, have been winsorized in terms of their EBITDA development.

Deal SIZE also varies quite significantly, which is due to the stark expansion of fund sizes (ref section. 5.1) over the years. The effect of deal size variation is mediated through logarithmic transformation in the econometric analysis. The same is true for SALESO as well as DEBTO, which vary in accordance with size or chosen debt structure at entry. PARTNERC (not included in the table) indicates that 32 out of 127 deals (or about 25%) had a change in lead partner during the ownership period. When looking at the list of deals, this is mainly

⁶⁵ For interpretative purposes, *SIZE* is displayed as actual EV at entry in this table. As described in Section 5.5.1.1, the logarithmic transformation is applied in the regression.

⁶⁴ For interpretative purposes, *SALESO* is displayed as actual Net Sales LM at entry in this table. As described in Section 5.5.1.1, the logarithmic transformation is applied in the regression.

attributable to promotions (to executive level committees) or relocations to other regions, which means that considerations of lurking endogeneity problems can be lifted. Finally, the average *HOLDING* period equals about 4.846 years, which is in line with expectations on average PE ownership. In spite of a few outliers, *HOLDING* resembles a normal distribution around its mean.

6.1.2 Panel Dataset

The panel dataset for analysis contains a total of 1,708 observations on 104 different deals at EQT for which granular data could be computed and all relevant variables were observable over the observation period. The timeframe of observation spans from Q2 2007 to Q2 2022. The panel is, by nature of the observational unit and period, unbalanced.

6.1.2.1 Explanatory Variables

Table 12: Summary Statistics for Explanatory Variables and Returns

The % for MOIC are in relation to the mean MOIC. Due to the sensitivity of the information, concrete numerical values cannot be disclosed for any performance-related variables. Hence, descriptive statistics are expressed in percentage terms of the mean and median for any performance related variables.

Variable	Obs	Mean	Median	Std. Dev.	Min	Max
MOIC	1,708	μ	80.2%	73.8%	n.a.	788.9%
AVGENDER	1,708	19.4%	0%	23.3%	0%	100%
AVNATIONALITY	1,708	46.3%	50%	39%	0%	100%

Variable	Obs	Observations (=1)	Percent of total obser- vations
PGENDER	1,708	144	8.43%
FEMALE	1,708	838	46.09%
NATIONALITY	1,708	1,073	62.82%

Table 12 above gives an overview of the summary statistics for the dependent variable *MOIC* as well as the explanatory variables of interest.

Given that deals are followed over time, it makes sense that the average for *MOIC* is lower due to the fact that a majority of the value creation, is expected to occur at the end of the ownership period. Tailends are much higher for the panel, which is mitigated by the fact

that the panel relativizes performance with respect to the point in time at which valuation upticks occur.

When it comes to the explanatory variables, averages as well as relative frequency are similar to the cross-sectional dataset, i.e. indicating that the panel accurately represents a more granular version of the cross-sectional dataset. It is important to note that the value for *FEMALE* is similar to *FEMALET* in the cross sectional dataset as it measures for how many of the periods a woman was present.

6.1.2.2 Control Variables

Table 13: Control Variable Descriptives for the Panel Dataset

Percentages based on the mean. Due to the sensitivity of the information, concrete numerical values cannot be disclosed for any performance-related variables. Hence, descriptive statistics are expressed in percentage terms of the mean and median for any performance related variables.

Variable	Obs	Mean	Std. Dev.	Min	Max
SALES (EURm)	1,708	μ	148.0%	2.4%	938.2%
EBITDA (EURm)	1,708	μ	153.1%	-42.0%	176.5%
MARGIN (%)	1,708	μ	77.2%	-273.1%	276.5%
SIZE ⁶⁶ (EURm)	1,708	μ	36.0%	3.2%	1437.4%
HOLDING (years)	1,708	2.707	2.03	0	10.95

The high variations for *SALES*, *EBITDA*, and *DEBT* are in line with expectations based on the nature of the dataset. The relatively high mean can be explained by EQT's ambition to buy high-quality companies in tech- and less capital-intensive industries. Extreme values for *MARGIN* lie within the nature of the respective portfolio companies, and are not worrying given an overall normal distribution of the variable.

For MOIC and HOLDING, it does make sense that the means are lower in average compared to the cross-sectional dataset. The tail-ends however indicate that the source of information is the same. SIZE is almost exactly equal to its cross-sectional counterpart in terms of descriptive statistics – slight variations might stem from the unbalanced nature of the

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⁶⁶ For interpretative purposes, SIZE is displayed as actual EV at entry in this table. As described in Section 5.5.1.1, the logarithmic transformation is applied in the regression.

panel and based on the fact that companies with a holding period of 1.5 years and below are included.

6.2 Models and Testing: Cross Sectional Dataset

Before testing the for the effect of diversity on performance by means of including the explanatory variables, the model was estimated by only including the control variables, not only to provide a solid basis for ensuring that the estimates are in line with expectations, but also to establish a baseline to which models that include explanatory variables can be compared to. Subsequently, the models are estimated for each of the explanatory variables.

The first two specifications are based on *MOIC* as explained performance metric, followed by two specification series with *IRR* as explained variable to provide nuance to the discussion. Finally, the specification series on *EBITDAG* is an attempt at finding an underlying explanation of which value drivers are affected by diversity.

6.2.1 Regression on MOIC

6.2.1.1 Specification Series One: Regressions on MOIC with all variables

Table 14: Estimation Results for Cross Sectional Dataset

The stars refer to statistical significance at 5% * (p < 0.05), 1% ** p < 0.01, and 0.1% *** (p < 0.001), all dedicated based on robust standard errors routinely computed through STATA. The first row of the table indicates which hypothesis the model seeks to prove. (o) indicates that no fixed effect classification across the entire sample was evident. F-statistics were computed without the inclusion of FE variables.

Variable	Reference	PGENDER	FEMALE	AV GENDER	FEMALET	NATIO- NALITY	AVNATIO- NALITY
PGENDER		0.258					
FEMALE			0.312				
AVGENDER				0.816*			
FEMALET					0.363		
NATIONALITY						0.363	
AVNATIONALITY							0.128*
SALES	0.178	0.220	-0.182	-0.078	-0.116	-0.028	-0.011
EBITDA	3.466***	3.436***	3.752**	3.626***	3.675**	3.415**	3.377**
SALESO	-0.133	-0.134	-0.438	-0.396	-0.401	-0.352	-0.414
MARGINO	-0.613	-0.643	-1.418	-1.355	-1.315	-1.202	-1.369
DEBTO	0.100	0.094	0.038	0.029	0.022	0.029	0.046
SIZE	0.161	0.183	0.545	0.565	0.577	0.506	0.539
HOLDING	-0.231***	-0.233***	-0.204*	-0.222*	-0.195*	-0.204*	-0.202*
PARTNERC	0.169	0.163	0.342	0.302	0.314	0.250	0.298
NORDIC	0.124	0.055	0.069	0.054	0.076	0.153	0.146

DACH	-0.062	-0.093	(o)	(o)	(o)	(o)	(o)
EUROPE	-0.619	-0.650	-0.530	-0.507	-0.531	-0.525	-0.505
ROW	(o)	(o)	-0.035	-0.028	-0.043	0.015	0.017
HEALTHCARE	0.660*	0.610*	0.285	0.455	0.375	0.294	0.503
TMT	0.772*	0.778*	0.314	0.535	0.483	0.404	0.570
SERVICES	0.487	0.479	0.275	0.480	0.413	0.327	0.515
INDUSTRIAL	0.180	0.192	0.257	0.441	0.398	0.265	0.464
CONSUMER	0.368	0.367	0.134	0.280	0.259	0.246	0.340
DOTCOM	1.808***	1.869***	(o)	(o)	(o)	(o)	(o)
PRECRISIS	1.406**	1.420**	(o)	(o)	(o)	(o)	(o)
CRISIS	0.912*	0.943*	0.035	0.114	0.216	-0.007	-0.009
POSTCRISIS	1.139***	1.153***	0.381	0.396	0.563	0.299	0.282
COVID	(o)	(o)	-0.631	-0.676	-0.465	-0.801	-0.770
CURRENT	-0.152	-0.173	-0.385	-0.379	-0.394	-0.296	-0.294
Constant	0.590	0.526	1.023	0.686	0.404	0.794	0.858
N	127	127	85	85	85	85	85
\mathbb{R}^2	0.567	0.570	0.585	0.588	0.586	0.584	0.575
R^2 _a	0.481	0.479	0.447	0.451	0.449	0.444	0.433
Prob > F	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Overall, the models have high explanatory powers with R-Squared exceeding 57% for all models. In addition, when omitting the fixed effects dummies,⁶⁷ every F-test indicates high joint significance and goodness of fit for all of the models.

Starting off with the base model, all control variables display values that are in line with expectations. *SALES* shows no significant effect on *MOIC*, and is not consistently positive either. A possible explanation for this might be that sales growth alone is no indication of superior company performance (ref. Section 2). The positive impact of *EBITDA* on the other hand is highly statistically significant for most of the models. In terms of economic significance, one can say that if a company, on average, grew its *EBITDA* at 100% over the entire ownership period, MOIC would increase by e.g. 3.436 in the Partner Gender specification model.

Both *SALESO* and *MARGINO* show estimated negative correlations on MOIC, though never statistically significant. Intuitively, this means that irrespective of how much a company sold or how its margin was. The same is true for *DEBTO* and *SIZE*.

HOLDING is negatively correlated with statistical significance. This makes sense given that the notion of selling at the best possible time means that if EQT holds on to companies for a longer period, it might be because value creation is slower. Looking at fixed effects, it is evident that EQT has consistently over time been able to deliver positive returns, irrespective of geography, industry, or time of deal entry. Statistical significance can be

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⁶⁷ Dummy variables prevent the computation of an F-test statistic.

attributed furthermore to the Healthcare and TMT sectors for the two specifications with 127 observations, which is unsurprising given the nature of the sectors. Interestingly, even an exit does not imply a statistically significant positive result, indicating that value is driven through performance rather than through negotiation skills (i.e. exploitation of inefficient pricing and valuation).

But now onto the variables of interest. Looking at **gender diversity**, we detect positive effects on *MOIC* across all variables – some of which are statistically significant. *PGENDER* does not show a statistically significant positive effect on performance, even though we have learned in the descriptive analysis that having a female partner increases diversity. While no significance can be proven for female presence on a deal team (*FEMALE*) over the lifetime of a deal, it is shown that gender diversity in terms of ratio (*AVGENDER*) has a statistically significant effect on *MOIC*. Intuitively, having gender parity (i.e. 50% for *AVGENDER*) would mean a 0.4x increase in *MOIC* according to the estimator. The time during which female deal team members were present on deal teams (*FEMALE*) has no statistically significant effect on overall performance.

With respect to **nationality diversity**, the numbers paint a similar image. The presence of an international deal team member (*NATIONALITY*) is not statistically significant. However, one can infer from the numbers that the more international the team, the better the performance. If all members of the team have a different nationality (i.e. 100% for *AVNATIONALITY*), the model predicts a 0.128x *MOIC* increase.

6.2.1.2 Specification Series Two: Regression on MOIC Excluding Growth Rates

Given that SALES and EBITDA as growth indicators capture a lot of the positive effect on MOIC. While some might infer that including SALES and EBITDA in the model helps isolate the effect that diversity might have on performance to a larger degree, it is sensible to conduct a similar analysis in which the two variables are excluded. Hence, Table 15 below summarizes the estimates for this first model specification.

Table 15: Estimation Results for Cross Sectional Dataset, Excluding Variables SALES and EBITDA

The stars refer to statistical significance at 5% * (p < 0.05), 1% ** p < 0.01, and 0.1% *** (p < 0.001), all dedicated based on robust standard errors routinely computed through STATA. The first row of the table indicates which hypothesis the model seeks to prove. (o) indicates that no fixed effect classification across the entire sample was evident. F-statistics were computed without the inclusion of FE variables.

Variable	Reference	PGENDER	FEMALE	AV GENDER	FEMALET	NATIO- NALITY	AVNATIO- NALITY
PGENDER		0.173					
FEMALE			0.045				
AVGENDER				0.286			
FEMALET					0.085		
NATIONALITY						0.300	
AVNATIONALIT Y							-0.039
SALESO	-0.385	-0.390	-0.772**	-0.764**	-0.766**	-0.726*	-0.774**
MARGINO	-2.096*	-2.129*	-2.754*	-2.753*	-2.739*	-2.831*	-2.754*
DEBTO	0.136*	0.132*	0.058	0.053	0.053	0.042	0.059
SIZE	0.257	0.274	0.845**	0.856**	0.855**	0.837*	0.845**
HOLDING	-0.331***	-0.332***	-0.268**	-0.277*	-0.267**	-0.262*	-0.265*
PARTNERC	0.112	0.107	0.256	0.246	0.251	0.182	0.259
NORDIC	0.150	0.104	0.248	0.230	0.244	0.266	0.256
DACH	-0.073	-0.095	(o)	(o)	(o)	(o)	(o)
EUROPE	-0.709	-0.730	-0.352	-0.349	-0.354	-0.348	-0.345
ROW	(o)	(o)	0.093	0.085	0.086	0.107	0.100
HEALTHCARE	0.774	0.740	0.600	0.609	0.599	0.422	0.647
TMT	1.283**	1.285**	1.020*	1.045*	1.036*	0.917	1.058*
SERVICES	1.041**	1.034**	1.036	1.057*	1.046*	0.899	1.076*
INDUSTRIAL	0.191	0.195	0.492	0.513	0.506	0.373	0.518
CONSUMER	0.343	0.339	0.566	0.581	0.579	0.529	0.582
DOTCOM	1.809**	1.848**	(o)	(o)	(o)	(o)	(o)
PRECRISIS	1.299*	1.308*	(o)	(o)	(o)	(o)	(o)
CRISIS	0.784	0.803	0.218	0.256	0.265	0.271	0.206
POSTCRISIS	0.869**	0.877**	0.421	0.443	0.471	0.462	0.409
COVID	(o)	(o)	-0.344	-0.342	-0.297	-0.324	-0.344
CURRENT	-0.486	-0.502	-0.748*	-0.769*	-0.760*	-0.764*	-0.732*
Constant	2.561***	2.534**	1.527	1.448	1.399	1.346	1.525
N	127	127	85	85	85	85	85
\mathbb{R}^2	0.410	0.411	0.415	0.416	0.415	0.423	0.415
R ² _a	0.306	0.300	0.244	0.246	0.244	0.252	0.243
Prob > F	0.000	0.001	0.007	0.007	0.006	0.007	0.005

By omitting two variables with high explanatory power, R-squared is reduced significantly and moves between 41% and 42.3% for the models under this specification. Additionally, F-statistics for joint significance increase slightly, though variables remain jointly significant.

To no surprise *SALESO* and *MARGINO* both show a strongly statistically significant negative impact on *MOIC*. This is in line with expectations – the lower the margin to begin with, the lower *MOIC* is going to be. For sales, it means that companies with lower sales at entry generally perform worse. Interestingly, *SIZE* becomes statistically significant for the latter five models, indicating that larger firms experience better deal performance.⁶⁸

The picture in terms of fixed effects does not change significantly, except it is now proven statistically significant in the four last models that current portfolio companies have a lower *MOIC* – which comes to no surprise given prior explanations on value creation during ownership and exit.

Examining the variables of interest now, there is no statistically significant effect of diversity on performance when excluding *SALES* and *EBITDA* from the model. This can be interpreted in multiple ways. When excluding the variables, their effect is not clearly specified in the model, meaning that the effect of diversity on performance cannot be separated as easily. Additionally, one could argue that the effect of diversity on performance is not as strong on its own. Nonetheless, and following the lines of the argumentation by Pletzer et al. (2015), one can say that diversity should still be considered as valuable for business for purely ethical reasons.

6.2.2 Regression on IRR – Specifications for Reference

6.2.2.1 Specification Series Three: IRR with All Variables

Table 16 below summarizes the effect of explanatory variables on *IRR*. The results from other control variables are displayed in Appendix F instead of here, as their influence as well as the statistical significance of the effects strongly resembles that of the MOIC models.

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⁶⁸ Given that this is a lin-log model, the interpretation of economic significance would be based on percentage increases in size.

Table 16: Effect of Diversity on IRR

The stars refer to statistical significance at 5% * (p < 0.05), 1% *** p < 0.01, and 0.1% **** (p < 0.001), all dedicated based on robust standard errors routinely computed through STATA. F-statistics were computed without the inclusion of FE variables. The full table is displayed in Appendix F.

Variable	Reference	PGENDER	FEMALE	AV GENDER	FEMALET	NATIO- NALITY	AVNATIO- NALITY
PGENDER							
		-0.003					
FEMALE		0.003					
FEMALE							
			0.026				
AVGENDER							
				0.122			
FEMALET							
FEMIALEI							
					0.040		
NATIONALITY							
						0.093	
AVNATIONALITY							
AVNAIIONALIII							
							0.102*
		•••	•••		•••	•••	
•							
N	127	127	85	85	85	85	85
\mathbb{R}^2							
	0.518	0.518	0.592	0.598	0.593	0.600	0.604
D2 -	0.010	0.010	0.572	0.00	0.000	0.000	0.00.
R ² _a							
	0.421	0.416	0.456	0.464	0.458	0.464	0.471
Prob > F	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Similarly to the regressions displayed in the prior section, we again see high R-Squared values exceeding 0.518 and even 0.6 for two of the models. The joint significance (omitting fixed effects) is also demonstrated. Given that there are barely any (and especially no striking) differences in statistically significant effects, the full table is not displayed here for visual reasons and shown instead in Appendix F.

As becomes evident from the values displayed above, both nationality related diversity metrics prove a statistically significant positive effect. However, all **gender diversity** related variables fail to demonstrate a positive statistically significant effect on IRR. Interestingly, female presence on the deal teams even has a negative effect on IRR (though not statistically significant). As mentioned previously (ref. Section 5.3.1), IRR carries a temporal component which is private equity funds can exploit mediating cash in-and outflows to LPs. As established in the descriptive analysis, FEMALET on average is less than

50%, meaning that the full benefits of diversifying the deal team might not be fully accessible.

When looking at **nationality diversity**, it is interesting to see that *AVNATIONALITY* shows a positive effect on IRR, thus emphasizing the effect we have seen in the first series of MOIC specifications. When it comes to economic significance, the effect here is more pronounced: 100% on *AVNATIONALITY* leads to a 10% increase of IRR.

6.2.2.2 Specification Series Four: Excluding SALES and EBITDA (Growth Rates) from IRR Model

Table 17: Estimation Results for IRR, Excluding Variables SALES and EBITDA

The stars refer to statistical significance at 5% * (p < 0.05), 1% *** p < 0.01, and 0.1% *** (p < 0.001), all dedicated based on robust standard errors routinely computed through STATA. F-statistics were computed without the inclusion of FE variables. The full table is displayed in Appendix G.

Variable	Reference	PGENDER	FEMALE	AV GENDER	FEMALET	NATIO- NALITY	AVNATIO- NALITY
PGENDER							
		-0.016					
FEMALE							
			-0.016				
AVGENDER			-0.010				
AVGENDER							
				0.033*			
FEMALET							
					-0.006		
NATIONALITY							
						0.083	
AVNATIONALITY							
							0.061*
		•••		•••	•••	•••	•••
N	127	127	85	85	85	85	85
R^2	127	127	03	03	03	03	65
TC	0.456	0.456	0.482	0.482	0.481	0.489	0.486
D2	0.430	0.430	0.482	0.462	U. 4 61	0.489	0.480
R ² _a							
	0.360	0.354	0.330	0.330	0.329	0.337	0.336
Prob > F	0.000	0.001	0.007	0.007	0.006	0.007	0.005

Similarly to the previous specifications series on *IRR*, the models display high levels of explanatory power as well as joint significance.

This series of specifications provides further evidence in support of the thesis that diversity is, in fact, positively correlated with returns. In line with the findings from the first series of *MOIC* specifications, we detect an effect of *AVGENDER* and *AVNATIONALITY* on *IRR* that is statistically significant and positive. In terms of economic significance, we see a lower effect of gender diversity on *IRR* than diversity of nationality has on the return metric. This implies a slightly different observation than evident from the MOIC specification series.

While the general notion that diversity has a positive effect on performance at EQT is anchored in several statistically significant estimates up to this point, a third category of specifications testing one of the value creation levers, EBITDA improvement, might yield some insights into how such an effect might look like.

6.2.3 Regression on Cumulative EBITDA Growth – Specifications for Reference

Table 18: Estimation Results for Cumulative EBITDA Growth (EBITDAG)

The stars refer to statistical significance at 5% * (p < 0.05), 1% *** p < 0.01, and 0.1% **** (p < 0.001), all dedicated based on robust standard errors routinely computed through STATA. F-statistics were computed without the inclusion of FE variables.

Variable	Reference	PGENDER	FEMALE	AV GENDER	FEMALE T	NATIO- NALITY	AVNATIO- NALITY
PGENDER		-0.062		GENDER		NALITI	NALITI
FEMALE		0.002	0.288				
AVGENDER			0.200	0.679*			
FEMALET				0.0.	-0.312		
NATIONALITY						-0.046	
AVNATIONAL							-0.274
ITY							
SALESO	-0.225	-0.223	-0.401**	-0.425**	-0.423**	-0.438**	-0.437***
MARGINO	-1.343**	-1.327**	-1.587**	-1.598**	-1.622**	-1.924**	-1.692***
SIZE	0.091	0.087	0.351*	0.342*	0.339*	0.383*	0.363*
HOLDING	-0.068*	-0.068*	0.010	0.025	0.003	0.013	0.013
PARTNERC	-0.014	-0.012	-0.070	-0.034	-0.045	-0.054	-0.004
NORDIC	0.253	0.271	0.337	0.339	0.326	0.261	0.250
DACH	0.115	0.124	(o)	(o)	(o)	(o)	(o)
EUROPE	-0.041	-0.032	0.173	0.156	0.180	0.176	0.169
ROW	(o)	(o)	0.082	0.069	0.082	0.046	0.037
HEALTHCAR	0.370	0.385	0.580*	0.427	0.510	0.354	0.413
E							
TMT	0.717**	0.717**	0.885*	0.700*	0.752*	0.695*	0.698*
SERVICES	0.938***	0.942***	1.142***	0.973**	1.038**	0.960**	0.987**
INDUSTRIAL	0.072	0.073	0.317	0.183	0.235	0.176	0.138
CONSUMER	0.119	0.123	0.497	0.385	0.412	0.354	0.306
DOTCOM	0.027	0.014	(o)	(o)	(o)	(o)	(o)
PRECRISIS	-0.073	-0.077	(o)	(o)	(o)	(o)	(o)
CRISIS	0.086	0.079	0.744*	0.713*	0.624	0.879*	0.819*
<i>POSTCRISIS</i>	-0.107	-0.111	0.535	0.557	0.408	0.703	0.685
COVID	(o)	(o)	0.739	0.823	0.636	0.996	1.007
CURRENT	-0.432*	-0.429*	-0.522*	-0.549*	-0.538*	-0.657**	-0.633**
Constant	1.439*	1.441*	-0.250	-0.093	0.131	-0.258	-0.141
N	127	127	85	85	85	84	85
\mathbb{R}^2	0.282	0.283	0.325	0.326	0.325	0.303	0.310
R ² _a	0.163	0.155	0.141	0.142	0.141	0.110	0.122
Prob > F	0.0575	0.0696	0.0003	0.0001	0.0002	0.0001	0.0000

Compared to the specification series on *MOIC* and *IRR*, we see that R-squared has decreased, yet still reaches values above 28.2% or even above 31.0% for the latter five specifications in this series. The specifications for reference and for PGENDER do not display joint significance, while all others do.

As expected, we see that *EBITDAG* is negatively correlated with *SALESO* and *MARGINO*, which intuitively makes sense. Smaller companies display higher growth rates, while companies with higher margins to begin with have less room for improvement potential. Looking at fixed effects, it is clear that *SERVICES* and *TMT* companies demonstrate statistical significance, indicating that portfolio companies in these sectors experience higher cumulative EBITDA growth. Unsurprisingly, current portfolio companies display lower cumulative EBITDA growth versus companies that have been exited.

We see only one statistically significant effect across the spectrum of diversity variables, a positive effect of *AVGENDER* on *EBITDAG*. This means that the higher **gender diversity**, the higher cumulative EBITDA growth in the underlying portfolio company. In terms of economic significance, multiplying the estimate by one standard deviation indicates a 25 percentage point increase in cumulative EBITDA growth if the team is on gender parity.

The estimators for other diversity variables are mixed in terms of economic significance, with **nationality** and two other gender variables (*FEMALET* and *PARTNERG*) showing negative estimators. However, none of the other variables are statistically significant.

6.2.4 Intermediate Summary of Results for Cross-Sectional Analysis

Based on the estimation results, there are several indicators leading to believe that diversity has a positive effect on performance. While we see a positive influence of higher gender and nationality diversity on several *MOIC* specifications, only the effect of having more international teams can be consistently proven for *IRR*. Looking at EBITDA growth over the entire ownership (*EBITDAG*), having more women on a deal team shows a positive effect on EBITDA growth. Most of the effects proven also demonstrate material economic significance.

The analysis conducted with the cross-sectional datasets permits for inference over the entirety of a deal's ownership period. While IRR as a return metric might permit to incorporate some temporal aspects of ownership, a main disadvantage of it is that it can be manipulated or boosted and hence might not be an ideal presentation of return in this context. The panel data set can, however, shed additional light on the temporal aspects of value creation and deal performance in terms of gender and nationality diversity.

6.3 Models and Testing: Panel Dataset

Table 19: Fixed Effects Model Estimations

The stars refer to statistical significance at 5% * (p < 0.05), 1% ** p < 0.01, and 0.1% *** (p < 0.001), all dedicated based on robust standard errors routinely computed through STATA. The standard errors have been clustered by deal ID to avoid double counting, also done through STATA.

Variable	Reference	PGENDER	FEMALE	AV GENDER	FEMALET	NATIO- NALITY
PGENDER		-0.084				
FEMALE			0.491*			
AVGENDER				1.010*		
NATIONALITY					0.319*	
AVNATIONALI						0.416*
TY						
SALES	0.989**	0.989**	0.951**	0.979**	0.965**	0.979**
EBITDA	0.001	0.001	0.001	0.001	0.001	0.001
MARGIN	1.319***	1.321***	1.407***	1.364***	1.310***	1.319***
SIZE	0.474***	0.473**	0.361*	0.413**	0.471***	0.499***
HOLDING	0.102	0.102	0.100*	0.104*	0.108*	0.106*
PARTNERC	-0.018	-0.012	0.086	-0.015	-0.010	-0.008
Constant	-7.033***	-7.040***	-6.423***	-6.824***	-7.111***	-7.340***
N	1708	1708	1708	1708	1708	1708
\mathbb{R}^2	0.405	0.405	0.425	0.417	0.411	0.410
R^2 a	0.403	0.403	0.423	0.415	0.409	0.407
Prob > F	0.000	0.000	0.000	0.000	0.000	0.000

Table 19 above summarizes the estimations for the panel fixed effects models. In terms of joint significance, all six models demonstrate a high goodness of fit (or joint significance) demonstrated by the F-statistic displayed in their last row. Similarly, the R-squared within shows high explanatory power, of each model, ranging from 40.3% to 42.3% across the board.

PGENDER has an estimated negative effect in the fixed effects model, which is not statistically significant. When examining statistical significance of the explanatory variables for the other diversity categories, a clear picture arises. Diversity is positively correlated with performance, also over time. The effect that a female presence has on MOIC is positive significant, meaning that for the times a woman is on the deal team, the deal will perform better relative to it being a purely male team. Similarly, deals perform better at any given time when the gender ratio is higher, as indicated by a positive influence of AVGENDER on MOIC. Having an international team member on a deal will, at any given time, have a positive effect on deal performance. Finally, the more international a deal team, the higher the deal performance.

6.4 Summary of Results

In summary of the results, it can be stated that diversity (i) never has a statistically significant negative effect on performance, and (ii) in some instances displays a statistically significant positive effect on performance metric. This is true for the gender diversity in at least one specification for MOIC, IRR, and EBITDA, and for nationality diversity for one specification on MOIC and both IRR specifications. Finally, the panel analysis yields statistically significant and positive effects on MOIC for all employed diversity variables except partner gender. Table 20 below summarizes the results of all models in all specification series.

Table 20: Summary of Results

The table indicates whether the effect of the respective explanatory variables was (i) positive or negative and (ii) tested to be statistically significant (*) for the respective specification series. For additional details on the specifications, please refer back to the prior sections.

Dataset and Series	Explanatory Variables	PGENDER	FEMALE	AV- GENDER	FEMALET	NATIO- NALITY	AVNATIO- NALITY
Cross Sectional, Series 1	MOIC	pos. (+)	pos. (+)	pos. (+)*	pos. (+)	pos. (+)	pos. (+)*
Cross Sectional, Series 2	MOIC	pos. (+)	pos. (+)	pos. (+)	pos. (+)	pos. (+)	neg. (-)
Cross Sectional, Series 3	IRR	neg. (-)	pos. (+)	pos. (+)	pos. (+)	pos. (+)	pos. (+)*
Cross Sectional, Series 4	IRR	neg. (-)	neg. (-)	pos. (+)*	neg. (-)	pos. (+)	pos. (+)*
Cross Sectional, Series 5	EBITDAG	neg. (-)	pos. (+)	pos. (+)*	neg. (-)	neg. (-)	neg. (-)
Panel, Series 1	MOIC	neg. (-)	pos. (+)*	pos. (+)*	n.a.	pos. (+)*	pos. (+)*

7. Discussion

The literature review established that most of the research implies that gender diversity and ethnic/nationality diversity has a positive impact on both financial and non-financial performance, although there is research implying the opposite as well. The findings in this thesis establish a clear positive effect of diversity on deal teams at EQT and deal performance.

At least one of the diversity metrics proved a positive, statistically, and economically significant effect on the given performance metric for every of the specification series except

series two on *MOIC* (ref. Section 6.2.1). Maybe even more important, it is to be noted that not a single diversity metric displayed a statistically significant negative effect on any performance metric. Generally, we have reason to believe that diversity in terms of gender and nationality is, in fact, good for business – in some instances for purely ethical reasons, but in others with a clear positive effect on the outcome of a deal. There are several underlying explanations and nuances to such a bold statement that this section seeks to explore.

A majority of our model estimations reveal information on **gender diversity**. In the private equity industry, it is believed that gender diversity on partner, ownership, and investment committee level have a positive association with financial performance (Knight Foundation, 2017; Gottschalg, 2020; National Association of Investment Companies, 2021). Based on our findings, we could not establish that a deal is likely to perform better if it has a female partner, but also not worse. A plausible explanation to this is the relatively low interaction of the partner throughout the deal holding period, meaning that the partner is active in several deals whereas more junior deal team members work more intensely with fewer deals. However, research has shown that women in leadership roles characteristically mitigate downside risk more effectively and at the same time create more inclusive environments – through behavior, but also sheer signaling (IFC, 2019). Evidence of that is supported by our descriptive observations that show female-led deal teams to be both more gender diversity and more nationality diverse. They also show that women stay on longer when in a more diverse (or for that matter, female-led) environment.

When it comes to gender diversity in general, higher gender diversity on EQT deal teams is positively correlated with performance across all specifications for every return and performance indicator, for the cross-sectional as well as the panel data set. Furthermore, said effect is statistically and economically significant in specification series two on *MOIC*, specification series four on *IRR*, specification series five on *EBITDAG*, and in the panel fixed effects model, i.e. once for every chosen explanatory variable. The findings provide further support for previous research. The vast majority of prior research on gender diversity indicates better financial and non-financial performance. In addition to financial effects, diversity also correlates with other desirable traits in organizations: learning, creativity, flexibility, organizational and individual growth, ability to adjust rapidly and successfully to market changes, innovation and turning it into increased revenues, lower employee turnover, reduced risk and frequency of fraud and financial reporting mistakes (Thomas & Ely, 1996; Torchia et al., 2011; Cumming et al., 2015; Lorenzo et al., 2018; Wahid, 2019; Maurer &

Qureshi, 2021). We present the non-financial performance effects as potential explanations as to why diversity impacts financial performance positively. Additionally, in prior research it has been shown that female role models are important for fostering female talent. For example, in academia and specifically the male-dominated finance department, it is proven that female students perform better in quantitative courses when taught by a female professor (Krishna & Orhun, 2020). This gives us reasons to argue that female role models within private equity possibly enhances performance amongst younger female investment professionals.

On average, women were only represented on a deal for half of its ownership period (in more than half of the deals, only for about a quarter or less of the deal's lifetime). This is one of the primary reasons leading us to believe that the effect of how long a woman spends time on a deal team (expressed by *FEMALET*) has never been proven statistically significant either. Although prior research shows that the mere presence of a woman in board committees or senior management teams has a positive effect on performance, this could not be proven at EQT deal teams over the entirety of the deal. We believe this is an argument in favor of inclusion, i.e. the positive effects of adding women on deal teams will not be unlocked unless they are actually included. Even in more diversity-accepting countries such as Sweden, a glass ceiling for women is perceived to exist (Allbright, 2017; Österlund & Deshpande, 2021). This might be the reason why there are so few women in the observed deal teams and poses a potential inclusivity problem, as women may be seen as "tokens" on the deal team.

Moving on to **national diversity** and deal team composition, the clear connection to positive deal performance for more international teams becomes evident across several of the specifications. As mentioned, the academic literature about nationality and ethnicity diversity in private equity is more scarce compared to gender diversity, but it is established that more diverse PE-firms have been observed to generate higher returns (Gompers & Kovvali, 2018; National Association of Investment Companies, 2021). Interestingly, this effect is not equally evident for the presence of at least one international team member on a deal team. We hypothesize that this might be related, on the surface, to the practicality of having to adapt to other languages, and on a more psychological level, adapting to potentially different cultural backgrounds and experiences. This is easier when more than one team member is diverse in a national-cultural sense (ref. Section 2).

In a general setting, the relationship between diversity and financial performance is also established (Erhardt et al., 2003; Hunt et al., 2018; Wall Street Journal, 2019). Similarly,

some of the non-financial effects of gender diversity is also apparent for diversity in nationality, such as learning, creativity, flexibility, organizational and individual growth, the ability for companies to adjust rapidly and successfully to market changes, innovation, and turning innovation into increased revenues (Thomas & Ely, 1996; Lorenzo et al., 2018). As such, we once again theorize that the non-financial effects of diversity provides partial explanation to why more diversity leads to better financial performance.

For the lack of more suitable metrics, nationality is hereby to be considered, at best, as a proxy for cultural diversity, but should not under any circumstances be a proxy for either ethnicity or socioeconomic background. That being said, while having diverse teams in terms of cultural upbringing, the team might still be heterogenous from an acquired traits, ethnicity, or socioeconomic background perspective. Hence, all positive correlations observed for nationality mean exactly this, and cannot necessarily be inferred for related diversity categories.

8. Conclusion

This thesis was an attempt to apply the previously proven positive correlation between diversity and performance to a private equity setting. More specifically, doing so within the global private markets investment organization that is EQT.

Embedded in the context of increasing importance and strategic striving towards ESG factor integration in investment decisions, the "S" in ESG is frequently neglected. This is true despite a broad basis of academic research supporting the notion that diversity in a general, diversity in a financial, and diversity in a private equity setting can have positive effect, provided that it is unlocked properly through inclusion. With EQT having a strategic history and interest in the topics of DEI, a crucial statement the organization has made is that "EQT truly believes that there is a strong and direct link between higher diversity and increased returns." This research provides evidence in support of this belief. By constructing two novel datasets and applying a synthesis of descriptive analytics, multiple regression, and panel data fixed effects, a statistically significant positive relationship between diversity and performance was established for several diversity variables across one or multiple estimation specifications. This is true for **gender** and **nationality** dimensions which were in focus of the study.

Naturally, the takeaway from this should neither be that women perform better than men, nor that all deal teams should consist exclusively of women. Science does not support

the claims that the sexes are different "by default" (Thomas & Ely, 1996; Tinsley & Ely, 2018). Neither does science support the claim that people of different nationalities have any different predisposition to be successful, e.g. on an EQT deal team. Instead, the results from this study should vouch for the benefits of diverse teams. It is important to note that this does not mean that neither men and women, nor locals and internationals are treated the same. Due to organizational structures, company practices, and patterns that position men and women differently, men and women are faced with systematically created different experiences – but the differences are not rooted in fixed gender traits (Tinsley & Ely, 2018). The same is true for internationals working in culturally heterogeneous teams. Alas, the different treatments of men and women as well as of majorities vs. minorities in ethnicity and nationality provide the individual and group with taught or expected traits, which is why diversity is achieved when women and minorities are present in teams. Examining the world through the lens of previous research and the results presented in this study, we believe that diversity is key for superior performance, and inclusion unlocks the benefits.

9. Contribution and Future Research

This research concludes that there is a significant positive correlation between deal team diversity and financial returns at EQT through several different analytical approaches. Importantly, it becomes evident that not a single statistically significant negative association of diversity and performance was detected. As such, this thesis contributes to the current research on diversity in private equity by examining deal team diversity in addition to diversity on partner level. It also contributes to a more geographically diverse research base in addition to the research currently being centered around US private equity and venture capital.

We hope that this will inspire other researchers to conduct research not only on partner or ownership levels, but on deal team level. Additionally, we emphasize the fact that this research only takes EQT into consideration, and wish to see future research conducting deal team research within other firms, or across the industry. In the analysis of this thesis, the effects of geography and industry were singled out, but it could pose an interesting future research topic, i.e. if women or nationality-diverse teams are more prone to certain industries or geographies, and if these industries/geographies have better returns.

Moving this to a more systemic level, the results of this thesis stand in curious connection to the development of the EU social taxonomy and disclosure regulations. We

encourage players across the financial industry to monitor and implement the corresponding developments closer, and adapt strategies based on DEI best practice recommendations. That being said, disclosure and the connection between the "S" and other topics within "ESG", i.e. the effect that improving DEI has on other sustainability outcomes, is something that is interesting in investigating, on a company and industry level.

Lastly, we encourage EQT to continue their DEI work. This, naturally, implies a recommendation to continue doing internal research to operate in an evidence and data driven way. A further suggestion would be to consider other aspects than gender and nationality when developing diversity strategies. For example, acquired traits (education and professional background), socio-economic background, cognitive diversity, and the intersectionality of all of the above.

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Appendices

Appendix A: Exclusion Tracker

Exclusion Step	Cross-Sectional	Panel Data
General Considerations		
Data Availability	-6	-6
Metric Applicability/ Comparability	-1	-1
Exogenous Shocks	-8	-8
	157	157
Robustness		
MOIC above a certain threshold	-12	n.a.
Recent Acquisition (HOLDING < 1.5 years)	-18	n.a.
	127	157
Granular Data Availability		
Availability of granular HR Data (Deal still active in 2012)	-42	-53
Companies for Analysis	85	104

Appendix B: Notes on Accounting and Valuation Principles

The valuation of the portfolio companies is a process which is coordinated and reviewed by the Valuation Team including an appointed Conducting Officer, Valuations within EQT AB and approved by the general partner and / or manager of the relevant EQT Fund. In addition, a globally recognized auditing firm reviews investment valuations on a semi-annual basis.

The key accounting policy of a PE fund is the carrying value of investments. Investments are carried at fair value (and in accordance with IPEV Valuation Guidelines).

Funds launched from 2020 onwards will be reporting in US GAAP. Older vintage funds have been transitioned from Local GAAP or LPA GAAP to US GAAP in various phases and as of 31.12.2021 onwards all the Funds will be reported under US GAAP. Local statutory reporting of various other entities under Fund follow the local GAAP of their jurisdiction and could be in the form of Luc GAAP, Dutch GAAP, Singapore GAAP etc.

For more information on EQT's valuation process and accounting principles, please reach out to EQT.

Appendix C: Investment Recommendation Process and Involved Committees

"New Deal Committee" or "NDC" means the group of EPIC members and the Manager who hold initial discussions with the EQT Partners' advisory team regarding a potential transaction.

"Equity Partners Investment Committee" or "EPIC" means the investment committee of the EQT Equity Advisory Partners which makes final recommendations in respect of investments or prospective investments to the general partners/managers of the EQT Equity Funds.

"Portfolio Performance Review" or "PPR" means the review process implemented with respect to each of the EQT Equity Fund's portfolio companies to track progress against the relevant portfolio company's Full Potential Plan.

"Full Potential Plan" or "FPP" means the plan which is designed to support the value creation process within each of the EQT Equity Funds' portfolio companies.

Appendix D: Detailed Overview of HR Data

Deal Team Members Detailed Overview

	Nordics	DACH	UK	Rest of Europe	US	APAC	Rest of World	Total
# Unique Deal Team Members	80	49	5	32	23	27	2	219
# Women	18	11	1	6	4	4	1	45
# Unique Nationalities	4	2	1	7	1	7	2	24

Partner Overview

From EQT I, EQT II, EQT III, and EQT IV.

# Unique Partners	16
# Women	1

Appendix E: Variance Covariance Estimates for Control Variables

Variable	SALES	EBITDA	SALESO	MARGINO	DEBTO	SIZE	HOLDING	PARTNERC
SALES	.14326011							
<i>EBITDA</i>	13048353	1,3712964						
SALESO	00236846	.01415231	.01871189					
MARGINO	04411998	01231694	.0675537	.48463401				
DEBTO	.00141214	.00577906	.00019569	0002259	.00133634			
SIZE	.0052288	02889841	01783936	06094758	00199204	.02175199		
HOLDING	.00126929	00191421	00122612	00417447	00004517	.00118026	.00111649	
PARTNERC	.00404954	02623315	00027746	00150004	00102534	.00257244	00135915	.01946266

Appendix F: Full Estimation Table, Cross-Sectional Specification Series Three (IRR)

The stars refer to statistical significance at 5% * (p < 0.05), 1% ** p < 0.01, and 0.1% *** (p < 0.001), all dedicated based on robust standard errors routinely computed through STATA. F-statistics were computed without the inclusion of FE variables.

Variable	NOEXPLAI N	PGENDER	FEMALE	AVGENI R	DE FEMALET	NATIONAL ITY	AVNATION ALITY
PGENDER	IN	-0.003		K		111	ALITI
FEMALE		-0.003	0.026				
AVGENDER			0.020	0.122			
FEMALET				0.122	0.040		
NATIONALIT					0.040	0.093	
NATIONALII Y						0.093	
AVNATIONAL							0.102*
AVNATIONAL ITY							0.102
111							
SALES	0.040	0.039	-0.011	-0.002	-0.006	-0.022	0.049
EBITDA	0.502***	0.502***	0.594**	0.596**	0.594**	0.590**	0.527**
LNSALESO	-0.005	-0.005	-0.071	-0.065	-0.067	-0.058	-0.053
MARGINO	0.162	0.162	-0.070	-0.060	-0.058	-0.094	-0.030
DEBTO	0.008	0.008	0.013	0.011	0.011	0.009	0.014
LNEV	0.008	0.007	0.088	0.091	0.092	0.086	0.082
HOLDING	-0.091**	-0.091**	-0.071***	-0.074***	-0.070***	-0.069**	-0.075***
PARTNERC	0.000	0.001	0.039	0.034	0.036	0.015	0.021
NORDIC	0.030	0.030	0.010	0.003	0.009	0.020	0.019
DACH	0.039	0.039	(o)	(o)	(o)	(o)	(o)
EUROPE	-0.091	-0.091	-0.106	-0.105	-0.107	-0.104	-0.112
ROW	(o)	(o)	0.012	0.010	0.010	0.019	0.015
HEALTHCAR	0.122	0.123	0.040	0.049	0.044	-0.004	0.032
E							
TMT	0.067	0.067	0.028	0.043	0.039	0.006	0.039
SERVICES	0.084	0.084	0.049	0.063	0.058	0.017	0.052
INDUSTRIAL	-0.009	-0.009	-0.022	-0.008	-0.012	-0.054	0.000
CONSUMER	0.006	0.006	0.059	0.069	0.068	0.053	0.093
DOTCOM	0.378*	0.377**	(o)	(o)	(o)	(o)	(o)
PRECRISIS	0.373	0.373	(o)	(o)	(o)	(o)	(o)
CRISIS	0.141	0.141	-0.182	-0.167	-0.161	-0.172	-0.179
POSTCRISIS	0.138	0.138	-0.142	-0.134	-0.120	-0.138	-0.155
COVID	(o)	(o)	-0.245	-0.245	-0.224	-0.249	-0.292
CURRENT	-0.005	-0.005	-0.032	-0.037	-0.035	-0.033	-0.022
Constant	0.233	0.234	0.320	0.276	0.255	0.277	0.254
N	127	127	85	85	85	84	85
r2	0.518	0.518	0.592	0.598	0.593	0.600	0.604
r2_a	0.421	0.416	0.456	0.464	0.458	0.464	0.471
Prob > F	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Appendix G: Full Estimation Table, Cross-Sectional Specification Series Four (IRR)

The stars refer to statistical significance at 5% * (p < 0.05), 1% ** p < 0.01, and 0.1% *** (p < 0.001), all dedicated based on robust standard errors routinely computed through STATA. F-statistics were computed without the inclusion of FE variables.

Variable	NOEXPLAI	PGENDE	FEMALE	AVGENDE	FEMALE	NATIONALI	AVNATIONALI
	N	R		R	T	TY	TY
PGENDER		-0.016					
FEMALE			-0.016				
AVGENDER				0.033*			
FEMALET					-0.006		
<i>NATIONALIT</i>						0.083	
Y							
AVNATIONAL							0.061*
ITY							
SALESO	-0.044	-0.044	-0.128**	-0.128**	-0.129**	-0.118**	-0.123**
MARGINO	-0.063	-0.060	-0.295	-0.298*	-0.298*	-0.354*	-0.287
DEBTO	0.013	0.014	0.016	0.015	0.016	0.011	0.016
LNEV	0.023	0.022	0.138**	0.140**	0.138**	0.140**	0.137**
HOLDING	-0.106***	-0.106***	-0.082***	-0.083***	-0.082***	-0.079**	-0.085***
PARTNERC	-0.008	-0.008	0.024	0.025	0.026	0.004	0.016
NORDIC	0.034	0.038	0.040	0.033	0.038	0.038	0.041
DACH	0.036	0.039	(o)	(o)	(o)	(o)	(o)
EUROPE	-0.105	-0.103	-0.077	-0.079	-0.078	-0.075	-0.084
ROW	(o)	(o)	0.033	0.029	0.032	0.034	0.030
HEALTHCAR	0.139	0.142	0.091	0.075	0.081	0.017	0.062
E							
TMT	0.142*	0.142*	0.141	0.128	0.130	0.093	0.121
SERVICES	0.165**	0.166**	0.171	0.158	0.161*	0.114	0.147
INDUSTRIAL	-0.010	-0.010	0.012	0.003	0.004	-0.034	0.002
CONSUMER	0.000	0.001	0.127	0.118	0.119	0.103	0.128
DOTCOM	0.377*	0.373*	(o)	(o)	(o)	(o)	(o)
PRECRISIS	0.357	0.356	(o)	(o)	(o)	(o)	(o)
CRISIS	0.121	0.119	-0.155	-0.145	-0.155	-0.124	-0.152
POSTCRISIS	0.098	0.097	-0.139	-0.128	-0.138	-0.109	-0.142
COVID	(o)	(o)	-0.203	-0.193	-0.200	-0.168	-0.227
CURRENT	-0.055	-0.054	-0.092	-0.102	-0.096	-0.111	-0.096
Constant	0.532**	0.534**	0.419	0.413	0.430	0.358	0.415
N	127	127	85	85	85	85	85
\mathbb{R}^2	0.456	0.456	0.482	0.482	0.481	0.489	0.486
R ² _a	0.360	0.354	0.330	0.330	0.329	0.337	0.336
Prob > F	0.000	0.001	0.007	0.007	0.006	0.007	0.005