MAJOR EMPLOYERS’ HIRING PRACTICES AND THE EVOLVING FUNCTION OF THE PROFESSIONAL MASTER’S DEGREE

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Abstract

Across the last decade, master’s degree attainment has grown dramatically in the United States, as bachelor’s degrees have become more common and economic growth has been driven by knowledge industries. A significant value and purpose of degrees is their use as qualifications for jobs. Despite the prominence of degrees in the hiring process, why and how employers use degrees as professional credentials has largely gone unexamined. This study fills this gap by focusing on understanding the role and use of the master’s degree in employer hiring decisions. The study used a qualitative, interview-based methodology, gathering data through interviews with human resources executives and other leaders at 19 major for-profit corporations that collectively employ 3 million individuals and represent $1 trillion in annual revenue.

The study finds that employers’ use of the master’s degree as a professional credential is growing moderately and that the master’s is a frequently preferred but rarely required qualification. Employers use the master’s as a screening tool as much as a discrete demonstration of hard skills/competency, consistent with the screening and signaling variation of human capital theory. The study also revealed that the value of master’s degrees is tightly coupled with professional experience and that the master’s is often a key qualification for leadership roles; program-specific reputation is particularly valued; and that very few employers are analyzing the relationship between educational credentials and post-hire employee performance. As a result, there are numerous implications for universities, employers, students, and policymakers, including but not limited to: recognizing the function of the degree as a competitive differentiator; matching program elements and content with employer interests; monitoring the evolving market for graduate credentials; considering the importance of professional work experience; and evaluating opportunities for data-driven analytics and assessment.
Keywords: master’s degree, graduate education, educational attainment, hiring, credentialing, human capital theory, screening, signaling
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Table of Contents

Abstract .............................................................................................................................................. 3
Acknowledgements ............................................................................................................................... 5
Preface: A Note on the Term “Master’s Degree” ................................................................................. 11
Chapter 1: Statement of the Problem ................................................................................................. 13
  Significance of the Research Problem .............................................................................................. 14
  Research Questions .......................................................................................................................... 17
  Theoretical Framework: Human Capital Theory and Screening/Signaling ........................................ 19
    Human Capital Theory, Its Historical Evolution, and Competing Explanations: A Bedrock of Economic Theory .............................................................. 20
    A Theory Describing the Relationship Between Education and the Labor Market ..................... 20
    Competing Theoretical Explanations: Credentialism and Cultural Capital .................................... 21
    “Screening and Signaling” Extensions of Human Capital Theory ............................................... 24
    Theoretical Framework Conclusion .............................................................................................. 28
Chapter 2: Literature Review ............................................................................................................... 28
  Educational Attainment Growth and the Rise of the Master’s Degree .............................................. 29
    Historical Perspectives on Rising Levels of College and Master’s Degree Participation and Attainment ............................................................................................................. 30
    Master’s Degrees as Professional Credentials: An Established Trend and Disciplinary Examples ....................................................................................................................... 34
    Higher Attainment Expectations and Participation Rates in Graduate Education ............................ 41
    The Economic Value of College and Master’s Degrees ............................................................... 43
    Individual Economic Benefits of Master’s Attainment .................................................................. 43
    Broader Societal and Economic Benefits of Master’s Attainment .............................................. 49
Employer Hiring Practices and the Use of College Credentials

The Role of Educational Credentials in the Hiring Process

Legal Considerations as an Additional Driver of College Credentials’ Value in Hiring: Degrees as Signals

Literature Review Conclusion

A Surprising Gap in Understanding: The Clear Need for a Study of Employers’ Use of Master’s Degrees

Chapter 3: Methodology

Research Purpose and Questions

Research Design and Rationale

Research Tradition

Participants

Sampling Strategy and Rationale

Sample Size

Recruitment and Access

Data Collection

Data Storage

Data Analysis

Trustworthiness

Positionality Statement

Limitations

Chapter 4: Findings

Increasing Demand for Some, Stable Demand for Others: Employer Perspectives on the Growth of the Master’s as a Qualification Range Widely, Suggesting Moderate Growth on Average
The Master’s is a Preferred but Rarely Required Qualification that Differentiates Candidates in a Professional Talent Marketplace Where the Bachelor’s is the Norm.

How the Determination of Preference vs. Requirement is Made and Why This Distinction is Important.

The Master’s is Both a Screening Device and a Demonstration of Professional Depth.

The Value of Professional Networks Gained through Master’s Degree Study.

Specialized/Technical Skills and the Signaling and Certification of Specialists.

Certificates and Certifications: The Degree Versus Alternative Credentials and the Screening and Signaling Value of Depth.

The Credential and Its Value are Tightly Coupled with Professional Experience – and Formulaic Salary Premiums are Rare.

Education vs. Experience: Dependent on the Stage of Career Development/Professional History.

Brand is Commoditized Outside of the Elite Tiers, with Particular Weight on Program Rather than Institutional Reputation.

The Precedence of Program Reputation.

The Master’s is Increasingly Becoming a Ticket to Leadership Roles Given the Prevalence of Special Graduate-Level Recruiting Programs.

Educational Qualifications Vary Little by Geography – While a Globalizing Market for Talent Introduces New Dynamics.

Geography and Mobility in Master’s Recruiting Strategies.

Analysis Comparing Professional Performance to Educational Credentials is the Exception Rather than the Rule, Representing an Opportunity for Optimization.

Chapter 5: Analysis and Implications.

Master’s Degrees are Valuable and Differentiating Professional Qualifications, with Still Evolving Market Dynamics.
All Stakeholders Should Recognize that Employers Use the Master’s to “Screen” and Students Use the Master’s to “Signal” - Rather than Only Assume Traditional Human Capital Explanations for the Value of Degrees

The Master’s Degree is a Pathway to Leadership Roles and a Tool for Social Mobility

Globalization May Reshape the Value and Use of Degrees

Employers Value Well-Rounded Master’s Graduates who are Strong Communicators, Collaborators, and Leaders – in Addition to Technical Specialists

Creating and Sustaining Professional Networks is also an Important and Sometimes Unheralded Feature of/Opportunity for Professional Master’s Programs

Master’s Degrees Must be Considered in a Broader Context, and Higher Education Should Better Define and Communicate the Credential’s Identity and Meaning in a Time of Change and Growth

Degrees are Firmly Ensconced – for Now – as More Meaningful than Other Graduate Education Forms and Credentials, in the Eyes of Employers

Experience May Count as Much as a Master’s Degree – and a Lack of Work Experience May Diminish the Perceived Value of the Credential

Economic Debates and Our Understanding of Employer, University, and Student Actions Should Move Beyond the Focus on When Degrees are “Required” to Account for their Frequent Status as a Preference

Universities and Students Should Recognize that Brand is Often Commoditized Outside of the Most Elite Schools and Program Reputation May Matter More than General Institutional Reputation

Analysis, Assessment, and Data Represent a Significant Future Opportunity in the Market for Talent and Graduate Recruiting

Chapter 6: Conclusion

References

Appendix 1. Employers with the Greatest Number of Graduate/Professional-Level Job Openings
Preface: A Note on the Term “Master’s Degree”

The term “master’s degree” describes an extremely wide spectrum of graduate-level credentials, ranging from the well-known M.B.A., to Master of Science (M.S.), Master of Arts (M.A.), and other degrees in disciplines ranging from engineering and education to computer science, biotechnology, public administration, and graphic design. Glazer-Raymo (2005), for example, counted more than 1,000 master’s degree titles in a popular guide to graduate programs in 2005, up from an already diverse 667 in 1985. The U.S. Department of Education defines a master’s degree as “an award that requires the successful completion of a program of study of at least the full-time equivalent of 1 but not more than 2 academic years of work beyond the bachelor's degree” (U.S. Department of Education, 2014).

In today’s diverse higher education landscape, there are countless variations in the curriculum, length, and delivery mode of master’s degrees. The degree is generally understood to represent around 4,000 hours of advanced study (U.S. Department of Education, 2008), and approximately 30 or more semester hours of academic credit. However, this ranges widely from, for example, 30 semester hours for an M.S. in Environmental Science at Baylor University (Baylor University, 2014), to 40 semester hours for a Master of Journalism degree at Temple University (Temple University, 2014), and as many as 60 semester hours for various M.B.A. programs. Even within the same college or university, master’s degree curriculum requirements can vary greatly by program and department – including potentially multiple variations on the same master’s degree (e.g., with or without thesis or capstone; with or without professional licensure, etc.).

Today, master’s degrees are widely available in both full-time or part-time versions and executive, evening, weekend, or accelerated formats – and they can be earned in-person, in a
blended/hybrid format, or entirely online. Some master’s programs require standardized test scores for admission (e.g., the GRE or GMAT), while many others do not; likewise, some make years of professional experience a condition of admission, while others do not. Tuition and fees for a master’s degree can range, for example, from $25,000 for the entire program of study at a public university such as Ohio State (Ohio State University, 2014), to $130,000 or more at an elite business school such as Wharton (University of Pennsylvania, 2014).

As a result of this diversity it should be noted that the term “master’s degree” inherently means different things to different people. The study that follows (which includes a review of history and evolution of the master’s degree and ultimately a contemporary characterization of its perception and value in the marketplace) explores the master’s degree as a general category of higher education credential. In the references to this broad class of degree that follow, the reader should keep in mind that some dynamics are nuanced and apply to specific types/versions of the master’s, while other characterizations are much more general and purposefully inclusive.
Chapter 1: Statement of the Problem

In recent decades, the United States and global economy have evolved to have a much greater focus on knowledge (Carnevale, 2008a; Baker, 2009; Goldin & Katz, 2010; Cappelli, 2012). This has increased the need for college degrees as individuals seek employment in careers that demand these credentials, and nations incent degree completion to maintain a competitive workforce in the modern knowledge economy (Glaeser, 2000; Brint, 2006; Lederman, 2009; Carnevale & Strohl, 2010; Baker, 2011). The bachelor’s degree is viewed as having become the entry-level “ticket” to the professional labor force, which was the role of the high school diploma in years past (Collins, 1979; Brown, 1995; Carnevale, 2008a; Carnevale, Strohl, & Menton, 2011). As overall levels of educational attainment have increased, the attainment of master’s degrees, in particular, has become much more common (Collins, 1979; Brown, 1995; Glazer-Raymo, 2005). Between 2002 and 2012 alone, the number of American adults with a master’s degree increased an impressive 43% – from 11.5 to 16.5 million – for a net gain of 5 million more individuals holding a master’s credential (U.S. Census Bureau, 2013). Concurrent with this growth, a perception has emerged that the master’s degree is on its way to becoming “the new bachelor’s degree” (Pappano, 2011): that is, a differentiating and in some cases requisite credential for many middle- and professional-class jobs (Carnevale, Smith, & Strohl, 2010a; Kamenetz, 2010; Wendler, Bridgeman, Cline, Millett, Rock, Bell, & McCallister, 2010; Baker, 2011). However, this emerging trend – and particularly, how employers and their job needs and hiring practices shape demand for master’s degrees – has not been extensively analyzed. This represents a significant problem of practice.

Historically, graduate education has had a scholarly research focus, with a high degree of selectivity and boutique nature (Glazer, 1986; Reuben, 1996; Menand, 2010). By contrast, the
majority of enrollments in graduate education today are in professional disciplines (Glazer-Raymo, 2005; National Center for Education Statistics, 2013a), with both employers and professionals reportedly valuing the high levels of knowledge, skills, and abilities that master’s programs provide (Wendler, et al., 2010). As professional master’s programs continue to represent a larger, majority share of enrollments and growth in the higher education landscape, practitioners and policymakers alike need deeper analysis of how employer/economic forces are shaping the demand for master’s degree credentials. The significant questions of why and how employers use and interpret master’s degrees in their hiring and recruiting process have largely been unexamined.

**Significance of Research Problem**

The rise of the professional master’s degree and the role that employers have played in shaping this trend is a significant problem meriting further study due to an increasingly competitive global economy that favors master’s degree attainment; the rapid growth of graduate education; and the relatively small amount of existing research focused on this important and emerging dynamic.

The current high-profile national policy dialogue on educational attainment and its links to workforce competitiveness is evidence of pressing societal and economic significance, with this issue commanding the attention of college leaders, government officials, employers, philanthropists, and concerned citizens (Lederman, 2009; Cappelli, 2012; Field, 2014). In addition, many of the most economically rewarding and fastest-growing careers require or prefer education at the master’s degree level (Carnevale, Smith, & Strohl, 2010a), and graduate education is recognized as being key to producing the critical thinkers, innovators, and leaders who will help solve the world’s most pressing challenges in their professional work (Wendler, et.
al., 2010). Moreover, a 2012 economic analysis by the Federal Reserve Bank of Cleveland found that, remarkably, *all* of the growth in the “college wage premium” over the last decade is attributable to advanced degrees (James, 2012).

Admittedly, graduate-level education is just one piece of the broader higher education puzzle, with graduate enrollments representing only 13% of the United States total (National Center for Education Statistics, 2012). However, based on current growth rates, graduate education is rapidly becoming a larger share of the higher education student base. Additionally, job market forecasts suggest that jobs that require a master’s degree will experience the highest growth rates over the next decade (Bureau of Labor Statistics, 2012). Further, even with the dramatic growth in master’s degree enrollment and attainment over recent years, there appears to be a large gap between what employers and the economy demand, and the human capital available in the United States workforce. In 2013, approximately 22% of some 4 million open job postings nationally preferred or required an advanced degree (Burning Glass Technologies, 2013) – yet, only 11% of the American population holds one (United States Census Bureau, 2012).

Given these dynamics, it is surprising that how employers shape master’s degree demand is not deeply understood. The existing research literature focused on employers’ use of educational credentials is surprisingly limited (Bills, 2003; Brown & Sessions, 2006; Brown and Bills, 2011; Rivera, 2011; 2012; Velasco, 2012), especially concerning the professional/graduate level. As hirers of graduates, employers – particularly large corporations – are a major force in the market for master’s degree credentials. However, the behaviors of employers are often left unexamined by higher education.
The lack of understanding of how employer behaviors and master’s degree offerings intersect presents great risks. Universities and policymakers\(^1\) need more detailed information on employers’ and the economy’s demand for master’s degrees so that they can appropriately prioritize investments, develop and launch new programs, and adapt curriculum so that appropriate graduate programs are provided. Without this alignment, higher education institutions will not be operating effectively and efficiently and will also miss a major opportunity to positively impact society and the economy; students will be unable to compete in the global economy and enrich themselves, wasting individual human potential; employers will be unable to fill their open positions; and regions and nations will experience the slower growth and weaker community engagement that comes with a lack of degree production and attainment (Glaeser, 2000; Mellander & Florida, 2006; Glaeser, Ponzetto, & Tobio, 2011; Shen, Bedroussian, & Zhang, 2013). A recent study from the widely respected global consulting firm McKinsey & Company goes as far as suggesting that the mismatch between educational attainment and employment could be responsible for global unrest (Mourshed, Farrell, & Barton, 2012). All of the many stakeholders that value or have an interest in the process of graduate education can benefit from a more nuanced understanding of the professionalization of the master’s degree and its implications. Given the current economic environment, a better understanding of how employers value and use educational credentials has great significance (Brown & Bills, 2011) – and this is especially true given the lack of attention historically given to the master’s degree in both the higher education research literature and in practice (Glazer, 1986; Conrad, Haworth, & Millar, 1993; Moretti, 2004; Glazer-Raymo, 2005).

\(^1\) Policy dynamics related to the growth of the professional master’s degree include, for example: state and federal funding frameworks for graduate education; financial aid policy related to graduate students and working professionals; the tax deductibility of employer-provided tuition assistance; the relationship between degrees and occupational licensing/credentialing frameworks; and a host of economic policies related to the functioning of the job market (economic development, hiring practices, wages, etc.).
As a result of this gap in knowledge and the economic and social significance of the problem, this study explores why and how employers use and interpret master’s degrees as professional credentials in their hiring process – through new primary research built on the foundation of a synthesis of research literature spanning the fields of education, economics, sociology, and business. The purpose of this study is to develop a deeper understanding of how master’s degree credentials are perceived and used in hiring, so as to allow universities to better align their master’s degree programming with employer needs and market trends – and to engage employers more effectively in student placement and curriculum development. Similarly, with a clearer comprehension of how master’s degrees are used as professional credentials in the labor market, policymakers and related entities can make better decisions about graduate-level education policy, access, and funding. Further, employers can situate and refine their practices by better understanding how peer corporations are competing in the market for graduate-level talent – in addition to potentially optimizing their relationships with universities. Finally, graduate students can benefit from a clearer understanding of how employers view and treat master’s degree credentials, enabling them to make better college enrollment and career choices. These types of implications and actions are explicitly drawn out throughout this study and in particular in the analytical and concluding chapters.

**Research Questions**

The purpose of this study is to explore why and how employers value and use master’s degrees as professional credentials in their hiring process, to create for a variety of interested stakeholders a better understanding of this dynamic at the intersection of higher education and the job market. Framed by human capital theory (Mincer, 1958; Schultz, 1961; Becker, 1964;
Sweetland, 1996; Spence, 1973; Stiglitz, 1975; Weiss, 1995; Bills, 2003; Smart, 2004), this study focuses on two central research questions:

1) *Why* are employers using master’s degrees as professional qualifications in their recruiting and hiring processes, and how has this changed over time?

2) *How* are employers using and interpreting master’s degree credentials in their recruiting and screening process?

The first question seeks to understand, within a hiring context, why employers prefer or require master’s degrees, including the direction of this trend over time. Conventional wisdom and research (Cappelli, 1992; Wendler et al., 2010) suggest that employers value individuals who have completed graduate degrees because of the higher levels of thinking and skills that graduate programs instill in students. However, as documented in the literature review that follows, there is a significant gap in the understanding of how employers use college degrees in their hiring activities. There is an even greater gap in understanding at the master’s degree level, specifically.

In addition to the first question’s emphasis on employers’ rationale, the second question focuses more on process and aims to round out the understanding of employer practices through the establishment of illustrative or heuristic examples. It should be noted that this study and its research questions focus only on characterizing the employer side of the “market” equation and demand for master’s degrees. Master’s degree enrollment trends are of course shaped by the choices and actions of universities, students, governments, and other actors and forces. While these other dynamics represent very important context – and they are covered to varying extents in the literature review – the focus of this original research is exclusively on the understanding the employer-side aspects of the problem of practice, so that universities and other parties can have a clearer view of employers as influencers of demand and arbiters of value.
Theoretical Framework: Human Capital Theory and Screening/Signaling

Bills (1988a; 2003), Cappelli (2012), Rivera (2012), and others who have researched why employers value educational credentials each frame this dynamic in terms of two competing theoretical camps. On one side are economists, who generally believe that education aligns with job requirements and labor market skills, and that skills and productivity – often achieved through investment in education – are responsible for who gets which jobs and who earns higher salaries. The competing view is that of sociologists, who largely believe that the attainment of degrees signals persistence; represents cultural capital; and often enables exclusion. A “voluminous” literature base (Rivera, 2012) and literally thousands of studies have explored theories related to the economic return to education (Weiss, 1995) and how employers make use of credentials. However, despite this, many scholars – from Bills (1988a, 2003, 2011) to Baker (2011) and Rivera (2012) – assert that the theories describing employers’ decision-making related to credentials are still underdeveloped, and that the empirical evidence supporting competing theories is often inconclusive or unchallenged. In all flavors of theoretical explanations – whether the theories contend that schooling leads to skills and productivity, or that credentials are purely about social control and status – the assumption is that employers use credentials to gain information about job candidates that is otherwise unobservable (Bills, 1988b).

The focus of this study is on why and how employers use master’s degrees as professional credentials, with the choice of human capital theory – which describes how individuals invest in education to increase their economic productivity and thus their value to employers – as the theoretical framework. Before describing human capital theory and its fit with this investigation, it is important to consider the historical evolution of human capital theory, as
well as situate it within competing theoretical explanations for the relationship between education and employment.

**Human Capital Theory, Its Historical Evolution, and Competing Explanations:**

**A Bedrock of Economic Theory**

The concept of human investments in education and training creating “capital” in an economic sense has its beginnings in Adam Smith’s 18th century *The Wealth of Nations* (Sweetland, 1996; Smart, 2004) – but it was in the 1960s that economists substantially developed human capital theory as an explanation for the link between educational investments and the attainment of occupational status or higher earnings. Indeed, today, the term “human capital” is often used synonymously with “education and training” (Sweetland, 1996). Human capital theory was pioneered by economists such as Mincer (1958), who focused on the economic returns to on-the-job training; Schultz (1961), who introduced the idea of “human capital” as driving productivity; and Becker (1964), who titled a seminal book on the economic value of education and training *Human Capital*, and focused on the economic return on education and training. Both Schultz’s and Becker’s work on human capital theory would win them Nobel prizes in economics (Sweetland, 1996).

**A Theory Describing the Relationship Between Education and the Labor Market**

Human capital theory holds that students rationally invest in greater levels of education so that they can qualify for jobs and increase their value to employers – and, that employers rationally select the best-educated students aligned with their job needs (Bills, 2003). In this relationship, the supply side (educated workers/job seekers) fuels increased educational attainment in pursuit of increased productivity and economic opportunity; and the demand side (employers) demands higher levels of education for the same jobs, leading to qualification
inflation (Baker, 2011). Smart (2004) refers to human capital theory as the “most important”
theory related to education and its relationship to the economy and society – with most other
theories relating to the education/economics relationship responding to it in some form, and
human capital theory forming the primary basis for government education and economic policy
around the world. Importantly, human capital theory is concerned not only with the macro value
of education in the economy (which drives the behaviors of employers, individuals, and higher
education institutions), but it takes a skills-based perspective. Human capital theory suggests that
it is the skills and knowledge acquired through education have a direct impact on individual
earnings and employer productivity. This relationship is directly related to the research questions
within this investigation, making human capital an aptly suited framework for the study. The
choice of human capital theory ties to an assumption and belief – supported and evidenced in the
literature review – that the imperatives of the market mean that employers behave rationally and
largely economically, rather than the view of credentialist critiques (described below) that deny
that employers behave rationally and also suggest that education does not deliver skills or
significant intellectual benefits (e.g., critical thinking, technical skills, etc.) that are valued in the
marketplace.

**Competing Theoretical Explanations: Credentialism and Cultural Capital**

As a reaction to the success of human capital theory, the theory was later critiqued and
challenged by Weberian and Marxist sociologists who created “credentialist” theories that view
educational credentials as cultural/political constructions and means of control, rather than useful
representations of skills and potential economic productivity (Bills, 1988a; Brown, 2001; Baker,
2011). The most prominent of these critiques appeared in the 1970s with Berg’s (1970) *The
Great Training Robbery* and Collins’ (1979) *The Credential Society* – both constituting lines of
thinking that Baker (2011) categorizes as “education as myth.” In this alternative, sociologist-led theoretical view, education is a principally a means of social reproduction and sorting individuals in society. Collins’ arguments are detailed later, in the literature review; and Berg’s (1970) assertions were about workers being overeducated, using examples such as the fact that professional athletes earn more than highly educated teachers.

Astutely, Baker (2011) frames the “education as myth” line of theory as a product of the time: the 1960s were not only a time of great cultural conflict in the United States, but as referenced later in this study, this era was a watershed moment in the arrival of mass higher education. For the first time in history, a very significant share of the population and a giant volume of young adults were earning advanced degrees (Baker, 2011). Thus, the early, prominent credentialist arguments advanced in the 1970s – which are still alive today – were largely skeptical reactions to this massification of higher education: college education was moving from a “product” only for the elite just a few decades earlier to a middle class rite. Interestingly, Baker (2011) observes that while Collins’ (1979) credentialist theory embraced the radical view of education as decoupled from any linkage to useful job skills, at the same time, Collins’ analysis ultimately still made the important point that educational degrees had become the main route to power within a more professionalized society. Baker (2011) argues that over time postsecondary credentials have gone from “irrelevant” and later “at best supplemental” to now “dominant” in postindustrial society. Baker (2011) asserts that credentialist theories essentially ignore the evidence from economics, healthcare, demographics, and other disciplines related to the individual and societal value created by education. Much of this evidence is reviewed in detail later, in the literature review.
In addition to the Weberian/Marxist credentialist theories that represent the polar opposite perspective from human capital theory (Baker, 2009), cultural capital theory is another line of thinking that has been applied to describing the link between education and obtaining jobs (Bills, 2003). Bills (2003) describes “cultural capital” theories – such as those developed by Bourdieu and Passeron (1977) – as simultaneously conflicting with and sharing similarities with human capital theory. Just as credentialism emerged as a reaction to the massification of higher education in the United States (Baker, 2011), Bourdieu’s cultural capital theory came of age in 1960s France during that system’s evolution from a closed, elite model toward more open access (Collins, 2002). In cultural capital theory, education is principally a means of social reproduction or exclusion, with prestige and class mattering significantly. Scholars such as Field (2005) for example have extended this family of theory to focus on “social capital,” arguing that there is a strong relationship between individuals’ social networks and their educational attainment, asserting that policy and theoretical views that focus purely on instrumental, career-related purposes of learning are too narrow. Bills (2003) concludes that while cultural capital theory is useful in describing why social stratification occurs, it has not proven to be a particularly useful theory for describing or analyzing the relationship between education and job attainment. Nonetheless, the cultural capital theory-prompted notions of prestige and how educational attainment enables screening and sorting in the job market do suggest some of the shortcomings of a purely “orthodox” human capital theoretical lens in which education is purely about skills valued by employers. For example, Rivera’s (2012) recent empirical work proposed that hiring in elite professions such as law and investment banking is a process of “cultural matching” more than it is purely an exercise in sorting job candidates based on their skills. The section that
follows details a more nuanced, incremental, extension of human capital theory: screening and signaling.

“Screening and Signaling” Extensions of Human Capital Theory

While there is strong evidence to support human capital theory, it does not perfectly describe all of the relationship between education and jobs and why employers value degrees (Bills, 2003; Baker, 2011). A key variation, or extension of human capital theory is the theories of “screening” and “signaling” – which are at times addressed by scholars separately but are essentially coupled and synonymous.

Screening theory was in part developed by economist Arrow (1973), who evolved the traditional human capital view to propose – as in the title of his article, “higher education as a filter” – the idea that on top of the effect of education driving labor market productivity, employers were making hiring decisions based on incomplete economic information (Bills, 2003) and incorporating the notion of education as socialization. In this view, higher education is a screening device that communicates other attributes – such as punctuality, communication, writing abilities, etc. – aside from skills and productivity alone. Similarly, Stiglitz (1975) advanced this theory of “screening.” However, while both Arrow (1973) and Stiglitz (1975) created the foundation for a new branch within the theory, they provided little or no empirical data to support it.

The related theory of “signaling” complements screening theory and essentially describes the same concept, but from supply (worker) side of the economic equation. Where “screening” explains actions on the employer demand side, likewise, job seekers “signal” their skills, abilities, and competencies to employers through the achievement of credentials (Spence, 1973; Stiglitz, 1975; Brown, 2001; Bills, 2003). Spence (1973) had been one the first scholars to
extend human capital theory by positioning investments made in education as a strategic choice that more productive workers could make to distinguish (or signal) themselves and their ability from less productive workers. In essence, if workers are smart and think about it logically, they can successfully complete a degree program to signal their smarts and perseverance as captured by the credential. In an example of how the two ideas are closely coupled if not synonymous, Stiglitz (1975), for example, used the term “screening” in his formative theoretical article – yet referred to job seekers “signaling” their productivity and abilities to employers. Scholars such as Weiss (1995) link the two concepts together.

Screening and signaling are sometimes mistakenly confused with credentialism (Weiss, 1995; Smart, 2004) or portrayed as challenges to human capital theory (Bills, 2003). However, according to Bills (2003), the screening and signaling framework stands as an “incremental adjustment” to human capital theory. In the screening and signaling view, employers still make rational economic decisions based on credentials that reflect worker productivity, but the process of how this takes place differs (Bills, 2003) – and the concept of screening and signaling does not preclude the basic idea that increased skills and economic value come through education (Bills, 1988a). Screening theory has been empirically supported by studies by Bills (1988a) and Rivera (2011, 2012), which found that employers valued the utility of degrees to reflect candidates’ general abilities (e.g., communicating, meeting deadlines) or cultural/professional fit – as well as by Weiss (1995) and Arkes (1999).

Arkes (1999), for example, investigated if credentials reflected workers’ pre-college cognitive abilities, by linking performance on longitudinal national education surveys with degree attainment. Arkes (1999) concluded that master’s degrees (as well as bachelor’s degrees; college attendance; and high school diplomas) did in fact signal pre-college ability to employers,
and resulted in higher wages. Arkes (1999) concluded that because information on workers’ true productivity and skill level is essentially impossible – and costly – for employers to discern pre-hire, more productive workers can differentiate themselves to employers by completing a credential such as a degree. Weiss (1995) created what he referred to as a “sorting” model of human capital that considers signaling and screening together. In Weiss’ articulation, a “sorting” model of human capital subsumes all the features of a human capital model – but addresses the fact that it is unlikely that learning alone explains all of the wage differences resulting from education (Weiss, 1995).

Screening criteria are, in the words of Bills (1990), “the proxies that employers use to maximize their chances of attaining their preferred (defined) hiring criteria” (p. 23). Cappelli (2012) has also commented on screening and signaling, pointing to the utility of education to “signal” attributes such as perseverance and productivity, irrespective of the alignment between the skills gained in college and job requirements. As evidence, Cappelli (2012) notes that students who earn general equivalency diplomas (G.E.D.) do not earn as much as high school graduates, nor do they earn higher wages than those without a G.E.D. – and calls this the best evidence that completing credentials signals something to employers beyond a specific level of intelligence and competence. According to Brown (2001), in the screening/signaling flavors of human capital theory, specific signals or markers of educational quality beyond the credential itself – such as institutional prestige, grades, and specialized degree types – become more important in helping employers make decisions about job-seekers’ potential performance. As in Orlitzky’s (2007) description of the “selection” component of employers’ hiring and recruiting process, “screening” enables employers to filter and sort through large pools of credentialed and
non-credentialed candidates, to distinguish between the more productive and less productive (Brown, 2001).

As a final, illustrative example of the descriptive and explanatory power of the screening/signaling variation on human capital theory, it is useful to note that the theory arguably connects directly to two major themes that are at the intersection of the higher education institutional environment and the job market/employer landscape. First, it partly explains the societal obsession with selective college admissions and rankings: in a landscape where college attendance is normative and millions of degrees are issued annually, a credential on its own is no longer enough – rather, the admissions process and institutional prestige signal students’ abilities and potential to employers, especially as found recently in work by Rivera (2011; 2012). In addition, the theory points to a challenge that is often missed with respect to many universities’ and policymakers’ interest in the current trend toward “competency based” education and credentialing. Competency-based credentials may be theoretically perfect certifications of skills and abilities in orthodox human capital theory – but they typically do not reflect an institutional learning process, record of perseverance, acculturation/socialization, institutional prestige, or admissions sorting that comes with a traditionally earned college degree. Baker (2011) refers to the idea of “backward educational credentialing” as a scenario where occupational experience precedes the credentialing which later reflects or ensconces that experience, using the case of executive M.B.A. programs as an example. According to Baker, the very notion that society would credential in a backward form (that is, the credential certifies the experience and expertise gained outside of the educational institution) reflects “the extent to which the educational degree has come to serve as a public acknowledgement and verification of successful occupational performance, and also for future advancement in the same occupation” (Baker, 2011, p. 21-22).
**Theoretical Framework Conclusion**

Human capital theory has an extremely rich theoretical and empirical basis, with thousands of studies and Nobel prizes supporting it (Weiss, 1995; Sweetland, 1996). It was created to and has been proven to explain the relationship between education and economic/occupational outcomes, bridging the intersection of the higher education credentialing environment and the employer-controlled job market. Therefore, it is an ideal theory to frame an investigation focused on why and how employers use master’s degrees in their hiring process. In addition, signaling/screening variations on human capital theory add additional, particular nuance and interpretive possibility to the theoretical frame.

**Chapter 2: Literature Review**

The focus of this study is on understanding why and how employers use master’s degrees as professional credentials in their hiring process: their practices have played a key role in shaping demand. Thus, prior to developing the research questions and detailing the research results, the literature on important themes related to this research is reviewed and synthesized. This places the research within the context of broader, related scholarly conversations and the existing research literature base, and this exercise created the foundation for the original research. First, the history and evolution of degree attainment and master’s degrees in the United States is addressed, to place this research into its fundamental context. Next, within this thematic area, the growth of master’s degrees as professional credentials – both generally and in different professions and disciplines – is addressed. In addition, the growing economic value of master’s degrees is explored, and this is a dynamic that is shaped both by employers, and the emergence of master’s degrees as professional credentials in various fields and generally. Finally, having established the growth patterns in master’s degree attainment and the increasing professional and
economic value of these credentials, the literature on employers’ hiring practices and their use of college degrees in hiring is examined. Together, these streams of literature – spanning education, economics, sociology, and business – situate the research study, drawing on more than 80 scholarly articles, books, and reports stretching across a more than 50 year period. *Note: the literature review also supports and complements the choice of the theoretical framework, human capital theory.*

**Educational Attainment Growth and the Rise of the Master’s Degree**

As of Fall 2011, 21 million students were enrolled in degree-granting higher education institutions in the United States, representing a ten-fold increase from just 2.1 million some 50 years earlier, and a near doubling since the mid-1970s (National Center for Education Statistics, 2013b). With the assumption that degree attainment drives economic growth, elevating the educational attainment of the population – often referred to as “college for all” – has become one of the dominant policy goals of our time (Carnevale, 2008; Goyette, 2008; Hebel & Selingo, 2009). Some scholars, such as economists Goldin and Katz (2010), place the expansion of the educational system and the ensuing growth in degree attainment at the center of the United States’ economic success over the last century, as technological and economic evolution have fueled the demand for lifelong learning. As college attainment at all levels has increased, the attainment of master’s degrees in particular has become much more common, and growth in master’s degree enrollment and attainment has accelerated over the last decade.

To understand both the growth of master’s degree attainment and why master’s degrees are valued by employers and in today’s economy, it is necessary to first briefly review historical trends in educational attainment in the United States, and the evolution of graduate education and its role, purposes, and value against that backdrop. A variety of scholars and research studies
have addressed and analyzed these topics, predominantly from the disciplinary perspectives of educational sociology and economics.

**Historical Perspectives on Rising Levels of College and Master’s Degree Participation and Attainment**

In his seminal monograph on the growth of the education system and occupational credentialism, *The Credential Society*, sociologist Collins (1979) traces the unique evolution of American higher education over the centuries, noting that the early American colleges of the 17th century were essentially secondary schools that granted the traditional Bachelor of Arts degree borrowed from the European model. By the 1870s, as documented by Collins (1979), Brown (1995), and Reuben (1996), colleges in the United States faced a crisis in terms of flat enrollments, growing competition, and an outdated focus on a classical curriculum. In response, the 1870s and 1880s saw colleges embrace practicality and vocationalism by moving away from classical requirements such as Greek and Latin language proficiency (Brown, 1995; Reuben, 1996). This shift would begin to open up access to college education to a broader base of students, as well as begin to align college training more tightly with economic/industrial interests. It was during this era, led by innovations at Johns Hopkins and Harvard, that the “modern” university evolved, characterized by a shift toward science and industrial application – and having graduate education as one of its defining attributes (Collins, 1979; Reuben, 1996; Glazer-Raymo, 2005). Glazer-Raymo (2005), who has conducted deep historical analyses of the evolution of the master’s degree, documents that the first earned Master of Arts degree had been conferred by the University of Michigan in 1859. Throughout the late 1800s and early 1900s, prior to the large-scale expansion of Ph.D. programs that would come with the growth and
expansion of research universities in the 20th century, the master’s degree was the graduate-level degree of choice (Glazer-Raymo, 2005).

According to Brown (1995), it was only in the 1890s that college degrees – predominantly, the bachelor’s – gained acceptance as professional credentials for business and government positions, and this would be a major factor in future enrollment growth as employers began to prefer hiring college graduates. According to Conrad, Haworth, and Millar (1993), master’s degree conferrals doubled between 1880 and 1900, and the master’s emerged as an important terminal and professional credential in the period after 1900.

The 20th century saw dramatic growth in secondary education (Brint, 2006) – and enrollment growth and program expansion at the college and university level depended on a pool of high school graduates. It was only in the 1930s and 1940s that a high school diploma was common in a majority of the United States population (Collins, 1979; Brown, 1995). As bachelor’s degree attainment became more common, master’s degree attainment grew at a similar rate (Collins, 1979). In the 1940s, as documented by Glazer-Raymo (2005) and Conrad, Haworth, and Millar (1993), the American Association of Universities (AAU) had taken note of the increasing diversity of master’s degrees and recommended standardization. However, master’s level programs continued to proliferate, especially fueled by Cold War-era investments in graduate programs. Meanwhile, by 1970, nearly 80% of the 18-21 year old population had completed high school, and more than half of those high school graduates were enrolling in college (Collins, 1979; Brown, 1995). With the general boom in college attendance, the range of master’s programs available and master’s degree enrollments grew substantially throughout the 1960s and 1970s (Glazer-Raymo, 2005). In this period, the emergence of the M.B.A. credential as common in executive roles in business stands as a prominent example of the new popularity of
the master’s (Collins, 2002). However, college enrollment growth and attainment rates flattened for a period immediately following the Vietnam era, since military draft deferments had artificially inflated college participation, and the large “baby boom” demographic cohort had moved through its peak college years (Noah, 2013).

By the 1980s, professional degrees and master’s degrees were clearly overshadowing degrees focused on research and in the arts and sciences, with three times as many master’s degrees conferred as all doctoral/professional degrees combined (Glazer, 1986). Also writing during this era, Spencer (1986) observed that master’s degrees were becoming highly specialized and increasingly a ticket to professional roles. In demonstrating the increasing specialization and professionalization of the master’s degree that was evident by the 1980s, Spencer (1986) cited the example of a popular guide to graduate schools as including 600 distinct master’s degree titles (beyond the traditional M.A. and M.S.) – double the number from the 1960s. Master’s degree conferrals grew 48% between 1970 and 1990, according to an analysis by Conrad, Haworth, and Millar (1993). In their 1993 book based on more than 800 interviews, these authors characterized master’s degrees as a “silent success” in higher education, and documented the increasing value placed on the master’s credential by students, employers, and others. Conrad, Haworth, and Millar (1993) also established – consistent with both Glazer-Raymo (2005) and Spencer (1986) – that the master’s degree was emerging in the 1980s and 1990s as an increasingly applied, practical, and interdisciplinary professional credential. While the scholarly/research-focused master’s degree had not disappeared during this period, it was becoming clear that the professionally oriented master’s now represented both a majority share of master’s-level educational activity and increasing momentum.
Glazer-Raymo’s 2005 book on professional master’s degrees was prefaced by the fact that 482,000 master’s degrees were awarded in 2002, and that government forecasts called for 556,000 master’s degrees to be awarded by 2012 – with this projected ten-year forecast standing as one key piece of evidence that the master’s degree growth trend was important to analyze and understand (Glazer-Raymo, 2005). In fact, this ten-year forecast was easily exceeded within the next three years, in 2005 – and by 2010, nearly 700,000 master’s degrees were conferred in the United States (National Center for Education Statistics, 2013b). This substantial outpacing of earlier projections represented 46% growth in just the ten-year period between 2000 and 2010, a significant acceleration in master’s degree enrollment and awards. By comparison, over the same period, bachelor’s and doctoral degree conferrals each increased at a significant but more modest 33% rate.

According to the U.S. Department of Education, the vast majority of master’s degrees are awarded in the fields of education (26%) and business (25%); followed by computer sciences and engineering (8%), the humanities (8%), and social and behavioral sciences (6%) – and this current distribution is consistent with historical trends (National Center for Education Statistics, 2013b). According to U.S. Census Bureau data, as of 2012, 16.5 million American adults hold a master’s degree, representing 8% of the population (U.S. Census Bureau, 2013). This is up from 6% of the population and only 11.5 million master’s degree holders a decade earlier. According to annual application and enrollment data tracked by the Council of Graduate Schools, graduate-level college enrollment experienced explosive growth relative to historical norms during the 2007-2009 economic recession, surging 6% annually in 2009, and 8% in 2010 (Williams-June, 2011). However, this especially rapid rate of growth driven by a historically deep recession flattened in the post-2010 period, along with higher education enrollment generally. Nonetheless,
first-time master’s-level enrollment in professional fields such as business, engineering, and health sciences continued to increase between 2010 and 2011, while enrollment in non-professional areas such as arts and humanities programs declined (Allen, Bell, & Sowell, 2012). The most recent data released in September 2013 shows 2% overall growth in first-time graduate enrollment in the one year period between 2011 and 2012 – with more significant growth rates in excess of 4% in professional fields such as computer science, health sciences, engineering, and business; while the decline in arts and humanities master’s enrollment continues (Gonzalez, Allum, & Sowell, 2013).

The explosion of master’s degree enrollment and attainment in recent years only extends the upward trend line and forecasts of Glazer/Glazer-Raymo (1986, 2005); Spencer (1986); Conrad, Haworth, and Millar (1993), and others who analyzed the growth of master’s degree demand in prior years. The recent growth suggests an inflection point in momentum, and the master’s degree’s arrival as an increasingly important professional credential in the employment landscape, insofar as employers are beginning to prefer or require a master’s degree for a large share of their job openings (Bureau of Labor Statistics, 2012; Burning Glass Technologies, 2013). This is ostensibly driven by job skills demands in an increasingly complex and knowledge-based economy that requires more years of college-level education and training (Baker, 2009; Autor, 2010; Goldin and Katz, 2010; Cappelli, 2012).

**Master's Degrees as Professional Credentials: An Established Trend and Disciplinary Examples**

The growth in master’s degree demand and production has coincided with the emergence of college degrees generally – and master’s degrees specifically – as professional credentials, a process that has been driven by employers, the professions, and economic competition. The text
that follows reviews the literature on this trend and provides a series of case studies on master’s degrees as professional credentials in various disciplines, with particular attention to recent developments.

Glazer-Raymo notes that prior to the 1970s, master’s degrees were largely “intermediate credentials en route to the doctorate” (2005, p. 12), adding that master’s degrees had become much more responsive to the professional marketplace and the corporate world in the latter part of the 20th century. Collins (1979) – while deeply critical of the trend – was among the more prominent early scholars to analyze patterns in college attainment and professional credentialing. According to Collins, it was after World War II that the bachelor’s degree began to become the standard for professional employment, beginning with what were at the time considered prestigious professions and then “trickling down” to more practical fields such as engineering, business, and education. Brown (1995) also documents the growing link between college education and occupational credentialing during this era, a dynamic also addressed by Brint (2006). As educational requirements among employers rose in general, graduate education became standard for “elite” professions (such as law or business) and then more common in other occupations (Collins, 1979). Indeed, college degree attainment – and especially graduate or professional degree attainment – was once a defining signature of elites in society and high-status professions (Collins, 2002; Bankston, 2011). Collins (1979, 2002), Brown (1995), Glazer-Raymo (2005), and Bankston (2011) each point to the massification of American higher education during the 20th century – and the concordant growth in institutions, enrollments, and even curricular reforms – as enabling the use of degrees as professional credentials. Baker (2011) argues that the growth of education itself as an institution has fueled the credibility and use of credentials – and that in the 20th century, college degrees have taken on an “expanded charter”
that “reflect capabilities of individuals and job skill requirements of many occupations” (p. 11). Further, bachelor’s degree attainment became “normative and widespread” over the course of the 20th century: and mass graduate degree attainment did as well (Baker, 2011).

Using Statistical Abstract data, Collins (1979) shows that master’s degree attainment among the population aged 25 years old rose from just 1% of the population in 1940 to 8% in 1970. While Collins’ analysis is from a critical, Weberian/social conflict perspective, this is consistent with economist Carnevale’s (2008) emphasis on the growth in educational attainment corresponding to the growth of white-collar work (e.g., management and office occupations, healthcare, and technology) in the middle of the 20th century. In the 1960s, Wilensky (1964) had lamented the seeming “professionalization of everyone,” analyzing job requirements and standards across 18 occupations and noting the natural trend of occupations to seek professional status and escalate their educational requirements. Wilensky argued that to truly be a profession, an occupation required a high level of skill, autonomy, and standards of practice set by the professionals, and Wilensky included professional or graduate school credentials as part of the mark of a true professional service role (Wilensky, 1964). Glazer (1986) also emphasizes that post-baccalaureate study became prominent in various professions in the 1960s, enhanced by accreditation and occupational licensing standards. Similarly, Conrad, Haworth, and Millar (1993) trace the professionalization of master’s education to the 1960s and 1970s, with explosive growth in the 1980s and beyond.

The business domain stands as one of the most significant case studies of the master’s degree’s emergence as a widespread professional credential. Collins (2002) cites the M.B.A. degree becoming the standard for corporate jobs (following the expansion of bachelor’s degree attainment in the 1960s and 1970s) as a key example of graduate degrees emerging as
professional credentials, asserting that credentialed managers like to surround themselves with those like them – a finding consistent with recent studies by scholars such as Rivera (2011). Bankston (2011) illustrates that between 1940 and 2008, degree attainment closely tracked the percentage of jobs in the economy that were in professional and technical occupations – with management occupations, in particular, absorbing a high share of the degree production. Glazer (1986) also traces the prominence of master’s degree credentialing in business to the 1960s, following an influential report by the Carnegie Corporation in 1959. In her 2005 study of the professionalization of the master’s degree, Glazer-Raymo (2005) chronicled the growth of business schools in the 1950s in particular, with accreditation reforms – driven by the increasing complexity of the profession and the adoption of management principles across industries – accelerating growth. Collins (2002) refers to M.B.A. degrees becoming the new standard for access to corporate executive roles over this period. By 2005, 1,300 colleges in 126 countries worldwide offered advanced degrees in business (Glazer-Raymo, 2005). Baker (2011) suggests that the massive growth in M.B.A. enrollments stands as one of the strongest examples of “mass graduate training and educational credentialing for significant parts of the occupational structure” emphasizing how in a very short time the M.B.A. “has gone from a relatively rare degree to a standard credential” (p. 21). Glazer-Raymo (2005) also gives the example of changes in the accounting profession, a sub-discipline within business. In 1989, the American Institute of Certificate Public Accountants (AICPA) upgraded its professional standards to include an additional 150 semester hours of instruction, which has led to significant growth for master’s in accounting and M.B.A. degrees to meet this standard (Glazer-Raymo, 2005). With the business profession as perhaps the most successful example of a marketplace for master’s level credentials – a situation achieved through tight collaboration with industry – the legitimacy and
status that the master’s has gained in professional business settings has served as a model for the use of master’s degrees as a professional qualification in other professions and educational disciplines (Glazer-Raymo, 2005).

In the education discipline – in particular, the teaching field – the link between graduate credits and pay increases has long provided an incentive for master’s degree attainment (Glazer, 1986). Glazer-Raymo’s (2005) extensive analysis of the professionalization of the master’s degree also focused on the education discipline, which, when combined with business, is responsible for more than half (52%) of all master’s degrees awarded annually in the United States (National Center for Education Statistics, 2013b). In particular, Glazer-Raymo (2005) cites the evolution of teacher’s colleges into master’s-level state colleges and universities and changes in state regulations as leading to the master’s as a prominent professional credential in teaching and educational administration: in states such as Connecticut, Indiana, and New York, approximately 66% of teacher’s hold a master’s. Glazer-Raymo (2005) reports that master’s credentialing followed various task forces on the professionalization of teaching that were common throughout the 1980s and 1990s.

The science field offers an additional prominent example of the professionalization of the master’s degree, and this is a trend that has been explored by many researchers, including featuring prominently in Glazer-Raymo’s (2005) authoritative review of the professionalization of the master’s degree. Tobias (2009), writing on the growth in these types of credentials, likens professional science master’s degrees to a “21st century M.B.A.,” drawing a parallel to the creation of the first M.B.A. degrees in 1908. The Professional Science Master’s (PSM) program was begun in 1997 through a series of grants led by the Alfred Sloan Foundation (ScienceMasters.com, 2013), with the goal of making master’s credentials and business skills
more prominent among the largely bachelor’s and Ph.D.-credentialed, research-focused science workforce (Glazer-Raymo, 2005). Beginning with 20 programs between 1997 and 2002 (Tobias, 2009), as of 2013, there were more than 300 PSM programs at 139 affiliated colleges and universities (ScienceMasters.com, 2013). Colwell (2009), making a case for the PSM in the journal *Science*, specifically emphasizes the master’s historical status as an interim degree en route to a doctorate in the natural sciences. Colwell (2009) suggests that rather than supplanting traditional research-focused programs, PSM programs are experiencing success in training scientists with broader skills, especially in terms of up-skilling bachelor’s degree scientists. Colwell (2009) also underscores the role of employers and industry in PSM programs, one of this model’s defining features, which includes advisory boards, sponsored corporate projects, and formal hiring relationships. Carpenter (2012), in an article reviewing PSM program outcomes and summarizing multiple surveys and interviews, reported that 5,000 students have earned PSM degrees to date and that graduates are employed at high average salaries across a very wide range of sectors and organization types. Clearly, the PSM model stands as a notable example for evolving the master’s degree as a professional credential between the bachelor’s and the Ph.D.

Countless other examples exist of the master’s degree growing in importance as a professional credential across a variety of fields and industries, particularly over the last twenty years. For example, in the 1990s, it became increasingly common for physicians working in healthcare management roles – individuals who already hold an M.D. – to earn M.B.A.’s, master’s of public health, and similar credentials (Vavala, 1994). According to Vavala (1994), growing complexity and the professionalization of the healthcare system (e.g., the trend toward managed care) drove the need for professional business managers in addition to those who understood medicine. Similarly, master’s degrees have become increasingly prominent as
professional credentials in engineering. Merkel (1995) analyzed the link between continuing education needs in engineering and the growing popularity of master’s degrees, giving rise to the master’s in engineering management degree as an alternative to the MBA in the 1990s, alongside many other “practice oriented” (that is, non-research) master’s degrees for engineering professionals. In the library and information science field, Watson-Boone (2000) documented the growth and diversification of professional master’s degrees from the beginnings of the master’s as the field’s terminal credential in the 1920s, through the integration of “information science” into curriculum mid-century, and the explosion of degree specializations mapped to a changing workforce in the 1990s. This evolution was also addressed by Glazer (1986), in outlining the increasing alignment between library/information science graduate study and evolving, technology-driven labor market needs in the 1980s.

Finally, the nursing field stands as a key example of master’s degrees emerging as professional credentials within a laddered landscape of educational credentials and occupational stations. In nursing, where the entry-level credential is a unique range of three undergraduate options alongside licensure (diplomas and associate and bachelor’s degrees), there has been an ongoing policy and professional push toward higher levels of education such as the Master of Science in Nursing (M.S.N.) degree, as workforce demands have grown for higher-level professionals and evidence of a link between educational levels and quality of care has emerged (Scott & Brinson, 2011). This trend toward advanced credentialing began in the 1980s, according to Glazer’s (1986) analysis of the trend toward graduate credentials in the area of nursing leadership. Drennan (1997) found that the master’s degree was increasingly viewed in the field of nursing as a pathway to status in the profession, with significant economic benefits for those who attained a professional master’s. A similar escalation in educational requirements and
increasing prominence for the master’s has been observed across the healthcare sector in general, with Spencer’s (1986) analysis using the example of the master’s becoming the entry-level degree for the physical therapy profession via accreditation mandate in 1990. Incidentally, the profession would later move toward the doctorate as the primary credential by the end of the decade (Rothstein, 1998).

Together, these examples of the master’s degree becoming a standard credential for professional advancement across an array of occupational fields stand as evidence for the “educational transformation of work” chronicled by Baker (2009). In Baker’s (2009) assessment, today’s knowledge and innovation-driven economy is characterized by job upgrading and demands for complex, high level skills – with the increasing supply of college educated workers enabling economic growth and increasing credentialing requirements.

Higher Attainment Expectations and Participation Rates in Graduate Education

As master’s degrees have emerged as a ticket to high-status professional jobs, a clear driving force behind master’s degree growth is the growing expectation among undergraduates that they will continue their education at the graduate level, as students calibrate their attainment expectations to reflect job market realities. Pryor, Hurtado, DeAngelo, Paulucki Blake, and Tran (2009) found that 42% of college freshmen in Fall 2009 planned to ultimately earn a master’s degree as their highest degree, through the long-running, large scale annual survey of college freshman conducted through the Cooperative Institutional Research Program (CIRP) at the University of California Los Angeles. This percentage has increased steadily from approximately 30% in 1974, 35% in 1983, and 40% in 2004 (Pryor, et al., 2009). Analyzing this same data, Bell (2010) notes that while graduate degree aspirations have increased for both men and women over the last 35 years and are nearly equal today between the two groups (43% and 42%,
respectively), men have increased their aspirations toward a master’s degree at a greater rate. A study by Reynolds and Burge (2008) went back further into students’ academic careers – to longitudinal surveys completed by eighth-graders and high school seniors – to investigate changes in educational attainment aspirations, and in particular, differences by gender. Reynolds and Burge found that between 1972 and 1992, female’s educational attainment expectations rose more quickly than males’, which partially explains the reversal of the male/female “gender gap” in higher education enrollment during this period.

Similar to Reynolds and Burge (2008), Goyette (2008) also conducted a research study to document changing expectations of bachelor’s degree attainment over time, using U.S. Department of Education longitudinal surveys of students at various levels. Goyette’s particular focus was on occupational expectations: that is, how professional goals linked to postsecondary education plans. Goyette’s (2008) regression analysis found the expectation of bachelor’s degree completion had become the “norm” over the previous 20 years, largely linked to students’ occupational ambitions (and the requirements for college education in those occupation), as well as the increased educational attainment levels of their parents, a well-established predictor of educational attainment recognized in sociology.

Other studies, such as Nevill and Chen (2007) have made use of longitudinal surveys on attainment and outcomes to analyze students’ path to and through graduate school. Nevill and Chen (2007) found that of all students who graduated with a bachelor’s degree in 1992-93, 31% had enrolled in a master’s degree program at some point as of ten years later, in 2003. Of the students who did enroll in a graduate program within that ten-year period, about half had completed a program, taking about three years on average to complete a master’s degree (Nevill and Chen, 2007).
From both a contemporary and a more regionally-focused perspective, an analysis of U.S. Census and American Community Survey data by Berube (2011) found that overall, the share of young adults going to college or graduate school increased between 2000 and 2008 in 91 of 100 metropolitan areas across the United States. The regions with the highest and fastest growing educational attainment rates featured some of the best economic performance, while the regions that did not experience growth were among the worst performing.

The Economic Value of College and Master’s Degrees

It is well documented that greater numbers of students are pursuing graduate education. As master’s degrees have become important professional credentials, their economic value has increased. In turn, demand for master’s degrees has grown in great part due to the economic benefits of master’s level attainment. A number of scholars have explored the individual economic benefits that create incentives for college degree attainment and graduate-level study, as well as the general economic and other benefits to society: this literature is reviewed in this section.

Individual Economic Benefits of Master’s Attainment

A large body of historical and current research demonstrates that individual economic benefits – such as access to professional jobs, the earnings premiums that result from advanced education, and so on – are arguably the most significant driver of master’s degree demand and growth. Because employers value those who have earned a master’s degree, the holders of the degree are rewarded economically.

At the highest level, it is commonly understood that postsecondary educational attainment results in greater earnings and increased economic opportunity, and this is generally true across a range of nations – including in both highly developed and emerging economies, as
demonstrated by comparative education studies done by the OECD, or Organization for Economic Cooperation and Development (OECD, 2011). OECD (2011) analysis indicates that as high school attainment has become the norm in OECD countries, postsecondary education has become required to reap the economic rewards of advanced schooling. OECD analysis has also found that among all countries, the wage premium for college-level education over lower levels of educational attainment is highest in the United States (OECD, 2011).

In the United States, the wage premium for college and advanced degree holders over high school graduates is well-established, and many economists consider the college wage premium to be the best indicator that the economy values higher levels of educational attainment. Carnevale (2008b) notes that in the 1960s and 1970s, an oversupply of college graduates led to a decline in the wage premium for postsecondary education, with the value of a postsecondary degree providing 43% greater earnings power over a high school diploma in 1979. In 1976, a famous cover story in Newsweek magazine had provocatively asked “Who Needs College?” and pictured two college graduates in caps and gowns ironically operating a jackhammer and performing construction work, while the article reported on the “dismal” job prospects for college graduates (Sheils, McGree, Boyd, & Monroe, 1976). It is notable that Collins’ *The Credential Society* (1979), which was largely critical of the escalation in college enrollment and credentialing, was written during this era.

However, Carnevale (2008b) contends that in the economic restructuring that followed the 1980 recession, the value of education “skyrocketed,” reaching a 79% premium over a high school diploma by 1999. More significantly, the wage premium for advanced degree holders – such as those with a master’s degree – reached 124% by this time (Carnevale, 2008b). Carnevale (2008b) asserts that contrary to basic economic theory, where when supply increases, price
declines, it is remarkable that the college wage advantage doubled even as more than 10 million individuals with a bachelor’s degree or higher entered the workforce between the 1990s and 2008 – and this illustrates the increasing advantage to college and advanced degree study. Carnevale and Rose (2011) point out that the college wage premium has increased over time at similar rates in other industrialized countries beyond the United States, and that in the years ahead, the wage premium is expected to continue to grow as the demand for college-educated workers exceeds supply.

A recent analysis by Autor (2010) demonstrated that over recent decades, job market growth in the United States has “polarized” between high-skill, high-wage jobs, which require college education, and low-skill, low-wage jobs – and that this trend has been exacerbated by the economic recession that began in late 2007. According to Autor’s analysis of decades of economic data, as well as more recent trends, the financial benefits of educational attainment are now highly concentrated among four-year and advanced degree holders: that is, the more educated groups in the job market are economically “pulling away,” and the returns to education below the bachelor’s degree level are not what they once were.

Similarly, in a recent analysis published by the Federal Reserve Bank of Cleveland, James (2012) – using Census Bureau and Current Population Survey data – is one of the few researchers to disaggregate the premium for advanced degrees from college attainment generally. James’ analysis showed that the wage premium for advanced degrees over a four-year degree has grown to 30% in 2012, from approximately 20% twenty years earlier. Further, in a point that underscores the growing economic value of master’s degree attainment specifically, James (2012) found that over the course of the 2000s, all of the gains in the “college wage premium” – which typically groups together bachelor’s-level and advanced credentials – are attributable to
advanced degrees. That is, the wage premium for bachelor’s holders, relative to all lesser levels of education, has remained flat since 2001, while graduate degree holders have experienced a significant increase.

Evidence of an increasing wage premium for graduate degree holders continues to mount. A late-2012 salary survey and analysis by the National Association of Colleges and Employers (2012) demonstrated that in many fields – from accounting and business to English – salary premiums for master’s degree graduates were more than 20% higher than bachelor’s graduates, and in some fields, such as education and computer science, the premium is 30% higher. Similarly, an analysis of state-level data by Zaback, Carlson, and Crellin (2012) found an average 35% premium for graduate and professional degree holders, who had average salaries of approximately $68,000, compared to approximately $50,000 for bachelor’s degree holders. As found in other studies, Zaback, Carlson, and Crellin found great differences in the premium between educational disciplines (majors), with income premiums for graduate degrees as high as 69% in health; 62% in social and behavioral sciences; and 48% in business and communications. Carnevale, Cheah, and Strohl (2013) documented similar salary premiums for graduate degree holders in a 2013 study. The growing wage premium for college degrees – and graduate degrees, specifically – has also been documented outside of the United States, in countries such as the United Kingdom, for example, by scholars such as Lindley and Machin (2013).

Master’s degree holders are not only rewarded by higher salaries, but they are also much less likely to be unemployed, and also benefit from the economic opportunity of job growth that is increasingly centered on occupations and industries that require advanced levels of education. Scholarship shows that this positive relationship between degree attainment and economic success has also been made more prominent by recent economic trends.
According to the U.S. Department of Labor’s Bureau of Labor Statistics (2013), the unemployment rate for individuals that held a master’s degree stood at only 3.5% in 2012 (and well under 3% for those with professional or doctoral degrees), compared to “headline” unemployment for all workers of nearly 7%, and unemployment rates as high as 12.4% for those without a high school diploma.

In addition, according to recent forecasts from the Bureau of Labor Statistics (2012), over the 2010-2020 period, the total growth in jobs is expected to be greatest for occupations requiring a master’s degree (21%), compared to 20% growth for doctoral and professional degrees; 17% for bachelor’s degrees; and only 12% for high school diplomas and equivalent. Similarly, Carnevale, Smith, and Strohl (2010a) forecasted overall growth of 2 million jobs at the master’s degree or higher level between 2008-2012.

Notably, there is some debate among labor market economists regarding forecasts for college degree demand in the workforce. Harrington and Sum (2010) specifically challenge the forecasts of Carnevale and colleagues, claiming an oversupply of college graduates, since college graduates are often overqualified for the jobs that they hold. Harrington and Sum cite, for example, the 14% of bartenders who hold a bachelor’s degree. Other economists, such as Vedder (2004, 2010) also take the opinion that the economy needs fewer, not more college graduates. However, Carnevale, Smith, and Strohl (2010b) counter that the college wage premium and the boom in jobs that require bachelor’s or graduate degrees is evidence that the American economy demands increased educational attainment: the previously cited work of Autor (2010), the Bureau of Labor Statistics (2012), Zaback, Carlson, and Crellin (2012), and others also supports this perspective. Similarly, economist and education analyst Sacks (2011) specifically challenged the claims of Vedder and others whom he terms the “anti-expansionist” school of thought in
education policy. Sacks dissected the same Bureau of Labor Statistics data cited by Vedder (2010) and found that demand for college graduates is growing, especially at the master’s level – and that there is a high match between degrees and job qualifications (Sacks, 2011). A detailed analysis by Carnevale and Rose (2011) came to similar conclusions, and found that advanced degree holders are highly likely to be employed in managerial and professional roles. The economic prospects of bachelor’s and graduate degree holders in the recent economic recession provide further evidence of the benefits of degree attainment.

Analyzing how the recession of 2007-2009 and the ensuing recovery had impacted employment prospects, Carnevale, Jayasundera, and Cheah (2010) found that through 2012, holders of a bachelor’s degree or above had gained more than 2 million jobs in the recovery, while those with associate degrees or only some college had recovered only 1.6 million jobs, while those with a high school diploma or less had lost nearly 250,000 jobs. An even more detailed and recent analysis by Carnevale, Cheah, and Strohl (2013) analyzed unemployment rates within various professional fields by educational attainment and experience level, and concluded that graduate degree holders have been better-insulated from unemployment even within occupations that have experienced high unemployment rates since the recession. Similarly, Berube’s (2011) analysis found that the link between degree attainment and employment became especially clear during “the Great Recession:” metropolitan regions with greater rates of college attainment in the population had markedly lower unemployment rates than regions with a less educated populace. Not surprisingly, in reviewing historical literature and current data on the correlation between challenging economic times and college enrollment, Barrow and Davis (2012) found a surge in postsecondary enrollment through 2010, as millions of individuals pursued advanced education to improve their economic prospects in a highly
challenging job market. According to Cappelli (2012), challenging labor markets fuel enrollments and credential-seeking in part because those who are unemployed have the time and need to return to school and employers can be more selective in hiring, requiring higher levels of education.

**Broader Societal and Economic Benefits of Master’s Attainment**

As documented in the previous section, the economic value of master’s degrees to individuals and in the economy is clear. As a final step in understanding value of master’s degrees, it is important to very briefly consider the literature that exists on the value of increased educational attainment to society generally, which shapes the policies and actions that spur the pursuit of advanced credentials. Of course, collectively, employer organizations – one of the areas of focus or key “actors” in this study – represent important societal influencers who reward advanced degree attainment. Unfortunately, as noted by Moretti (2004), most research on the broader societal and economic benefits of educational attainment has focused on the effect of increasing levels of attainment in general – rather than addressing advanced degree attainment, specifically. Still, this research base is instructive in understanding why advanced degrees are valued by society and employers.

Economists such as McMahon (1998) have sought to articulate the non-monetary benefits to society of educational attainment (or in the terms of economists, “externalities” or public goods) rather than the outcomes for private individuals. McMahon’s analysis found that higher levels of education were associated with societal benefits ranging from increased economic growth and better public health to political stability, higher levels of community engagement, and so on. McMahon (2009) deepened this analysis a decade later, noting not only the private/individual benefit of nearly $10,000 per year of college attainment, but that college
attainment led to an increase in tax contributions; greater longevity including child longevity, and other benefits. Similarly, Dee (2004), in an exploration of whether government investments in education are justified, studied the civic returns to education, finding that civic engagement as measured by voting patterns, newspaper readership, and so on is strongly correlated with higher levels of education. In an extensive econometric analysis focused on differences across cities, Moretti (2004) also found that there were significant societal benefits associated with higher levels of educational attainment. Importantly, Moretti’s (2004) analysis is one of the few to unbundle graduate-level from undergraduate degree attainment – and found that the “spillover” benefits of private investment in education were much greater at the graduate level, specifically.

Interestingly, much of the research on the benefits of educational attainment to society centers on the tremendous variation in human capital and economic health between metropolitan regions, and this scholarly dialogue is found in the emerging field of economy geography, which includes academics who are among key contemporary public policy influencers worldwide.

Moretti’s (2012) book, *The New Geography of Jobs*, explores the structural changes and bifurcation of the economy detailed by Autor (2010) and Carnevale (2008a, 2008b), with an emphasis on the geographic perspective. Moretti finds that regions with higher levels of educational attainment have achieved much greater economic growth and overall prosperity. Similarly, Glaeser, Ponzetto, and Tobio (2011) have also documented high correlations between educational attainment and regional economic growth. In addition, a recent study by DeVol, Shen, Bedroussian, and Zhang (2013) of the Milken Institute documented in detail that educational attainment is strongly linked to regional prosperity as measured by metro GDP per capita. One of the foremost scholars focused on the connections between educational attainment and societal/regional benefits is Richard Florida. In his key book *The Rise of The Creative Class*,...
Florida (2004) argued that a new “creative class,” characterized not only by creative and knowledge-oriented work, but also higher levels of educational attainment, was transforming the economy and the regions in which these individuals lived. Rentfrow, Mellander, and Florida (2009) found that within the United States, increased levels of educational attainment were associated with higher levels of wellbeing, wealth, diversity, and tolerance.

At both the societal and individual levels, the literature indicates clear personal and economic benefits related to advanced degree attainment. This value is further influenced by a key group that drives the economic landscape and society: employers.

**Employer Hiring Practices and the Use of College Credentials**

Employers’ use of college degrees (and the master’s specifically) in hiring is another key area pertinent to this study’s research focus. Employers are the gatekeepers to professional jobs and status. A large base of literature in sociology, business, and labor market economics has addressed this question. However, the literature often addresses only “education” or bachelor’s-level attainment generally, without frequent attention to the master’s. The section that follows reviews this base of scholarship.

In their influential book on managing and leading organizations, *Reframing Organizations*, Bolman and Deal (1997) underscore the importance of human resources in organizational success, with the “human resources frame” comprising one of four key frameworks or areas of organizational leadership focus. According to Bolman and Deal, the human resources frame “regards people’s skills, attitudes, energy, and commitment as vital resources capable of either making or breaking an enterprise” (Bolman & Deal, 1997, p. 101). Bolman and Deal (1997) describe the escalating pace and skill (human capital) requirements of an increasingly global and knowledge-based economy, which make it more difficult for
organizations to find employees with the appropriate skills and qualities – and this makes hiring especially critical. Indeed, according to a study conducted by human resources consultancy Bersin & Associates (2011), companies in the United States spent more than $124 billion in 2010 on hiring and recruiting, and each single professional-level job opening received an average of 89 applicants. Further, Calvasina, Calvasina, and Calvasina (2008) cite an estimate of the cumulative costs of making “bad” hiring decisions at well over $100 billion annually, as measured by lost managerial time, managing poor performance, and vacancy. This scale of resourcing, complexity, and risk makes hiring, recruiting, and screening a critical area of concern and focus for employers – and a major area of importance within the modern economy.

Like Bolman and Deal (1997), Orlitzky (2007) – in a review of the literature on recruitment practices – suggests that recruitment is one of the key priorities in organizational success in the modern environment. Orlitzky (2007) usefully defines the process of “recruitment” as the practices that identify and attract employees – an activity that is often indivisible, but distinct from “selection,” which is the paring down of the pool of candidates. Breaugh (1992) is a leading scholar in the area of recruitment practices in employer organizations, and notes that many organizations assume in recruitment strategy that individuals with outstanding credentials must be attracted, and required skills and abilities must be closely linked to job requirements. Breaugh (2008) has also emphasized that the attention given to recruitment has increased in recent years, and that dynamics such as online recruiting and employer complexity are making the process more challenging. A more recent summary by Breaugh asserts that “deciding whom to recruit is the most important question an organization needs to address” (Breaugh, 2013, p. 411). Cappelli (2012), another thought leader in the area of human resources management, argues that one the major challenges in United States economy
today is the hiring process itself and the mismatch between candidates and employers, who constitute the two sides of the “jobs equation.”

The Role of Educational Credentials in the Hiring Process

In his sociological history of higher education and credentialing, Brown (1995) demonstrates that college credentials only began to have value in the marketplace when employers started to value hiring college graduates, beginning in the 1880s and accelerating between 1930 and World War II – particularly as demand for managerial employees grew with the explosion of roles in both private corporations and large-scale public bureaucracies. Bills (1988a; 1988b; 1990; 1992; 2003) – one of the most prominent scholars in the use of educational credentials in employers’ hiring process – traces the beginnings of significant research on how employers gather and evaluate information about job candidates to the mid-1980s (Bills, 1992), and this trend in scholarship spans the labor market economics and sociology disciplines.

Bills (1990) conducted case studies of six Chicago-area employers and found that education was among employers’ most important hiring criteria. An earlier study by Bills (1988a) had found that employers valued schooling and credentials in part because educational participation and completion implied trainability (evidence supporting screening and signaling theory, discussed earlier). Another study by Bills (1988b) focused on employers’ use of educational credentials in internal promotions, rather than the process of hiring in from the outside. Bills found in this case that while educational credentials were key to “getting in the door” at an organization, promotions tended to be based on directly observable performance (Bills, 1988b). Bills (1992) also conducted an analysis specifically focused on how employers responded to highly educated (“educationally overqualified”) candidates, in part as a response to Collins’ (1979) claim of an oversupply of college-educated workers. Bills found that while many
hiring managers establish ceilings on qualifications, almost half of managers would accept educational qualifications one level of schooling above that required for the position (e.g., a bachelor’s degree in place of an associate degree, or a master’s over a bachelor’s) – and another 28% would accept credentials two levels higher. This research suggests that that “too much education” rarely hurts candidates, with Bills’ employer interviews showing that only 25% of candidates, at most, would have been forced out of contention for a job if they were educationally overqualified (Bills, 1992). In addition, Bills (1992) cites examples of employers who believed that people with master’s degrees would be more aggressive and promotable, and that more highly educated workers had higher goals and broader worldviews. One of Bills (1992) fundamental conclusions was that employers often hire based not only on minimum qualifications, but also with career progression and promotability in mind (again, supportive of the notion that educational attainment can be used by employers as a tool for interpreting employees’ performance potential). Given this finding, Bills asserted that concerns about over-education such as those advanced by Collins (1979) were misplaced (and criticism of “credential inflation” has since been advanced by others). Thus, Bills’ research supports the notion that job candidates can differentiate themselves by earning a higher level degree than their competitors: even in cases where a master’s is not required for a job, such a credential provides an advantage in employer screening and selection. Cappelli (2012) refers to this as an “arms race” in earning credentials to secure jobs, even if jobs don’t require them.

Rynes, Orlitzky, and Bretz (1997) surveyed corporate staffing professionals in a unique examination of practices in hiring experienced candidates ("experienced hiring") rather than college graduates ("college recruiting"), noting that the majority of research in the recruiting/human resources literature up to that date had focused almost exclusively on college
recruiting. Rynes, Orlitzky, and Bretz (1997) found that experienced hiring is very decentralized, while college hiring is typically much more centralized within organizations. Their research also showed that a majority of jobs requiring a college degree at studied organizations were filled with experienced professionals, rather than new college graduates. Earlier research by Rynes and Bordreau (1986) focused on recruiting directors at Fortune 1000 corporations, and found that many college recruiting operations were less strategic and effective than assumed. Interestingly, but perhaps not surprisingly, Rynes and Bordreau (1986) found that the degree programs offered were the most important criterion for evaluating colleges and universities. In addition, in a majority of firms, applicant qualifications (such as college degree requirements) tended to be set by line managers, with guidance from central human resources. While nearly thirty years old, this research showed that employers were often adjusting their hiring practices to account for master’s degrees, versus bachelor’s degrees. According to the study, 76% of employers made salary adjustments based on master’s-level qualifications, and in many cases, job qualifications – including educational qualifications – were rising (Rynes & Bordreau, 1986). Interestingly, on the other side of the equation, it was found that in some cases, employers were lowering their requirements as some master’s-level candidates (e.g., M.B.A.s) expected too much from jobs; were seen as too expensive as candidates; or were perceived as not much better than bachelor’s-level candidates (Rynes & Bordreau, 1986).

Like Rynes, Orlitzky, and Bretz (1997), many other scholars, e.g., Orlitzky (2007) and Breaugh (2013) have noted that much of the research on educational requirements in recruitment has focused on new college graduates, as opposed to more experienced employees – and that it is important to make a distinction between these populations (Rynes, Orlitzky, and Bretz, 1997; Orlitzsky, 2007; Breaugh, 2013). This pattern stands as one example of how general and not
especially nuanced much of the research on employers’ use of educational credentials in hiring has been.

Other research has focused on specific disciplines and assessments of the skills valued in college graduates, such as that of Paranto and Kelkar (1999). In a survey of employers’ satisfaction with business school graduates, Paranto and Kelkar (1999) concluded that employers value general skills such as leadership and interpersonal skills highly, and that schools should put an emphasis on these dynamics in curriculum. In addition, Paranto and Kelkar (1999) found that employers tend to be more satisfied with employees who possess creative, critical thinking, and leadership skills over those who possess specific technical skills. This matches with the attractive traits of graduate degree holders proposed by Conrad, Haworth, and Millar (1993) and Wendler et al. (2010), in their making the case for the value of graduate education.

Interestingly, in an analysis focused on reviewing the evidence on the relationship between school and work, Cappelli (1992) surprisingly found that there is not a link between performance (grades earned) in school and performance/success on the job at the undergraduate level, consistent with more recent findings from Rivera (2011, 2012), addressed later. Cappelli did propose, however, that the link between education and jobs becomes tighter in graduate and professional programs, since the focus of these programs becomes more specialized than bachelor’s-level education (Cappelli, 1992).

Some of the most recent and intriguing research on employers’ use of educational credentials in recruiting and hiring – and research that is most directly relevant to this study – has been conducted by Rivera (2011, 2012). Rivera (2011) emphasizes that the current understanding of employers’ hiring practices and the use of educational credentials remains extremely limited. Further, Rivera (2011) notes that much of the literature base on employer hiring practices
focuses largely on lower, non-professional levels of the job market. Rivera’s research consisted of 120 interviews of recruiting professionals at elite firms in three industries (investment banking, law, and management consulting) over a two-year period – in addition to supplementary participant observation in hiring activities within the firms (Rivera, 2011). Rivera chose to focus on three “elite” industry sectors and found that for these employers in high-prestige occupations, educational credentials are the most significant component of the recruiting and screening process. According to Rivera, “prestige was the most commonly used criterion of evaluation at the resume stage…evaluators privileged candidates from the ‘top’ of ‘the list’ regardless of their grades, coursework, major, area of specialization, or prior work experience” (2011, p. 78).

Rivera found that contrary to standard human capital theory-based economic models, elite employers did not value the number of years of schooling or skills acquired, but rather, the prestige of a credential (Rivera, 2011): for example, preferring an Ivy League student with lower grades over a graduate from a still selective top-20 school that had a higher G.P.A. One of Rivera’s findings was that in addition to internal perception (e.g., that hires from certain prestigious schools performed better than others), many firms often used external rankings of colleges and universities to establish the lower bounds of the preferred institutions list that they would recruit from. Further, Rivera’s study argued and provided evidence that, fascinatingly, extracurricular activities in college – such as tennis, squash, and crew – were used to screen candidates (Rivera, 2011). Rivera’s (2012) research has also concluded that elite employers prioritized “fit,” or cultural similarity, very highly. This was consistent with Bills (1988a), who found that managers in a finance firm prioritized hiring candidates who fit the corporate culture and image.
One of Rivera’s most important conclusions from this research is positing that as college attainment and the diversity of educational credentials has grown, employers are increasingly relying on institutional status and prestige to differentiate among candidates (Rivera, 2011). In other words, with bachelor’s degrees no longer on their own signifying advanced levels of ability, employers are turning to additional layers of scrutiny and evaluation when examining qualifications.

**Legal Considerations as an Additional Driver of College Credentials’ Value in Hiring:**

**Degrees as Signals**

Bills (1990), in his evaluation of job history as an employer screening criterion, observed that visible screening criteria such as job history are not only socially acceptable, but cannot be challenged legally (as in the use of race, gender, age, or other criteria). The same value in terms of “ease of observation” and legal acceptance extends to educational credentials, which signal otherwise unobservable information about candidates to employers (Bills, 2003). O’Keefe and Vedder (2008) argue that over time, legal scrutiny and regulations related to hiring decisions has driven greater reliance on college credentials as in the United States. O’Keefe and Vedder trace the rise of the value of a college degree – and its status as a key hiring “credential” – to the 1971 *Griggs v. Duke Power* United States Supreme Court case. According to O’Keefe and Vedder (2008), prior to this court decision, employers routinely directly tested potential employees for their ability, with one survey reporting that 84% of employers used ability and intelligence tests in recruitment and hiring in 1963. However, the Civil Rights Act of 1964 placed theoretical limits on testing due to the discriminatory nature of such tests, since minority candidate disproportionality performed worse. In 1971, The Supreme Court ruled that any employer testing must bear a direct relationship to job performance, or in the words of O’Keefe & Vedder (2008,
p. 7): “the burden falls upon the employer to demonstrate that the test is ‘job-related’ or a ‘business necessity’…to be valid” – and that it would be difficult for tests to meet these standards. As a result, fearing potential litigation, employers strayed from the use of testing in hiring, and this behavior was further driven by subsequent court decisions and additional legislation such as the Equal Opportunity Employment Act of 1972 (O’Keefe & Vedder, 2008). O’Keefe and Vedder (2008) argue that instead of relying on tests, employers shifted to college degrees – which can indicate aptitude, determination, and general intelligence – as a credential-based employment screening mechanism. Analysis by Arkes (1999) also makes this claim about the court decision, stating that in place of the cost and risks of testing, employer can infer abilities through educational attainment. Employers will pay a premium for college-educated workers “not only because education makes workers more productive, but also because education signals certain traits or abilities that employers find worthwhile,” (Arkes, 1999, p. 133) and cannot otherwise measure – tenets of human capital theory and its screening/signaling variations.

O’Keefe and Vedder go as far as linking the boom in college enrollment beginning in the 1970s – and their belief in an oversupply of college graduates – to the Griggs v. Duke Power court decision. While there is certainly merit to this argument, O’Keefe and Vedder’s actual analysis is extremely light and relies on correlation, rather than demonstrating causation. Still, other scholars such as Cappelli (1992), Arkes (1999), and Bankston (2011) also cite this court decision as having a major impact on employers’ preference for college credentials in hiring.

In a detailed analysis focused specifically on the legal and regulatory dimensions associated with recruitment and hiring, Calvasina, Calvasina, and Calvasina (2008) emphasize the importance of assessing not only candidates’ qualifications – but their skill, and the value and
challenge of verifying educational credentials. According to Calvasina, Calvasina, and Calvasina (2008), high-profile cases of exaggerated and false educational credentials in recent years – including top executives/leaders within U.S. Homeland Security, RadioShack, the U.S. Olympic Committee, and the National Security Agency – highlight the challenge of employers making informed hiring decisions, and this also of course speaks to the value college credentials in securing professional positions.

**Literature Review Conclusion**

This literature review has synthesized scores of scholarly and other works across the fields of education, business, economics, sociology, law, and other areas – to establish the foundation for a study of why and how employers value and use master’s degrees in their hiring process. The literature review has traced the history, evolution, and growth of master’s degree attainment in the United States; documented the evolution and established the growing importance of master’s degrees as professional credentials across a host of disciplines; and established the growing individual and societal-level economic value of master’s degree attainment – an economic equation and sociological situation that is fueled by college degrees, including the master’s, becoming central to employers’ hiring process.

In an environment where college participation at the undergraduate level has become normative (Collins, 1979; Brown, 1995; Baker, 2011; Bankston, 2011), master’s degrees have over the last two-to-three decades emerged as key professional credentials (Glazer, 1986; Spencer, 1986; Conrad, Haworth, and Millar, 1993; Brown, 1995; Glazer-Raymo, 2005), enhanced by the dramatic transformation of the global economy to one based on knowledge (Baker, 2009; Goldin & Katz, 2010). Today, the master’s degree – while once looked down upon as a consolation prize to the Ph.D. (Glazer, 1986; Conrad, Haworth, and Millar, 1993) – stands as
an important credential and a gateway to many professional jobs (Glazer-Raymo, 2005; Baker, 2011). Recent growth in enrollment and evidence that employers are favoring the master’s make this a particularly significant situation to analyze. While bachelor’s degrees remain the most common credential and a baseline expectation for many high school graduates and their parents, educational attainment expectations are increasingly focused on the master’s (Nevill & Chen, 2007; Goyette, 2008; Hurtado, et al., 2009; Pryor, et al., 2009; Berube, 2011) – especially given the master’s degree’s role as a ticket to professional status.

The economic value of master’s degrees is in fact growing dramatically – and this is driving demand alongside the ability of employers to use the master’s as a screening tool. Contrary to consistent critiques from skeptics and credentialist theorists, the college wage premium remains strong (Carnevale, 2008b; Autor, 2010; Carnevale & Rose, 2011; Sacks, 2011). Moreover, it has become clear that master’s degrees provide a distinct advantage in the job market, both in terms of significant income gains and also lower unemployment and access to key professional positions (Carnevale, Jayasundera, & Cheah, 2010; Carnevale, Smith, & Strohl, 2010a; James, 2012; Zaback, Carlson, & Crellin, 2012; Bureau of Labor Statistics, 2013; Carnevale, Cheah, & Strohl, 2013). The master’s degree’s status as a difference-maker is even more significant today due to the tightness and volatility of labor markets, which is leading more students to return to school and seek advanced levels of education such as the master’s (Barrow & Davis, 2012; Cappelli, 2012). As more students and professionals complete master’s degrees, employers; regions; and society as a whole benefit from elevated levels of educational attainment (McMahon, 1998; Dee, 2004; Florida, 2004; Moretti, 2004; Rentfrow, Melander, & Florida, 2009; Goldin & Katz, 2010; Moretti, 2012; DeVol, et al., 2013).
In a complex economic environment where educational credentials are of principal importance, and knowledge and skills demands are escalating (Autor, 2010; Goldin & Katz, 2010; Cappelli, 2012), employer human resources strategies and the candidate screening and hiring process are more critical than ever (Bolman & Deal, 1997; Calvasina, Calvasina, Calvasina, 2008; Bersin & Associates, 2011; Cappelli, 2012; Breaugh, 2013). In recent decades, college credentials have emerged as absolutely central to employers’ hiring practices and assessment of candidates (Brown, 1995; Bills, 1988a, 1986, 1990, 1992, 2003). Further, college degrees have become the primary route to professional status in the modern economy (Baker, 2011). Both the nature of the economic environment/job market and regulatory issues have driven a preference for college credentials in employers’ hiring process (Arkes, 1999; O’Keefe & Vedder, 2008; Bankston, 2011). And, with college credentials more common across the economy, employers are becoming more nuanced and turning to additional layers of detail and specificity when using them in a screening process (Rivera, 2011, 2012).

A Surprising Gap in Understanding: The Clear Need for a Study of Employers’ Use of Master’s Degrees

Despite the clearly growing prevalence and prominence of master’s degrees, surprisingly little scholarship has focused on the use of master’s degree credentials. Perhaps it is an artifact of the master’s degree-related share of higher education enrollments and the U.S. population only now reaching 10%. In higher education, and in scholarship on college credentialing, the master’s degree is arguably being just as ignored as when in 1993, Conrad, Haworth, and Millar (1993) titled their book on the growth of master’s-level education A Silent Success.

Some of the formative volumes on higher education attainment in the United States – from Collins (1979), to Brown (1995) – give only cursory treatment to the master’s degree.
And, the vast majority of current analyses in the fields of economics and education about the value of college education in the economy – a critical current topic and an area of much intellectual debate – focus only or principally on the bachelor’s degree, without special attention to the master’s. This is true of everything from McMahon’s (1998) and Dee’s (2004) documentation of the societal benefits of degree attainment, to Berube’s (2011) analysis of regional patterns in educational attainment; Cappelli’s (2012) discussion of the challenging employment issues facing the United States economy; and even Carnevale and colleagues’ (2008a, 2008b, 2010a, 2011, 2012) excellent ongoing work on the labor market value of and economic returns to college. Despite five or six distinct levels of college attainment in the United States, the scholarship, analysis, and discussion largely relegates the master’s degree to being bundled with the bachelor’s, mirroring the U.S. Census data collection variable “bachelor’s degree or above.” Moretti (2004), James (2012), and others call out that the master’s degree is often not decoupled from college degrees generally. This is particularly troubling given the clear rapidly growing importance and value of the master’s degree documented in the preceding analysis, although this represents an opportunity for studies that would fill this gap.

Even more significantly and perhaps surprisingly, the employer side of the education-economy/job seeker-employer equation is largely unaddressed as well. There is a clear need for more studies on employer’s use of college credentials in hiring – not to mention the need for such a study that would focus on the master’s degree. Furthermore, although a range of research has documented that a wage premium, employment advantages, and all sorts of value exists for holders of master’s degrees, little if any research appears to have examined why this is the case – a question that could be answered by employers. As early as the 1980s, Bills (1988a) called for more studies of employers’ hiring process and the role of education and training – and Bills
(2003) emphasizes that relatively little empirical research is focused on employers’ hiring decisions. Blinded by the orientations of their disciplines, the sociologists who have tackled this question focus largely on status attainment, and the economists on return to education and earnings – not on the role of the employer (Bills, 2003). The need for more research on employers is also a point made by Brown and Sessions (2006).

In addition, in recent work reviewed by the leading scholars in the field, Rivera (2011; 2012) has noted that most research on employers’ hiring activities and use of credentials has focused on the lower strata of attainment (e.g., skilled trades or vocational credentials in many cases) – not to mention the master’s level. Rivera (2011) also argues that the employer role is understudied, and suggests that the gap in understanding can be attributed to the scholars who have tackled this question tending to focus on quantitative analyses of secondary public datasets, for example (Rivera, 2012). Brown and Bills (2011) recently argue that to fully understand the role of credentials in society, specialized inquiry and nuance is necessary – suggesting the value of a study focused on the master’s degree. In addition, in the broader field of human resources and hiring, there has been a call for more descriptive analysis of how managers and human resources professionals actually make hiring decisions (Orlitzky, 2007).

Finally, at a level of import that far supersedes those interested in college attainment, hiring, or graduate education, leading thinkers such as Cappelli (2012) argue that the principal problem in the United States economy today is that the employer/job-seeker equation is broken, largely due to employers’ selectivity in the hiring process. Brown and Bills (2011) also assert that the study of credentialing dynamics is more pertinent than ever given the current economic landscape. Thus, for the benefit of higher education leaders, policymakers, employers, and interested others, a study of why employers value master’s degrees and how they use them in
their hiring process will have considerable utility. By exploring the understudied “employer side” of the market for master’s degrees, such a study could build a new empirically driven understanding of master’s-level credentialing dynamics – and therefore optimize the choices and investments of universities, policymakers, students, employers, and others.

Chapter 3: Methodology

This chapter details this study’s methodology – from the purpose of the research and the central research questions, to the research design and rationale; data collection and sampling strategy; analytical process; trustworthiness and reliability; limitations; and a variety of other methodological considerations and concerns.

Research Purpose and Question

The purpose of this study is to explore why and how employers are using master’s degrees as professional credentials. Framed by human capital theory (Mincer, 1958; Schultz, 1961; Becker, 1964; Sweetland, 1996; Spence, 1973; Stiglitz, 1975; Weiss, 1995; Bills, 2003; Smart, 2004), this study focuses on two central research questions, highlighted earlier:

1) Why are employers using master’s degrees as professional qualifications in their recruiting and hiring processes, and how has this changed over time?

2) How are employers using and interpreting master’s degree credentials in their recruiting and screening process?

Research Design and Rationale

This study employs a qualitative research design. According to Creswell (2011), qualitative research uses theoretical frameworks to explore meaning related to social/human problems, collecting data in a natural setting with the aim of establishing patterns and themes –
and having the end goal of impacting a problem (Creswell, 2011). The goals and objectives of this study mirror Creswell’s (2011) definition of when a qualitative approach is ideal: in this case, human capital theory serves as the theoretical framework to explore a problem of great importance to the functioning of the economy and higher education institutions. In addition, the research is focused on understanding the dynamics occurring within the natural settings of employer organizations, in relationship to the problem of practice.

A qualitative approach is also highly appropriate because the underlying goal of this study is to represent and communicate the voice of the employers – whose needs and behaviors are often not analyzed by colleges and universities – and this type of orientation is a hallmark of qualitative research (Creswell, 2011). The qualitative perspective is also well suited to this study because qualitative research aims is to produce a product that is richly descriptive, rather than purely explanatory or statistical (Merriam, 2002).

Specifically, this study takes an interpretive qualitative approach in seeking to understand the experience of employers as it relates to the hiring process and the educational environment. The study constructs knowledge by relying directly on the participants and aiming to deeply understand them and their views, an approach known as an epistemological paradigm or philosophical assumption (Creswell, 2011), as well as being driven by pattern recognition. As with all qualitative research, for this study, the researcher represents the primary instrument for data collection (Merriam, 2002; Creswell, 2011) – and the study is informed by the researcher’s reflexivity or relationship to the research problem (Creswell, 2011). As alluded to in the “positionality statement” section later, the researcher has nearly 15 years of experience researching and analyzing the relationship between industry and labor market trends and higher education, as well as professional experience designing university curriculum and partnerships
that respond to employer needs. The study design and its interpretations are shaped by this experience, in the spirit of Merriam’s (2002) assertion that qualitative research – rather than aiming to eliminate biases and subjectivities – is made richer by the perspectives of the researcher.

Research Tradition

This study employs a *general inductive analysis* approach in strong alignment with the core research questions. According to Katz (2001), the goal of the general inductive approach is often causal explanation – e.g. the answering of a “why” question, such as the first research question in this study. Additionally, the ability and flexibility of general inductive analysis to identify commonalities across heuristic cases of a phenomenon – and to identify themes and trends from these cases (Katz, 2001; Punch, 2009) – makes this research tradition well suited to analyzing the second research question, concerning how employers are using master’s credentials in practice.

Thomas (2006) explains general inductive analysis as focusing on identifying themes and creating concepts or a model related to a phenomenon of interest, through the process of inductive discovery. Punch (2009) describes general inductive analysis as the systematic development of concepts or ideas, through the examination of similarities between cases of a phenomenon. In general inductive analysis, the researcher constantly refines the analysis and the methodology is geared toward identifying trends across a diverse set of cases or situations under study (Katz, 2001). Rather than testing preexisting expectations or models, research parameters are defined and findings are developed in general inductive analysis through the analysis of raw data, which is then analyzed and refined through a coding process into a series of concepts or frameworks (Thomas, 2006).
The concept of “analytical induction” in social science research was developed by Znaniecki (1934), who positioned it as an alternative to heavily statistical and quantitative methodologies (Katz, 2001; Punch, 2009). Both Katz (2001) and Thomas (2006) emphasize that the general inductive approach is commonly used and even pervasive in social science research: Thomas (2006) notes that while the approach is extremely common, it is often not explicitly labeled “general inductive analysis.” General inductive analysis is similar to grounded theory (Thomas, 2006), an even more common qualitative methodology that Creswell (2011) describes as generating theory (an explanation) about a process or action, based on qualitative data collection across a range of participants. The key distinction between general inductive analysis and grounded theory, according to Thomas (2006), is that it general inductive analysis does not focus on theory generation or theory discovery – but rather, focuses on uncovering and describing the most important themes and meanings related to the research questions.

General inductive analysis is a straightforward and flexible methodological approach (Thomas, 2006) that is well suited to explaining and documenting macro and mid-level social phenomena (Katz, 2001) such as those that are the focus of this study. The general inductive analysis approach is widely accepted, long established, and extremely common in the social sciences generally (Katz, 2001; Thomas, 2006) and in education research (Punch, 2009).

Participants

Sampling Strategy and Rationale

Given the research goals of the study, a purposive (or purposeful) sampling strategy was employed. Purposive sampling is characteristically employed in qualitative research (Miles and Huberman, 1994; Merriam, 2009; Suter, 2011). In purposive sampling, the emphasis is on selecting cases that will yield insight and diversity or variation, rather than on statistically
generalizing the results to a broader population (Creswell, 2011; Suter, 2011). That is, the sample is chosen with the specific intent of interviewing/garnering insights from individuals with detailed, direct knowledge of the phenomenon under study (Curry, Nembhard, & Bradley, 2009).

Thus, for this study, the participants were representatives of large employer organizations that value graduate-level credentials and engage in a high volume of hiring activities with respect to master’s degree-level professional roles. Specifically, the research targeted major for-profit employers that have the greatest level of master’s-degree hiring activity. Importantly, the major employers that are hiring for master’s-level positions can be objectively identified through publicly available databases, eliminating bias in the selection of interviews/cases and focusing squarely on the organizations with the greatest relevance to the phenomenon under study. Appendix 1 is a list of the top 100 employers in the United States in terms of graduate-level job openings, according to Burning Glass Technologies, a reliable database that mines and analyzes employer job postings across the U.S. economy. The employers with the most graduate-level job openings range, for example, from organizations such as Deloitte, Intel, Amazon.com, and Boeing, to United Health and General Dynamics. The requests for research interviews to gather data for this study (described later under “Recruitment and Access”) targeted employers in this top 100 list until the necessary number of interviews (also described later) was yielded. It is these leading employers in graduate-level hiring who are best positioned to speak to why they are hiring for master’s-educated candidates and how this process works, as they are the most active and experienced organizations in this area. While the findings will not be generalizable to all employers in the economy at-large, the intent of the study is not to extrapolate to or describe practices related to the entire economy or all occupational roles, since graduate degree qualifications account for a still relatively small share of job roles/the labor force. Rather, the
focus is on the insights that can be garnered from understanding the rationale and practices of employers who do engage in substantial master’s degree hiring (that is, those that are focused on this segment), so as to help explain and describe the growth and character of the professional master’s degree phenomenon and the implications for universities and other stakeholders.

Beyond the foundational employer/organizational level described above, the individual participants within the employer organizations represent an additional level of participation. The individual participants were human resources leaders and in some cases other hiring managers and executives within targeted employers. Human resources leaders were the key individual participants because they are the individuals who most often design and lead the implementation of the policies and practices related to recruiting and hiring processes, the central concern of this research study. In addition, human resources leaders have a deep understanding of their organization’s history and play a strategic role in managing human capital and generating organizational performance (Barney and Wright, 1998). However, recognizing that human resources leaders do not have a monopoly on hiring and recruiting – which is often a collective and distributed activity within large employers, since line managers play a significant role as well (Storey & Sission, 1993; Ulrich, 1998) – other managers and executives were also sought out and interviewed to ensure breadth and diverse perspectives.

Sample Size

Creswell (2011) underscores that the goal of qualitative research is not statistically driven generalization, but uncovering detail about the entities or individuals being studied. As a result, there are few strict parameters on sample size in qualitative studies (Patton, 2001).

According to Katz (2001), as a qualitative approach, general inductive analysis is oriented toward pattern recognition – so studies in this mode do not attempt to use probability
sampling or generate statistics characterizing their representativeness. Notably, the final sample size was determined – as is typical in this approach – over the progression of the research, as qualitative trends and themes converged over multiple interviews. Punch (2009) describes continually refining the explanations of phenomena apparent in multiple cases, until the point where new cases consistently confirm the findings/explanation of the phenomenon. Patton (2001) and Trotter (2012) emphasize the same point, suggesting that interviewing to the point of redundancy or “saturation” is the ideal standard.

Thus, at the outset of the study, it was not possible to know when this theoretical saturation point would be reached: the ultimate sample size achieved was 19 interviews. Research by Guest, Bunce, and Johnson (2006) that sought to answer how many interviews are necessary to achieve saturation in qualitative interviewing found that saturation occurred within the first 12 interviews, with major themes apparent in even fewer interviews. Indeed, this was the experience when executing this study. Key themes and alignment in the responses of employers became apparent and consistent within the first 10-15 interviews, with the very last interviews typically providing little new information and tending to provide strong confirmation of earlier themes. Curry, Nembhard, and Bradley (2009) suggest that the volume of interviews conducted in this study (19) could achieve theoretical saturation, and Creswell (2011) suggests that approximately 20 interviews is suitable for grounded theory studies, which share similarity with the general inductive approach.

Discussing general inductive analysis, specifically – and consistent with Patton (2001), Punch (2009), and Trotter (2012), who focus on qualitative research generally – Katz (2001) asserts that external validity comes from corroboration across multiple sources of data (such as multiple interviews), rather than sample size. Katz notes that “there is no methodological value
in piling up confirming cases; the strategy is exclusively qualitative, seeking encounters with new varieties of data in order to force revisions that will make analysis valid when applied to an increasingly diverse range of cases” (p. 1-2). The data gathering process continues, “until the researcher can no longer practically pursue negative cases” (Katz, 2001, p. 2).

Finally, the sample of 19 interviews was intended to ensure variety and diversity in cases, which Creswell (2011) and Suter (2011) describe as ideal for qualitative studies. According to Patton (2001), achieving the appropriate level of variety in alignment with the goals of the research is a key consideration in qualitative sampling. The appropriate sample size ensures that differing types of organizations – employers representing varying sizes, industry sectors, regions, etc. – were included in the research. This accounted for the dynamic that there is homogeneity among employers within the same industry and heterogeneity across industries, a methodological design consideration implied by Klein, Dansereau, and Hall (1994).

**Recruitment and Access**

As the first step in the recruitment of participants, approval was obtained by Northeastern University’s Institutional Review Board (IRB) in August 2013, followed by the recruiting of participants beginning in September 2013 in accordance with IRB protocols.

Consistent with the sampling criteria described earlier, organizations were identified based on their level of graduate-level job posting activity captured in the Burning Glass Technologies (2013) database. From this list of organizations, the researcher sought publicly available contact information for key human resources leaders and executives. Most importantly, as suggested by Merriam (2009), the researcher’s personal contacts, professional and organizational network, the Internet, and other sources were leveraged to achieve referrals to appropriate, qualified individuals within target organizations. Merriam (2009) points out that this
is a valid approach in qualitative research since the goal is not a specific level of representativeness or sample size (as in survey research), but rather, reaching informants who can provide the best insights on the phenomenon under study. Initial communications inviting and referral requests for participation in the study used a recruitment letter (delivered by e-mail) clearly describing the study and its research goals. A copy of the recruitment letter is provided in Appendix 2. Additionally, given the professional networks that are common in the business world, some participants in the study provided referrals to their peers at other industry-leading, target employers – a commonly employed process known as chain, snowball, or network sampling (Patton, 2001; Merriam, 2002).

Informed consent was secured via the transmission of an IRB-approved unsigned consent form to all participants (Appendix 3). No incentives were offered other than an executive summary of the study’s results (shared at the study’s completion), which was considered of interest to the participants given their professional roles.

Considerable time was invested in the recruitment and interviewing process to reach and secure the participation of senior executives at targeted major corporations, with outreach and interviews occurring from September 2013 through January 2014. The ultimate sample is substantial in providing a cross-section of brand-name companies in American business, with many employers in the Fortune 100. The 19 employers interviewed collectively post more than 50,000 graduate-level job advertisements per year; employ 3 million employees (average: 155,000); and generate approximately $1.1 trillion in annual revenue (average: $55 billion) – which accounts for 7% of the Gross Domestic Product (GDP) of the United States.

**Data Collection**
The research was designed and executed in full accordance with Northeastern University’s Institutional Review Board policies and standards governing student thesis projects, as well as generally accepted national guidelines on research and human subjects (NIH Office of Extramural Research, 2012). The nature of this study involved minimal risk to participants. Participants shared information with full knowledge that it will be published in the study, and that any information about specific individuals, the identities of the organizations participating, or of a confidential nature was omitted from the study. To encourage and enable disclosure of relevant insights, the study does not identify either the participants or their organizations by name. This approach to confidentiality was instrumental in securing the participation of top companies and garnering candid insights from executives.

The goal of the data collection process was to enable the building of qualitative perspectives about the behavior of employer organizations. As a result, the study used interviews as a means of data collection, consistent with the general inductive analysis tradition (Thomas, 2006; Creswell, 2009; Merriam, 2009). Interviews were the most direct, flexible, and nuanced way to explore employers’ master’s degree hiring rationale and motivations (the “why”) and process (“the how”) that represent the central questions in this research study. Interviews were expected to and did yield richer and more extensive data compared to surveys or other sources.

The interviews were semi-structured in nature, and were audiotaped and transcribed, then coded. A copy of the semi-structured interview guide is included in Appendix 4, and the interview guide evolved slightly over the course of the research, consistent with Katz’s (2001) description of the general inductive analysis methodology. Note that Appendix 4 also details the basis for the interview questions, driven by the literature review and theoretical framework. The interviews were conducted almost entirely via telephone: one participating firm, to ensure
additional internal review, chose to provide detailed written answers via e-mail in response to the questions in the interview guide. The interviews with each firm typically lasted between 30-60 minutes. As noted earlier, human resources leaders at employer organizations were the core interview subjects, supplemented by interviews with other individuals such as line managers and executives with hiring responsibility.

**Data Storage**

Study participants received an IRB-approved unsigned consent form communicating their agreement to participate in the study and disclosing the recording of interviews. The data for this study was stored entirely in digital form, an appropriate and increasingly common approach in qualitative studies according to Creswell (2011).

Digital audio recordings were generated from the interviews, and stored on a password-protected laptop computer and additionally backed up in a secure, password-protected online database that only the researcher had access to. Digital transcriptions of the interviews and interview notes were created as electronic word processing documents, and these were also stored in a secure digital form. The interview notes will be maintained by the researcher in perpetuity – on private computer systems accessible only by the researcher. Audio recordings were destroyed following the transcription of the interviews and the completion of the research project.

Only the student researcher and the student’s advisors (that is, the principal investigator and dissertation committee) had access to the interview transcripts.

**Data Analysis**

The core data collection process of interviewing generated notes, recordings, and ultimately, transcriptions. To derive meaning from the interviews in a reliable fashion, transcripts
were coded and categorized through a manual process. The coding process attached phrases, ideas, and words in the interview with units of meaning and themes (Thomas, 2006; Saldana, 2009). The first phase of the coding process used “open coding,” an approach described by Saldana (2009) as oriented toward remaining open to interpretive possibilities and based on labeling the transcript with summative literal words and phrases true to the voice of the participants. In addition, this process focuses on action and activity (process coding) and summarizing referenced topics in a single word (descriptive coding). The coding process is key to the general inductive analysis approach employed in this study (Thomas, 2006).

Once the initial/open coding process was complete, the second phase of the coding process employed axial coding, which is a second stage coding method that focuses on refinement, grouping codes into categories, and uncovering findings in an inductive fashion (Onwuegbuzie, Dickinson, Leech, & Zoran, 2002; Saldana, 2009). In the axial coding process, the categorization of codes drives toward themes that describe the meaning embedded in the content (Onwuegbuzie, Dickinson, Leech, & Zoran, 2002). As part of this process, a codebook (i.e., a central list of codes from across the interviews (Saldana, 2009)) was created.

After codes had been categorized based on common ideas and themes, the categories were cut and pasted, and plotted on a blank page to explore relationships in visual form. This conceptual mapping process is referenced by Creswell (2001) in his descriptions of both general analytic strategies in qualitative research and in exploring the causal conditions and contextual relationships of axial codes through visualization. The process of visualizing and diagraming the data and patterns within it is also referenced in Boeije’s (2002) discussion of aids in the constant comparison process, and Merriam’s (2009) recommendations on the analysis process.
Essentially, the arrangement of categories helped to create a framing for and hypotheses about patterns and trends in the interviews, in connection to the research questions.

As recommended by Creswell (2011), transcripts were read numerous times through a reflective process, with coding and classifying ultimately driving to interpretation. Clear themes and patterns emerged through the reading, coding, and the analyzing of multiple interviews, as suggested by Boeije (2002). Although the transcription and coding did not begin until multiple initial interviews were completed, in the second half of the study, the transcription, coding, and analysis process occurred concurrent with conducting new interviews, which enabled continuous refinement and analysis.

Once the coding of interviews was complete, the analytical process developed findings and derived meaning from the prominent themes and categories that emerged, consistent with the general inductive approach described by Thomas (2006) and Katz (2001).

**Trustworthiness**

Data was derived from a variety of reliable sources, and the organizations being studied are major employers of significant scale and reputation. The researcher’s focus on external organizations and the job market (compared to, for example, a study of the researcher’s own institution) minimizes threats to internal validity (Creswell, 2011).

The conclusions contained in this study were developed through structural corroboration and triangulation across multiple interviews, a key contributor to reliability and credibility in a qualitative study (Creswell, 2011). Katz (2001) notes the external validity of general inductive analysis studies is generated from this type of triangulation and internal consistency across multiple examples. Additionally, quotations in the study developed extensive “thick description,” which allows the reader to experience the data directly and make their own judgments (Creswell,
According to Katz (2001), the deep nuance and variety of descriptions that emerge from general inductive analysis are powerful demonstrations of validity. Further, the data generated through interviews hinged not only on the researcher’s notes, but rather, relied on audio recording and transcription to ensure accuracy, as suggested by Creswell (2011).

In addition, the quality of the overall study is enhanced by careful attention to research design and the recommendations of key theorists such as Creswell (2009, 2011), Katz (2001), Merriam (2002, 2009), and Thomas (2006) – each of whom has been cited in the preceding text. Finally, insofar as the study was developed over time with the critical review of hypotheses, findings, and conclusions by peers and advisors, this constitutes an additional contributor to validity (Creswell, 2011).

**Positionality Statement**

In qualitative research, the researcher is the primary instrument for data collection (Merriam, 2002; Creswell, 2011). Because of this – and indeed, in all forms of research – it is important to understand and state the researcher’s position relative to both the issue of study and the study participants. While it is impossible to eliminate all bias since qualitative research is inherently subjective, Merriam (2002) suggests that qualitative research is informed by – and in fact made richer through – the researcher’s perspectives.

This researcher has nearly 15 years of experience in higher education, with much of this professional experience focused on innovation and program development at the intersection of higher education programming/policy and the job market. Prior to this particular study, in the course of work over many years in both research and administration, the researcher has conducted hundreds of interviews and meetings with employers concerning their higher education needs, and has also led studies and surveys on this topic. The researcher’s interest in
the questions explored in this study stems from observing firsthand – both through strategy consulting work with hundreds of universities; and over the last four-plus years as a university administrator– the lack of data and understanding related to how employers use college credentials in hiring decisions and how they influence the market for master’s degrees. As the literature review section of this study demonstrates, independent of the researcher’s personal interest, these issues have been documented as being of great interest and importance in both the global economy at-large and within the higher education, policy, and employer communities.

As an individual with business training and work experience, and as the holder of both a master’s degree (an M.B.A., itself a professional master’s) and an undergraduate degree in business administration, the researcher’s interest in and views on this topic are influenced by a belief that higher education can be viewed as a market (or ecosystem, consisting of students, employers, etc.: the notion of higher education as a market has been covered by scholars such as Newman, Couturier, and Scurry (2004), Slaughter and Rhoades (2004) and Zemsky, Wegner, and Massy (2005)). This perspective informed the choice of human capital theory (which originates in economics) as the theoretical framework – although multiple competing frameworks were evaluated and considered, and the theoretical framework section of this document makes the case the human capital theory is the best-suited lens to address the research questions at hand.

In this study, the researcher is an independent observer, objectively studying third-party organizations. Outside of the fact that the researcher’s employer, Northeastern University, has more than 3,000 global corporate/employer relationships due to its unique focus on experiential learning, the researcher did not have personal relationships with the participants under study. Because the researcher’s professional work often involves studying the employer landscape and
employer partnership and need assessment, there were some cases where the researcher had previous contact with the major employer organizations involved in the study. Given the scope of Northeastern University’s employer partnerships and the researcher’s professional experience and role, it would be difficult if not impossible to identify major employers that the researcher or Northeastern did not have some knowledge of or connection to (and such an approach would not lead to a valid study: sampling strategy is discussed earlier). In the cases where the researcher did have a pre-existing relationship to the organization, existing personal contacts facilitated introductions to appropriate individuals within the organization, in the context of the objective sampling frame. As detailed deeply in the methodology section earlier, the employers under study were selected independent of any relationship with the researcher, due to their prominence in hiring graduates of master’s degree programs, as measured by an objective, third-party database. No conflicts of interest existed, and participation in the research was clearly positioned to participants as related only to doctoral research work – and not connected to the interests or relationships that may exist between the researcher’s employer and the employers under study. The participant recruitment approach and positioning are captured in the “Recruitment and Access” section earlier.

The immediately preceding “trustworthiness” section in this document articulates from a methodological perspective the multiple, evidence-based ways that validity and reliability are achieved in the study.

**Limitations**

This study was exploratory in nature and is limited by its scope and qualitative methodology. The sample (19) represents only a cross-section of the large United States economy and employer master’s degree hiring activity. However, to the extent that the achieved
sample of interviewed companies collectively represents approximately $1 trillion in annual
corporate revenue and 3 million employees (approximately 7% of GDP and 2% of the total U.S.
workforce, respectively) this is a meaningful and diverse sample.

The study’s sampling frame was intentionally designed to focus on large, for-profit
corporations. Thus, the findings – while potentially relevant to other types of organizations or
settings (e.g., small firms) – should be interpreted as describing this category of
organization/company only. The methodology and sample was also intentionally focused on the
firms that post the greatest number of master’s-level job openings each year.

Non-profit organizations (e.g., university and hospitals) and government agencies are
themselves major and influential hirers of master’s degree-level candidates, and these groups
were explicitly/purposefully excluded from this study. This study’s major interest was in the
large for-profit corporations that account for an extremely large share of jobs in the United States
economy and who have recently driven master’s-level job growth by using the master’s as a
professional credential (whereas universities and government, for example, have their own
distinct credentialing traditions). In addition, all of the companies interviewed for the study are
headquartered in the United States. While participating employers at times spoke to trends and
practices in their global, extra-U.S. operations, the study’s focus was on a United States context
and its findings may not be applicable to other regions.

This study’s focus on human resources executives, while incorporating some interviews
with line/hiring managers, is a further limitation on its translatability. The titles and roles held by
the participants interviewed hinged on how these particular companies structure their talent
sourcing and setting of educational qualifications; and how they routed the interview request,
both of which varied significantly. Thus, while interview participants were carefully qualified,
the final results do not describe to a single particular human resources function or capacity within corporations, given the diversity of structures and respondents – which ranged from senior vice presidents of human resources to college recruiting managers, talent acquisition executives, and line managers.

It should also be noted that this study was fairly unique in seeking to address how “master’s degrees” writ-large are perceived and used, across a wide range of company types and business functions. It is clear in the literature and was clear in employers’ responses that there can be significant variation along these lines even within the same company; from corporate unit to unit; or from function to function. Thus, the characterizations presented in this study are broad and should be interpreted with care given the known heterogeneity in these phenomena. In addition, to the extent that the data is self-reported and descriptive, employers’ responses and characterizations may differ from actual practice. Similarly, because of the study’s diversity in issues addressed – and given the sample size and the nature of employers’ responses and practices – it was not possible to draw many significant/meaningful comparisons across industry sectors.

To the extent that the study surfaced a range of conflicting and competing explanations and views across a diverse set of employers, it is not always possible to make definitive descriptive conclusions in certain areas of study. However, the focus of this study was not to confirm theory or generate new theory, but to surface information and heuristic examples and color that could be considered by practitioners and the intended audience (colleges and universities, employers, policymakers, students, etc.). The study does however draw a number of suggested conclusions about the relevance of various aspects of human capital theory and screening and signaling, grounded in the original data.
This study aimed, broadly, to provide a deeper and more nuanced foundation for understanding in an area where relatively little is known or defined. This study was therefore limited by the lack of existing studies on the topic, and also by the complexity of this problem of practice and the related literature base crossing multiple academic disciplines and traditions (e.g., education, economics, business, sociology). Future research might explore specific master’s degree types, employer types, or economic sectors; other nations or settings; or utilize much larger sample sizes, quantitative methods, or other qualitative methods such as case studies.

To the extent that careful attention was paid to research design and analysis – and that accepted and rigorous qualitative procedures were followed as detailed throughout this methodology section – the researcher believes that the results of this study are valid and reliable.

**Chapter 4: Findings**

The principal questions in this research study are why and how employers value and use master’s degrees as professional qualifications in their hiring process. Rather than organize the discussion of findings around the two driving research questions (e.g., one section on “why” and another on “how”), the section that follows approaches the major findings inductively, moving through some of the most fundamental topics and themes in the study to some of the more specific considerations and practices related to the employer behaviors related to master’s degrees. In this way, for example, the findings can simultaneously address why master’s degrees are preferred/required alongside the discussion of how this determination is made and by whom.

First, whether educational requirements are escalating is addressed, and this is particularly important given the growing incidence of master’s degrees (enrollment, attainment, etc.) that played a major role in prompting this study. This is followed by the critical dimensions of whether the master’s degree tends to be a preference versus a requirement, and how this
distinction is made; followed by the fundamental issue of the meaning that employers ascribe to master’s degrees and why they use them as qualifications – with a particular focus on interpreting this through human capital theory. This sets up the discussion of how employers value master’s degrees economically and relative to experience, as well as how and to what extent reputation and brand of the awarding institution are considered. Finally, employers’ special master’s-focused recruiting activities are addressed – as well as the role of geography in setting educational qualifications and recruiting, and the extent to which employers are conducting analysis of educational credentials linked to post-hire performance. Together, these findings paint a picture of how employers shape the role of master’s degrees as professional credentials – and these lines of inquiry were established based on the literature review, as detailed in Appendix 4.

The key research themes and related findings are summarized in the table below, followed by the narrative discussion of these findings over the course of this chapter.

<table>
<thead>
<tr>
<th><strong>Line of Inquiry</strong></th>
<th><strong>Finding</strong></th>
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<tbody>
<tr>
<td>Is the value/use of the master’s increasing?</td>
<td><em>Wide range of perspectives; moderate growth overall</em></td>
</tr>
<tr>
<td>Preference or requirement, and how determined?</td>
<td><em>Rarely required but frequently preferred, with the bachelor’s as a minimum standard</em></td>
</tr>
<tr>
<td>Screening/signaling or hard and soft skills?</td>
<td><em>Employers use as a screening tool as much as a demonstration of hard skills/competency</em></td>
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<tr>
<td>What is the economic value and relativity to experience?</td>
<td><em>Formulaic salary premiums are rare and value is tightly coupled with experience</em></td>
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<tr>
<td>What is the role of brand and reputation?</td>
<td><em>Brand is commoditized outside of the elite tiers and program reputation is key</em></td>
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<td>What is the nature of master’s-focused recruiting?</td>
<td><em>The master’s is increasingly a path to leadership roles through special recruiting programs</em></td>
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<tr>
<td>Do requirements or recruiting activities vary</td>
<td><em>Preferences and requirements for the master’s</em></td>
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by geography? | rarely vary by geography but place does matter in recruiting and global dynamics are emerging  
---|---
How do employers analyze credentials vs. performance? | Analysis is the exception rather than the rule, with employers seeing a significant future opportunity  

*Figure 1. Summary of Findings/Major Themes*

This chapter focuses on presenting and discussing the study’s findings and the evidence behind them, particularly via invoking the “thick description” of direct anonymous quotes from the employer interviews. Each section within the chapter begins with a bullet-pointed summary of major findings. Following this chapter’s discussion, Chapter 5 focuses on analysis, implications, and conclusions that can be drawn from the findings.

**Increasing Demand for Some, Stable Demand for Others: Employer Perspectives on the Growth of the Master’s as a Qualification Range Widely, Suggesting Moderate Growth on Average**

- Master’s degrees are increasingly prevalent as a preference or requirement at a slight majority of employers – but about half of employers report no change in recent years
- The increasingly complex nature of work, the economic environment – and the greater availability of individuals with a master’s – is driving the prevalence of the master’s as a qualification, which is seen as both differentiating yet increasingly ubiquitous

To a surprising extent, the employer interviews surfaced a wide range of competing perspectives on whether or not the prevalence and value of the master’s degree as a qualification was increasing over time. At the outset of the research, the working hypothesis was that master’s degrees would be consistently increasing as a job preference or requirement, given the increases in attainment and the economic value of the master’s documented earlier. Although a slight majority of employers shared rich perspectives and examples to support a pattern of escalating educational qualifications centered on advanced degrees, many others reported no change in their
preference for master’s degrees over time. Yet, only in very few cases did employers say that the incidence or value of master’s credentials was decreasing. As a result, on average, it does appear that master’s degrees are more common as a preference or requirement. However, the idea that educational preferences and requirements are escalating/inflating ever upward is not universal.

Interestingly, the share of roles that required or preferred a master’s or advanced degree and the trend line for graduate-level roles was something that many executives at major companies were often not able to speak to quantitatively or authoritatively, suggesting that these dynamics are not key performance measures that they consistently monitor. However, some firms were able to provide specific metrics or detailed perspectives on how either college degrees generally or master’s degrees specifically had become more prevalent as a requirement or preference during their tenure with their organizations or in the industry. In the case of one company, discussing escalating educational requirements generally over the last decade:

*We have put a huge focus as a company on education and we will continue to do that.*

*Approximately 90% of my exempt – meaning professional – hires are degreed hires…*

*Close to 80% of my non-exempt – which are hourly people – have a degree in something: and that’s very different from about 10 years ago when (it) was about 30% (Personal interview, 2013).*

Another firm, in the healthcare industry, also cited a longitudinal increase, while pointing to an increased recognition of the signaling value of the master’s degree among students/professionals:

*Absolutely (the master’s) has (increased in prevalence). When I first started in this business 20 years ago, nobody had advanced degrees. And then along the way… people have realized that it looks great on a piece of paper and oftentimes it will get you that interview, and it’s a differentiator (Personal interview, 2013).*
In this way, in addition to providing some evidence for the “demand side” need that is the focus of this study (that is, employers demanding or needing master’s degrees due to increasing job requirements), the interviews also surfaced perspectives on “supply side” drivers: more students pursuing master’s programs, and more universities offering them. For example, the talent acquisition leader at a diversified engineering firm highlighted that master’s degrees are easier to attain than in the past, and that increased attainment rates had shifted the master’s from previously truly “distinguishing” to today “ubiquitous:”

*I also think it is frankly easier today, too… my perception is that it’s much easier to attain now than a decade ago. Where a decade ago and maybe a little further back than that (master’s programs were characterized by) 60-credit more full-time than part-time type requirements, and it was really attended more by people who have gone out to work for 10 years now they’re going back and getting a master’s degree. Now you’ve got a much larger population of people going from undergraduate to graduate school and you just have the proliferation of online degrees and 30-credit degrees where ‘master’s degree’ has become ubiquitous versus distinguishing (Personal interview, 2013).*

Similarly, a recruiting leader at another firm also highlighted the fact that the more ubiquitous master’s degree stands out less than compared to the past – while also offering an example of an emphasis on signaling and screening in association with the degree:

*I think 15 years ago just getting your M.B.A. was considered a pretty significant accomplishment that set people apart with regards to achievement, ambition, and just overall knowledge coming away from some of those programs. Nowadays you can get so many types of general M.B.A. degrees – I think the prestige has worn a little bit… (what is) being considered would be where they went to school versus just having the degree*
One of the employers quoted above referred to the master’s degree as an essential requirement today, given the complexity of work and the increased supply of master’s holders in the labor force: “It’s… undergraduate degree – yes, check; graduate degree – yes, check; now let’s get into the interesting pieces” (Personal interview, 2013). Another employer in the healthcare industry, while also making reference to this supply side concept and the signaling value of education, emphasized that more students are pursuing master’s credentials as the bachelor’s degree has become more common and less distinguishing – and also as the economy has become more challenging in recent years:

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Everybody goes to college. So it’s a little bit like it used to be the best and the brightest went to college and got a bachelor’s. Now everybody goes to college and so there is some assumption that the best and the brightest get a master’s. But because the job market has been tight so many people have gone to get a master’s just because they didn’t have anywhere else to go (Personal interview, 2013).
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Additionally, similar economic cycle-related and signaling themes were evident in many other interviews, as in the case of a biotechnology company:

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(Employers) are asking for master’s degrees and they weren’t before... because there’s a lot of people that don’t have work compared to 10 or 20 years ago... now everything’s global – so it’s also competition... you can ask for someone, because they’re out there (Personal interview, 2013).
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This is consistent with Cappelli’s (2012) argument that employers can afford to be “choosy” in their setting of qualifications and screening of applicants in the current economic landscape – and the idea that professionals are engaged in an “arms race” to distinguish themselves above
and beyond the competition. Similarly, the nature of today’s global pool of talent means that employers have more choices. One employer, for example, pointed to the significant structural changes in the global economy in recent decades as one factor impacting the commonality of master’s degrees. This employer believed that this credentialing emphasis has been driven by the transition to a broad-banded salary environment in recent decades – “more of a latticed kind of career approach as opposed to a ladder” (Personal interview, 2013). As a result, professionals are increasingly investing in their own development (a theme touched on later) to qualify or get an edge for new positions or with new employers, compared to moving in lockstep up a defined career ladder within one organization.

Similarly, in a number of cases where companies reported no change in their preference for a master’s degree in recent years, this was attributed to the nature of the economic environment and the fact that an already high (and at times majority) share of roles required an advanced degree. This was especially frequent in knowledge-based firms such as pharmaceutical companies or consultancies. One pharmaceutical firm, for example, emphasized that since lower-skill work had been outsourced in recent decades, the roles that were left within the organization were all at an advanced, professional level – and thus they typically required master’s or even doctoral degrees. In many other cases, the “faster pace” and increasingly global, competitive nature of the economy were often cited as drivers of the increased commonality of master’s degrees as professional qualifications. For example, one major conglomerate reported that its recent and future growth is coming from the highly technical sides of its business, requiring more specialized and advanced skills and training, and therefore, in many cases, a master’s degree.

Together, these perspectives suggest that overall, the prevalence of the master’s as a qualification is increasingly moderately, but not exponentially; and that in a changing economy,
the master’s degree increasingly provides candidates with a competitive edge.

**The Master’s is a Preferred but Rarely Required Qualification that Differentiates Candidates in a Professional Talent Marketplace Where the Bachelor’s is the Norm**

| • The bachelor’s degree has frequently become the minimum expectation – a basic requirement – for professional roles at most employers  
• The master’s degree is often viewed as a baseline for promotion into leadership roles  
• Master’s degrees are rarely designated as “required” and are most often written into job descriptions as “preferred” – largely because of legal considerations |

To understand why and how employers use master’s degrees as professional credentials in their hiring process, education – and master’s-level qualifications specifically – must be situated within the context of other hiring criteria, an area where there has been a lack of deep analysis, particularly in terms of considering college-level credentials and professional settings (Bills, 2003; Brown & Sessions, 2006; Rivera, 2012; Cappelli, 2012).

At virtually all of the employers interviewed, education was found to be one of the most important hiring criteria in the total package that comprises the candidates’ profile, consistent with research conducted in other settings and time periods by scholars such as Bills (1990). The earlier literature review documented in detail how bachelor’s degree attainment has become extremely common in the professional workforce over recent decades (Baker, 2011) and that the bachelor’s degree has in many cases become the entry-level qualification for professional roles (Carnevale, 2008a; Carnevale, Strohl & Menton, 2011). This was confirmed by the interviews for this research study. For example, at many firms, a bachelor’s degree is written into what are referred to as formally defined “basic requirements” for hiring that an individual must meet to even be considered for a role. One organization, for example, cited the importance of the bachelor’s as a requirement for everything from the least experienced/entry-level roles to more senior positions:
We over the last several years have had a huge focus on degreed hires... We’ve put a huge focus on education: having an undergraduate degree as being very relevant to whatever job you come in for – whether it’s customer (service), whether it’s retail, etc. (Personal interview, 2013).

Many other organizations referred to bachelor’s degrees using terms such as a “pre-requisite,” or “minimum expectation.” As one employer with a retail presence described, “We view a bachelor’s degree as a strong foundational qualification for success as a future leader in our organization, whether for our stores, distribution centers or global headquarters” (Personal interview, 2013). In this environment of bachelor’s degrees frequently being minimum qualifications, the master’s degree is emerging at many companies as a strong preference, and in some cases a requirement. For example, as reported by one healthcare company:

   By nature of the capabilities required for the majority of our roles... we do pretty much require, across the board, some sort of advanced degree. Now it’s not 100%... but I’d say for the majority of the population that I work with... it is just by the nature of the work that we do is very detailed, very complex, and which requires... in line from the market analysis perspective... someone who has advanced degrees (Personal interview, 2013).

This same organization referred to the master’s degree as helping candidates get their “foot in the door” as the baseline requirement when applying for a role through its online system, echoing a point made by Cappelli (2012) that the specificity and binary constraints of online job applications are changing the candidate/employer job search dynamic by literally codifying certain qualifications.

Consistent with the earlier discussion in the literature review (regarding significant variation in the preference for and value of the master’s degree by professional field), the
master’s degree’s status as a preference or minimum requirement varied greatly between functions in an organization – and was most prevalent as a qualification in areas such as finance, marketing, human resources, and highly technical or scientific functions. While speaking generally to trends and qualifications across the organization, interview subjects often underscored the fact that the importance of a master’s degree could vary from function-to-function and across organizational levels. For example, as described by an HR leader at a financial firm:

*When you look across a company like (COMPANY)… there are specific niches or verticals within those lines of business where degrees play a larger part than others – there’s a broad discrepancy across this whole organization with how that is viewed* (Personal interview, 2013).

Similarly, a technology firm emphasized that its setting of educational qualifications and master’s-level recruiting is purposefully aligned with/segmented by the major business functions that it is organized around. Further, as another firm commented:

*There are certainly some roles in a number of our businesses where the master’s is a requirement at the experienced level of hiring. And this is particularly in a lot of our technical businesses where certainly we are looking at, as a standard qualification, somebody might have to have their master’s to move into that experienced level role too* (Personal interview, 2013).

Another important finding is that in many companies, the master’s degree is often seen as a prerequisite and key credential for leadership/management-level roles. A diversified company described this, for example, in the following terms:

*As a general qualification it (the master’s) has become the de facto requirement at*
(COMPANY) for management levels and above, that somebody has an advanced degree... So as we look externally, it very much is a requirement at this point for I would say anyone who’s Generation X and younger, if you will, to come into the corporation at a management level or above that you have an advanced degree (Personal interview, 2013).

A financial company similarly put into relief this dynamic of the master’s degree as the preferred qualification for senior-level roles:

*At the level that we operate... it is a minimum expectation that there is a bachelor’s degree. And there is usually an expectation when it involves a management role that there’s the high likelihood that there’s some other advanced – a master’s degree of some kind as well (Personal interview, 2013).*

Altogether, the interviews confirmed that the bachelor’s degree appears to have become a standard requirement for the professional workforce in corporate America (and for that matter, at multi-national companies, insofar as interviewed organizations operate globally). Against this backdrop, the master’s degree is often the preferred designation for leadership roles. Why this is the case is discussed later.

**How the Determination of Preference vs. Requirement is Made and Why This Distinction is Important**

Whether master’s degrees are preferences or requirements is one important dynamic: the process and rationale through which this determination is made is another. In this regard, it was remarkable how often the specific term “nice to have” – a measure of preference – came up in discussions with employers regarding the master’s degree. In fact, for reasons explored below, it was found to be extremely rare for employers to make the master’s degree an outright
requirement – while requiring a degree was far more common with bachelor’s degrees. The bachelor’s degree’s ability to stand as a minimum qualification rests on the fact that a relatively large percentage of candidates in the professional labor force hold one. Requiring the master’s degree, on the other hand, severely limits the pool of candidates that might qualify for a given job, since just 11% of the U.S. adult population holds a master’s – which introduces a legal/discrimination-related concern for employers at such a refined level of qualification.

Indeed, the most significant finding in this arena is the clear influence of legal/regulatory forces in driving what employers may specify as required or preferred qualifications and credentials, with such matters encoded firmly in corporate policies. For example, in the case of a pharmaceutical firm:

Required is a very fine line where we can actually say what’s required because it could drastically limit your candidate pool that doesn’t have that required M.B.A. let’s say. We can’t technically hire them unless we repost the job for 10 days publicly in order to go to offer just due to some compliance reasons. So a B.A. is typically always required and an M.A. or M.B.A. is typically always preferred. We’ll never require an M.B.A., but we will require a B.A. or Ph.D/M.D. for some science positions (Personal interview, 2013).

And, as similarly described by both a finance firm, and a technology firm, respectively:

The only area where there’s a minimum requirement of an advanced education that we even allow at (COMPANY) is in the legal department, a law degree. The reason is because that really ties your hands. Once you put it as a minimum requirement of an advanced degree if you found somebody – and it usually will say something to the effect of “an advanced degree is preferred” – they’ll put it in the preferred category – but once you put it in a minimum, your hands are tied, and you can’t hire even the perfect
candidate if they don’t have that minimum. So it’s not really allowed to be honest with you, from a legal standpoint, for us to use an advanced degree as one of our minimum requirements (Personal interview, 2013).

Required is a very hard thing to do under the law. Unless it is a law degree, unless it is something that – it’s tricky... or is a highly specialized skill that you don’t have anybody else. Because invariably in a very large company we will have somebody who’s a super smart cyber-security guy who is out of his garage who does not have a degree (Personal interview, 2013).

These cited regulatory dynamics appear to reference the U.S. Equal Employment Opportunity Commission’s (EEOC) “prohibited employment practices,” which exist to prohibit discrimination. The EEOC’s “Prohibited Practices” web site references laws enforced by the commission that make it illegal to discriminate through job advertisements that may have a disproportionately negative effect on individuals of a protected class, using the specific example that follows:

For example, a help-wanted ad that seeks "females" or "recent college graduates" may discourage men and people over 40 from applying and may violate the law (U.S. Equal Employment Opportunity Commission, 2013).

A 2012 opinion piece from law firm Miller & Martin PLLC (Miller & Martin PLLC, 2012) noted that this legal interpretation is relatively recent and represents a new potential regulatory “landmine” for employers. The fact that discrimination-related regulations are a prominent theme in employers considering degree requirements versus preferences echoes the analysis of Calvasina, Calvasina, and Calvasina (2008) and O’Keefe and Vedder (2008).
One major employer referred to the process of determining preferred vs. required qualifications as particularly challenging, and full of inherent subjectivity as opposed to being driven by data and analysis:

*It’s definitely I think the biggest struggle we have – really qualifying and determining when that master’s degree is an absolute requirement for the role and when is it just a nice thing to have. And I think a company like ours is trying to apply a little bit more rigor in making that determination, so – we like to do some job evaluations on a consistent basis to truly identify when that is a required skill vs. nice to have... so we are starting to loop in our comp and benefits experts as part of those discussions. But for the most part I think HR tends to make the determination more often then not when that is a requirement for the role. And in many cases, I think our line managers just put it down not really thinking about it in a lot of detail. So a lot of our line managers will say “yes, I need a master’s degree” – but when you challenge them on it, they can’t tell you why they need it or why it’s a required competency. So I think HR has a little more influence over the decisions to be honest (Personal interview, 2013).*

Although this was fairly rare, some organizations reported that rigorous standards and protocols were in place for determining educational qualifications – including organization-wide job audits such as the “Hay process,” a job evaluation and compensation audit developed by the Hay Group consultancy (Hay Group, 2011).

There was great variation in *whom* within the organization determined whether a master’s degree would be preferred or required. This was as expected given the existing literature – e.g., Rynes, Orlitzy, and Bretz’s (1997) finding that experienced hiring is often decentralized, and the notion that hiring qualifications are set by many different groups including line managers in
addition to central HR leaders (Rynes and Bordreau, 1986; Storey and Sission, 1993; Ulrich, 1998). The vast majority of employers reported that the process of determining degree qualifications is often a partnership between central human resources functions and individual business units and hiring managers. Employers referred to a great deal of discretion and variation in this process. A number cited external market analyses and benchmarking as driving their determination of qualifications as much as internal deliberation. A number of organizations referred to a “global standards” framework that applied across their lines of business and regions.

**The Master’s is Both a Screening Device and a Demonstration of Professional Depth**

- Many employers are challenged to articulate the particular skills and traits associated with master’s-level candidates/roles, with explanations often centering on the degree as a screening tool for employers and as a signaling tool for job seekers in a competitive job market
- The master’s is particularly associated with traits such as ambition, drive, commitment to lifelong learning, and business acumen; employers also value the professional networks built by master’s degree study
- Master’s degrees signal deep specialized knowledge and technical acumen, with many employers reporting valuing specialized degrees more than general degrees
- For most employers, degrees are generally more meaningful than alternative types of credentials including certificates and certifications, due to the depth and commitment that they represent

One of the central questions in this study is *why* employers use master’s degrees as a criterion/qualification in their hiring practices – what the master’s means or connotes; what skills and attributes are associated with it; and what the credential signals.

In terms of what the master’s represents to employers, the vast majority of interview subjects spoke to the screening and signaling value of the master’s far more substantively and fluently than the specific hard skills or characteristics associated with a master’s degree. Many respondents had a difficult time explicating and qualifying why they valued the master’s degree or what skill-related attributes it connoted. At the same time, many others were able to point to specific skills that were affiliated with master’s-level educational credentials. What follows is a discussion of these dynamics, including most employers’ perspectives pointing to a screening
and signaling-heavy interpretation of master’s credentials, as opposed to skill-biased orthodox human capital theory.

A very common view among employers was that completing a master’s degree reflects positively on candidates by demonstrating their investment in themselves; their dedication to lifelong learning; and a level of ambition, seriousness, and drive. For example, as stated by two separate employers:

Someone who has taken the time and effort to earn a master’s means that they’re committed to furthering their career as well as their education… It just brings more credibility to the individual (Personal interview, 2013).

Because that’s an individual that’s a little bit more focused on career aspirations and positioning themselves for future roles and making an investment in themselves… A big thing in the professional workplace is owning your own development – and that (a master’s degree) is a primary indication of your willingness to own your development and make yourself more marketable within the organization (Personal interview, 2013).

Interestingly, some employers commented specifically on the importance of completing a master’s degree (or any educational credential) as a signal of the ability to achieve goals and perseverance – and suggested that this achievement could have as much value as the content of the degree, consistent with the screening and signaling variation on human capital theory:

I think that (master’s holders) are goal-oriented, that they set a goal for themselves and that they completed it. I would even tell you that completing a bachelor’s degree, what the degree is in itself is not as important as you made it through a 4-year program – maybe not in 4 years, but you stuck to it and you finished it says something about the
character – versus was it in English or English Lit versus a business course. It’s that you
have the degree. So there is something to be said about the individual, and the
characteristics of completing something; stick-to-itiveness, set up a goal and did it; got
through all of the diversions that students go through… got to the goal line (Personal
interview, 2013).

Two other employers, for example, similarly underscored valuing degree completion and goal
achievement over years of schooling in specific terms:

I think it (the master’s) conveys an individual desire or interest in continuous learning;
it’s a further commitment by the person to further educate themselves, whether they’ve
taken 2 years off from work or pursued it while working – so I think it shows another very
positive character trait that the person is willing to further their education and complete
it. I also speak with a lot of people who have started but haven’t finished it (Personal
interview, 2013).

I would almost rather hire a B- person who’s worked through school than an A+ person
who’s not worked through school. Because then I know they can suck it up, and I mean
that in the most non-pejorative (sense) – literally, that’s part of it. Will you show up on
time, will you be here all day – there’s a lot to be said about that… And I think the
investment that’s necessary in the EQ as much as the IQ is so important (Personal
interview, 2013).

Related to this theme, a number of employers felt that the master’s degree signaled someone who
was more “promotable” or had executive/leadership potential – as in Bills’ (1988b, 1992)
research on undergraduate and other levels of education. A number of employers reported that
master’s-level students – especially because they tend to bring more professional experience with them – did in fact have a record of moving into management-level roles in their organization faster. These findings also align with Weiss’ (1995) and Arkes’ (1999) assertion that employers may value degrees as signals of perseverance and motivation.

In addition, many employers recognize how master’s degrees serve as signals for candidates in addition to screening devices for their firms in the competitive job market. Some major companies referred specifically to these competitive market dynamics, echoing Cappelli’s (2012) notion of an “arms race” related to educational credentialing and Arrow’s (1973) model of filtering and the private returns on education, as in the following example:

_They realize that a master’s degree could be a differentiator... how do I position myself against anybody that I could potentially go up against on the career track? Like I said, at the end of the day, this is at the very least can be a tiebreaker for somebody_ (Personal interview, 2013).

Likewise, another employer in the pharmaceutical industry commented on the master’s degree as a competitive advantage for professionals in today’s economy, and the master’s degree’s utility as a “certification” or signal of ability that makes an individual a lower-risk hire for employers:

_It goes back to again it’s competitive, right, for people trying to get jobs today. So it gives them a competitive edge. It’s less of a risk. Think of if you were going to hire someone and you had someone who had this certification that said you can do it, and someone else has said I did it and let me tell you how I did it, but they don’t have that certification_ (Personal interview, 2013).

It is notable that employers used the term “certification” to describe a degree: others used similar types of terms, such as the degree as an “accreditation” of ability and skill. One
employer, a financial company, articulated the fact that master’s degrees have both an orthodox human capital (skills) component to their value, and signaling/screening value:

In addition to that (skills and knowledge gained in a program), there is this overarching feeling that there’s a commitment to continuing someone’s education to push themselves to be competitive at the intellectual level, to broaden their thinking and that stuff. So yeah, there’s that other extra component to the fact that they accomplished an extra 2 years of school separates them a little bit from the pack. So there are 2 pieces: the work that’s actually done in… the M.B.A. program for example; and then there’s also the thought of just what does that mean from a personal characteristics standpoint (Personal interview, 2013).

Despite the apparent prominence of screening in employers’ views on the master’s degree, executives at many companies did express more specific skills, attributes, and traits that they associated with master’s degrees. Often these were “soft” skills such as critical thinking, problem solving, communication, and leadership. This suggests empirical evidence for Conrad, Haworth, and Millar’s (1993) and Wendler et al.’s (2010) assertions about the value of graduate education – and aligns with the types of university-provided skills frequently valued in business settings (Parente, Stephan, & Brown, 2012), as in the following two example quotes describing the characteristics of master’s degree holders:

Good judgment, being an independent thinker, someone who has a lot of character and integrity – and I think that’s developed once they get into a master’s degree. It can start at the college level but it’s developed a little bit more at the master’s level (Personal interview, 2013).
More strategic and analytical in their thinking. More skilled at problem-solving down to the root level – and that they would have a certain level of, for lack of a better term, perseverance in working through issues... I think when I see a resume that has a master’s degree on it, it conjures up at least some thought that they have some additional leadership; maybe a higher level of professionalism, business acumen; those types of things (Personal interview, 2013).

As in the example above, the term “business acumen” was one of the most commonly used across a large number of interviews when employers were describing master’s holders – particularly M.B.A. graduates.

**The Value of Professional Networks Gained through Master’s Degree Study**

A somewhat unexpected and important finding is the idea that employers clearly linked the value of professional *networks* with the value of master’s degrees. This notion of “network capital” was referenced often. Just as companies acquire skills and ideas external to the firm by tapping into the outside job market and master’s degree holders, they also seek connections of economic value – with the strength of employees’ professional networks contributing to organizational/economic performance (Nohria & Eccles, 1992; Arrow, 1999). According to employers, this network concept is especially relevant when considering candidates from top-tier full-time M.B.A. programs (which feature cohorts of elite students with work experience) – and of course M.B.A. programs are well established for creating powerful global social networks (Hall, 2010). Some employers even stated this point in terms that discounted the value of the content of the educational program itself, relative to the network that students built:

*What I do like is some of the networks that M.B.A.s bring, right. And for people on the team that don’t have M.B.A.s but are considering getting M.B.A.s, they’re not necessarily*
going to M.B.A. schools to get further education – because quite honestly by the time they’re in this job and performing, they have some really great, unique skillsets. But what they’re doing is they’re going to diversify their network (Personal interview, 2013).

*I think that the master’s degree is not so much the piece of paper or necessarily what you learn in the class or in the program – it’s more about the network that you develop* (Personal interview, 2013).

The same hiring leader cited in the preceding quote went on to offer an example of the unique value of part-time, executive programs due to the value of networks:

*If you have an advanced degree from that institution you have a network of contacts that you’ve developed throughout your time there. And the executive M.B.A.s are appealing to a lot of these organizations because that’s you’re in the workforce, you’re taking your time on the weekends to complete these programs – but you’re also working with people that are already in the workforce. And that’s where these networks become priceless. And the access that you have to these individuals moving forward is second to none* (Personal interview, 2013).

These findings reveal that in addition to the networking value that is known to attract students into graduate programs (Hall, 2010), employers often value the social/professional network formation associated with master’s degree study consistent with the idea of “social capital.” This is consistent with Field’s (2005) view that social networks are a significant component of educational value alongside the more prominent and narrow view of skills and career-related values. While there is debate within economics and among/with sociologists as to whether
“social capital” is truly distinct from human capital or other forms of capital (Arrow, 1999), it is clear that many employers value these connections.

**Specialized/Technical Skills and The Signaling and Certification of Specialists**

The M.B.A. degree is so prominent in the eyes of many corporations and their HR leaders that when speaking of the master’s degree, they often refer to the M.B.A. as the point of reference. At the same time, employers very often presented a bifurcated worldview – with the M.B.A. and other broad degrees related to administration or general management on one hand; and more focused, specialized degrees such master’s degrees in engineering or discrete areas within business (e.g., finance, accounting, supply chain management) on the other. In the latter case, one of the most common dynamics that employers associate with master’s degrees is that they signal and certify a deep specialization. Not surprisingly, by contrast, the traditional M.B.A. is most often valued for its cross-functional nature and breadth, as in the following example:

*We also look at M.B.A.s because they have a broader understanding of how all the different functions connect together even outside our industry. So they can bring thinking from a broad perspective because they’ve gone through an M.B.A. (Personal interview, 2013).*

Specialized master’s degrees, on the other hand, are viewed by many employers as not only providing evidence or “certification” of a specialized skills and mastery of a domain consistent with human capital theory’s skills-based emphasis – but a signaling of a professional’s commitment to a discipline/function. As expressed by three employers across very different industries, for example:

*I think it shows certainly a commitment to this functional area that students are definitely committed to pursuing a career in that area, and pursuing the master’s designation*
certainly demonstrates that for us... I think the obvious is these folks you tend to view them as having deep technical expertise beyond maybe what you would find with an undergraduate degree, certainly our view and perspective is there’s going to be a strong technical depth and breadth that you’re going to get with these types of individuals... On the soft skills side I think there’s just a degree of credibility that comes with having pursued your master’s – and I think it shows to us a level of commitment as well, that you’re committed to that particular functional area – I think that certainly resonates with us (Personal interview, 2013).

Someone who brings a specific expertise to the table and has a master’s degree level associated that indicates competency in a specific function or in a specific area (Personal interview, 2013).

We’re specifically looking for people that have chosen (function) as their profession and do they have a good education underpinning coupled with now they’re going to specialize. And we want that specialty when we get them. So that’s a very, very specific strategic choice. And on top of it we know we’re going to get a little bit of business acumen; we’ll likely get 2-3 years of work experience that will help set them up for success. But they’re specifically targeting what they want to do and we want those skills. Same with finance, same with marketing, and more and more with sales... In those cases they’ve... really honed in on an area that they really have a passion about and go deep – and that really works for us (Personal interview, 2013).
In fact, when asked about the value of the specialized master’s (e.g., an M.S. in engineering, computer science, or finance) as compared to an M.B.A., many employers indicated a preference for the specialized master’s and often noted that specialization is more greatly valued in economic terms. For example, one employer that favored specialized master’s degrees emphasized the idea that a technically oriented master’s credential builds on and differentiates from a more general undergraduate degree:

*That’s where the master’s gets far more directed – if it’s a master’s program in big data analytics and you’ve got an undergrad, (or) you’re a double E (electrical engineering) and you’ve got an M.B.A. with a focus on big data and data analytics, that’s rock solid combination. If you have an undergraduate degree in psychology, a master’s degree, a standard M.B.A... but there’s not really any kind of emphasis, I don’t really know what kind of value that would bring, and I would focus more on the work experience as opposed to the master’s program (Personal interview, 2013).*

**Certificates and Certifications: The Degree Versus Alternative Credentials and the Screening and Signaling Value of Depth**

Given the immediately preceding discussion on the specialization and technical acumen that employers value in master’s degrees, how important the *degree* credential is – as a unit of learning or achievement – presents a significant additional question. This is of special interest as degrees are juxtaposed against alternative forms of credentialing such as certificates and certifications, which are theoretically potentially “purer” and more convenient (shorter commitment) forms of demonstrating and certifying competence and skill in an area.

University-awarded certificates and third-party industry certifications have been more popular in higher education in recent years, rising to prominence particularly in the late-1990s as
a “parallel postsecondary universe” of degree alternatives emerged (Adelman, 2000). In his article on degrees as credentials, signals, and screens, Bills (2003) posited that “there are indications, at this point primarily anecdotal, that employer trust is shifting from traditional educational credentials to such presumably more information-rich markers of skill acquisition as episodes of industry-certified training” (p. 459). Today, the question of whether the degree and the credentialing system that universities have owned is being “disrupted” is a very prominent one in academic circles and in the higher education media (Young, 2012; Carey, 2013) – as well as a growing area for new analyses (Ewert & Kominski, 2014). Thus, this study, given its focus on the master’s degree, presented an opportunity to test how important the master’s degree is relative to alternative “currencies” of skill or certification.

Many employers reported that they value industry certifications/credentials not awarded by universities, particularly in highly technical contexts (e.g., computer science) or in functions with well-established certification regimes – such as finance and accounting (CFA/CPA), human resources (SPHR), or project management (PMP). In some specific cases – especially in finance, where the chartered finance analyst (CFA) credential is ensconced as essentially an alternative to an advanced degree – certifications and professional designations can be valued equally or more than the master’s degree. As a major financial firm articulated:

*There are some certain areas where there could be some other designations, for example I think about the certified employee benefits designation. There are designations in CFA – by the way a CFA in a lot of the pieces of our business is much more important than a master’s degree. There are several other financial services designations that are more highly valued in certain spaces than an M.B.A.* (Personal interview, 2013)

And, as stated by a technology firm:
I’m actually finding that in certain areas – ISO certification, PMI certification, lean Six Sigma, black belt, Juniper programming and things like that – it would be more important than an actual master’s degree. So if you had an engineering degree and you had a series of certifications, vs. an engineering degree and a master’s degree, I would at minimum put those equal. And depending on the timing of when you received the certifications, and which they are – they may earn a premium on that, depending on what the role is. So that’s the balance. It really is role-driven, from that perspective (Personal interview, 2013).

While pointing to the value of current certifications over master’s degrees in technical areas, this same employer quoted above noted that the organization was struggling with whether or not college degrees were more valuable to invest in, given the broader skills and ways of thinking inherent in a degree vs. a purely specialized certificate or certification. This harkens back to the degree as demonstrating broader forms of thinking and competency:

We’re struggling because we spend about $100 million+ a year in tuition assistance. And the reality is do we want our population going back for a master’s degree or do I want them to be ISO certified… If somebody has their PHR – their professional human resources certification – I think that’s fine… but they’ve got to have their undergraduate degree, because then I know they can write. Or I hope they can write. I have a better shot at them being able to write (Personal interview, 2013).

Notably, none of the certifications cited in the preceding examples are awarded by universities – but rather, they are provided by professional associations and other industry bodies. The university-based terminology “certificate” – a collection of courses short of a degree – was almost always interpreted as synonymous with “certification.” Employers’ conflation of
university-awarded certificates with industry certifications is worth noting. Ewert and Kominski (2014), in their recent study of alternative credentials in the workforce, draw a clear definitional distinction between these two categories, with a certification representing a time-limited credential awarded by a certification body – often based on an exam or demonstration of competence; and an “educational certificate” reflecting the completion of a series of courses or program of study from an educational institution or training provider. In terms of university-delivered graduate-level certificates, a number of employers stated that degrees were valued over certificates because of their screening value, while also including one of human capital theory’s fundamental notions that value is linked with the more years of education that one has. Degrees are seen as more substantive and as representing a greater level of achievement, commitment, and depth – as in the following examples from two employers:

*Degrees are more – it’s more solid as far as a result to look at on your resume. It took 18 months to get that and with certificates or any other certification or whatever, it’s just not as consistently viewed (Personal interview, 2013).*

*Certificates probably aren’t weighed as significantly as someone who’s put a year, or year-and-a-half to three years on hold to go after a specific degree (Personal interview, 2014).*

This theme of certificates/non-degree university credentials being difficult for employers to interpret and understand was common across interviews, and was often discussed as being due to a lack of common definitions or standards and the great variation in the seat time and depth involved in earning a graduate certificate:

*The danger with a certificate is… what did it take to get the certificate, and was it a
series of 3-day seminars, or is it a collection of 5 credit-bearing classes? What is behind that certification that’s there? (Personal interview, 2013)

Interestingly, the question of what a certificate entails also raised the question of consistency in defining master’s degree programs themselves, especially as variations on the master’s proliferate – an issue cited by a number of employers. In the words of one firm, again referring to the seat time or commitment involved:

*A bachelor’s degree you can still say for the most part people are taking 120 credit hours and they’re doing it 4 years full-time, 6-8 years part-time – that you still feel pretty well that you can say everyone has a common understanding of what a bachelor’s degree is.*

*Master’s degrees, you have to ask a lot more questions (Personal interview, 2013).*

From these examples it does appear that employers meaningfully value degrees over shorter-form credentials. How and to what extent master’s degrees are literally valued economically and relative to experience is addressed in the next section.

**The Credential and Its Value are Tightly Coupled with Professional Experience – and**

**Formulaic Salary Premiums are Rare**

- Professional experience is often valued more than the degree – and employers report that historically, the master’s degree connotes a more experienced professional
- Formulaic salary premiums for master’s degree qualifications exist at some employers but are relatively rare, with salary often hinging on market factors and the combination of education and experience
- Many employers are concerned that the historical value of the master’s degree as a signal is being diluted as more undergraduates continue directly to graduate study without intervening experience

Both the findings presented earlier within this original study and the literature review established that education is one of the top hiring criteria/qualifications evaluated by employers.

A critical dimension in understanding how employers interpret and use master’s-level credentials is how they value them economically – particularly given the extensive literature on the

It was clear across many employer interviews that all other things being equal, experience is often valued more greatly than education – and this was true in industry sectors ranging from finance and banking to technology, pharmaceuticals, healthcare, and professional services. As one professional services firm put it, “obviously we look at their education, but over and above that it’s their experience – what have they done with that education” (Personal interview, 2013). One HR executive underscored this dynamic in the following terms:

*I think as I said it (the master’s degree) is a great qualification to have – and again I lead global executive recruitment at a Fortune 50 company – it’s not going to get you hired over somebody else by just having a master’s degree. It’s all about that real-world experience* (Personal interview, 2013).

And, in the words of an HR executive in the healthcare industry:

*We like to look at experience more than just education – somebody with a bachelor’s degree and 5 years experience running a multi-million dollar business is preferable over somebody with a master’s and no experience* (Personal interview, 2013).

That is, for all the value that the master’s degree holds – as a certification of skill, specialization, or breadth; as a signal of perseverance and leadership potential, etc. – it is not an automatic ticket to a given role or higher pay when viewed alongside experience. With respect to salary premiums, one employer stated this in crisp and simple terms: “we pay based on the role and job responsibilities, not on the degree” (Personal interview, 2013). And, as a healthcare company that did not recognize an economic premium for the master’s degree alone described:
We really do not do that (award a salary premium for the master’s). Sometimes it could be that somebody with a master’s is requesting a salary that they believe is more commensurate, and if their experience warrants it they may get it. But somebody coming out of a master’s program with no experience isn’t going to command a higher salary more than likely just because of that master’s (Personal interview, 2013).

As detailed in the analysis that follows, while many employers clearly preferred experience over a degree and did not provide an economic premium for the degree per se, employers shared a very wide range of perspectives and practices in terms of both how the master’s degree was treated from a salary perspective, and relative to experience. Where this research study anticipated a specific and quantitatively oriented discussion of the value of the master’s degree, employers’ articulation of how they value the degree is much more nuanced and highly qualitative.

Although perhaps half of all employers interviewed reported that the master’s degree has a distinct economic value (e.g., a premium on salary) independent of experience, it was relatively rare for employers to report having specific quantitative formulas that accounted for level of education, experience, and so on in setting salaries. In fact, most employers referred to the process involving more discretion and judgment than precision or mathematical calculation. One of the exceptions was a firm that paid a specific premium for the extra time and skill embedded in master’s degrees – especially specialized master’s degrees: this organization referred to the master’s degree giving candidates a “jumpstart” on their base pay, and articulated specific salary range implications:

Master’s or M.B.A., they get an extra 10% on their...salary. Coming in for the specialized (degree), it absolutely is about the degree and the function that they’re
coming into – so HR and (SPECIALITY AREA) are the two groups that we specifically target master’s students for…. So it’s one level up... if you’re a level 6 coming in as an undergrad, you’re a level 7 coming in as a master’s student. And then the pay is based on market for those groups. We try to hit a certain market (value) (Personal interview, 2013).

As introduced at the end of the quote above, many employers emphasized that their setting salary values for master’s degree candidates was not a function of their policy decisions alone. Rather, the value of master’s degrees is set in the competitive marketplace and employers often calibrate their salaries for master’s-level candidates to the results of external market analysis.

A major theme with respect to the value of the master’s is the notion that in the eyes of employers, evaluating the degree is often inextricable from professional experience. The majority of employers interviewed appear to work from the general assumption that historically, master’s-educated candidates have more work experience than professionals without a master’s – an interesting correlation versus causation problem. One employer discussed these dynamics in the following terms:

*Generally the premium would come in – first of all we’re going to set a compensation strategy to be competitive with other companies in terms of entry-level master’s degree recipients. We’ll pay attention to trends in the market in terms of where our comp should sit. But then it’s also back to what job level we should start them at that rewards their years of experience and their degree – but also again it’s back to the work they’ll be doing. So the thought is if I hire a master’s degree… on average that person should start at a higher level than just a general entry-level person from the industry* (Personal interview, 2013).
However, in a number of cases, as in the example that follows, HR leaders also referred to the need to address internal salary parity alongside market factors – while underscoring the difficulty of establishing a quantitative premium or separating the value of education from the value of experience:

*It just doesn’t always equate to a financial – and partly because when we look at bringing people into this company, we look more tightly around internally what are our other folks making, what is the range we’re trying to stay within; and although this person may have the master’s degree, it’s hard to say to the others that they don’t but they have the same years of experience. So you start going back and forth around, at the end of the day, you’ve got to worry more about internal comparisons than breaking down somebody’s background. So it’s always important, internal workings, than the dollar amount allowed to an additional degree. I don’t know if that makes sense, but it’s very hard to put a number on that (Personal interview, 2013).*

A number of employers did highlight examples where the master’s degree could *substitute* for years of professional experience in the total education-plus-experience equation, although this was more the exception than the rule. These equivalencies spanned a wide range. For example, a manager at a pharmaceutical company reported:

*Yeah, if you’re looking at somebody with 3-5 years of experience and a master’s degree and management, vs. somebody that has 10 years of management experience – they’d be pretty much considered on the same level, I think (Personal interview, 2013).*

And, as described by the HR leader at a technology firm, which for the purpose of illustration equated a master’s degree with 5 years of professional experience:

*For example if somebody had an undergraduate and a master’s program and no work*
experience, and somebody has an undergraduate and 5 years of work experience, I’d probably make those two equal. If somebody had an undergrad, a master’s, no work experience; (versus) an undergrad, a master’s, and two years of work experience, then obviously the latter would have the premium. And obviously it would depend on the role there. I do think that’s more role-specific, and the more we get into a technology space, the more important that will be, but that’s more honed into what the person will be doing (Personal interview, 2013).

In a few cases, the number of years in a master’s program (typically understood to be 1-2) would be considered equivalent to that same number of years of professional experience. In making this point and highlighting how this equivalency is conditional by functional domain, one financial firm drew a comparison between studying medicine and working as a doctor, and studying accounting and working as an accountant – in both cases, the academic content and training is very similar to the professional work. Thus, in this scenario, education and experience are relatively equivalent. By contrast, an academic degree in finance or an M.B.A. does not prepare an individual to be a stock trader.

In cases like those highlighted above, it appears that professionals who are unable or uninterested in obtaining professional positions in a given field – e.g., directly following their undergraduate degree – can, through a master’s program, put themselves on par with individuals with a few years experience (special considerations related to this dynamic are discussed shortly).

*Education vs. Experience: Dependent on the Stage of Career Development/Professional History*
Soliciting employer perspectives on the master’s degree relative to experience revealed a significant finding not addressed extensively in the existing literature: a large percentage of employers see the master’s as most valuable and impactful in the *early* part of a professional’s career—whereas later career, a candidate’s value can be assessed based on their long track record and experience, regardless of educational level. That is, the value of a master’s is somewhat time-dependent and relative to career experience. This dynamic came up often, as described by a financial firm:

*If you have two people, (one with) a master’s degree and both have 10 years experience doing a job, I think the master’s is less important. If you’re looking at two people with two years (experience) and one of them has a master’s, now it becomes a little bit more of an advantage for the one with the master’s. That’s the way I would look at it. After time, that advantage wanes… coming out of the gate, a master’s at some of the more junior level positions gives somebody an advantage, but over time I think that wanes a bit* (Personal interview, 2013).

Similarly, as aptly stated by an HR leader at a large employer operating in multiple industries, who also invoked the “expectation” of performance involved in screening/signaling:

*Some of the most senior folks that we’re recruiting… whether they have an advanced degree or not frankly is less relevant – you’re hiring them purely for their 30 years of specific experience in their field… I think once somebody gets more than 3-4 years away from their master’s program, it’s a market-based rate for the job vs. any basis. When you’re recruiting on-campus to the traditional full-time programs, you’re driven by that year’s graduating salary rate. And that drives you for the next few years, but then it very much becomes a market rate after that point… If you get the traditional student you’re*
paying them based on both expectation of what they will do and the quality of the program – and after that you have real-world leadership experience and results that are a much better indicator to determine the value (Personal interview, 2013).

Indeed, these examples go to the heart of educational credentials serving as proxies for performance or acumen that is otherwise unobservable (Bills, 1988b, 2003). These are also powerful examples supporting one aspect of the “sheepskin effect” as articulated by Belman and Heywood (1997), who argue and demonstrate that the signaling value of educational credentials declines as additional years of work experience become available for employers to assess actual productivity and results.

On these themes, a significant tension and additional critical dimension surfaced in the interviews: the growing trend toward more students continuing directly from their undergraduate studies into master’s degree programs without the type of intervening work experience alluded to above. As established earlier, employers often connote the master’s degree with a more experienced professional; and their assessment of the value of the degree is often interwoven with experience.

As outlined in the literature review, master’s degree attainment is increasingly a goal of undergraduate students (Pryor, et al., 2009), and graduate programs experienced particularly high enrollment following the 2008 economic recession (Williams-June, 2011; Barrow & Davis, 2012). At the confluence of these trends, more undergraduate students are indeed continuing directly from undergraduate study into graduate school – and many colleges and universities have developed accelerated, combined bachelor’s/master’s (“4 plus 1”) programs. A number of employers vocally found this trend to be problematic. For example, as one technology employer articulated:
More and more, and you’re probably seeing that schools are offering stay an additional year and get this master’s, there are these 5-year programs, which is an all different topic together, which is great, I’ll stay, why not stay an extra year and get that extra accreditation – are they really more specialized? I don’t know... But they’ve got the fancy master’s now. We’re seeing a ton of that too (Personal interview, 2013).

This particular employer felt that many students were pursuing master’s degrees to take additional time to choose their professional field and start their work career, giving themselves one additional “safety valve” in a still challenging job market for recent graduates – lamenting the lack of value-added without work experience or specialized focus: “you’ve got some (areas) where the master’s degree person is in unbelievable demand, and others where all they’ve done is extend out their education without any specific end game in mind” (Personal interview, 2013).

Similarly, this lack of focus was articulated by a healthcare organization:

In our administrator candidates, a lot of times we have individuals who have a master’s degree in healthcare administration; but many times it’s that they’ve gone directly from their bachelor’s degree to their master’s degree. And I think they have challenges getting into our administrator program because they lack the work experience component, and I think many of them at times still are struggling with where they see themselves fitting into healthcare, because they haven’t had the work environment experience. Maybe they are still struggling with they want to go work for a hospital; or go work for a skilled nursing care provider; or a home health and hospice agency; and so they’re really trying to figure out where their niche is (Personal interview, 2013).

And, on this same theme, another company referred specifically to the proliferation of “4+1” programs – historically once affiliated more with experienced professionals – as diluting the
signaling value of the master’s, even citing particular adjustments that it made to its salary premiums for master’s credentials as a result:

You used to pay much more for a master’s student because it was more seen as such a strong graduate degree – and it’s not as much anymore, because there’s so many 5-year programs, that say that they’re master’s programs, but they’re not like the programs used to be... When I first came into this role we had very clear rates of comp for master’s programs... and we realized that in some of our – we were overpaying, we were really overpaying – not for the specialized ones, but other groups. IT’s a good example. We were really overpaying because we were looking at it and going wow that’s $18,000 higher for just an extra 18 months of school or 12 months of school? Where did they just stay an extra few months to get a few extra classes to be able to qualify for a master’s degree? The talent coming in didn’t warrant that type of salary (Personal interview, 2013).

Notably, the firm quoted above emphasized that ultimately, the additional education was seen as a positive for the organization as candidates were now more qualified from an educational perspective – but that the master’s no longer warranted the same premium. As one HR leader asserted, “frankly you need a little bit of experience to make the master’s degree more meaningful” (Personal interview, 2013). As a final example – and the “4+1” trend is the dimension that employers were most vocal about – a senior executive at a major financial firm suggested in even starker terms: “If you have an M.B.A. and you don’t have job experience, it doesn’t matter that you have an M.B.A.” (Personal interview, 2014). While this was a minority view, clearly, a great number of major employers evaluate experience alongside the degree, and the degree on its own is one key piece of the overall profile and value of the candidate.
Brand is Commodity Outside of the Elite Tiers, with Particular Weight on Program Rather than Institutional Reputation

- Brand and reputation are a consideration, but often only as a tiebreaker, with employers emphasizing that they weigh the reputation of an institution that awarded a degree, but report they would rarely ever make a decision solely based on this dimension
- Employers value highly selective/elite, household-name institutional brands, particularly in certain industries – but reputation appears to matter relatively little outside this top tier
- Employers place greater emphasis on program-level reputation and quality than general institutional ranking or reputation

One of the most fascinating dynamics in higher education is the power of reputation and brand. Institutional reputation is a driving focus of many higher education institutions – particularly in an era when global university rankings are creating worldwide competition for prestige and rankings are reputation are impacting student choices and professional outcomes (Delgado-Marquez & Hurtado-Torres, 2013). In a more competitive marketplace, colleges and universities are increasingly focused on brand positioning and reputation (Zemsky, Wegner, & Massy, 2005). Thus, how the reputation and brand of the awarding institution factors into the hiring process was a key question in this study – especially considering that much of the prior research on how employers evaluate educational credentials has treated degrees as a commodity, without attention to reputational and brand dynamics. This reputation and brand dimension is particularly important in the debate between orthodox human capital theory (which arguably values hard skills, knowledge, and “years of education” irrespective of reputation/brand) and screening and signaling, in which reputation/brand serves as an important signal or screening device, particularly given selectivity dynamics.

The general stance of executive leaders interviewed for this study was that reputation/brand is certainly a consideration when evaluating credentials – but only one element of the total picture. Exactly how or why reputation was valued was, like other areas, often difficult for participants to detail. One very common assertion was that the reputation of a school
rarely outweighed other attributes (e.g., degree, experience, etc.) when considering two hypothetical candidates against each other. Participants often made the point that an individual would “never” be hired based only or principally on the reputation of the school that awarded the degree. Instead, reputation is often used as a sorting or filtering mechanism when prioritizing candidates and applications from a broad pool; and when targeting specific schools for direct recruiting. Along these lines, one of those most consistently recurring phrases spoken by participants across many of the interviews was that brand “stands out” on a resume, as in the illustrative cases of a pharmaceutical firm, a financial company, and a healthcare firm, respectively:

*I’m sure the Harvard or Stanford or Ivy League school if you will, yes, of course that stands out - whoa, they went there, interesting. So I think it definitely helps jump off the page a little bit, that brand name (Personal interview, 2013).*

*Now, when you see one of the top 10 business schools – you know I probably couldn’t even list all 10 of them for you, but the list is out there… when you have a certain prestige to it, does that increase someone’s position in that group? Yes. It does stand out. You see some of the top names, the Stanfords, the Harvards and Yales – yeah, it does stand out and maybe even rise to the top when you put those people in one bucket (Personal interview, 2013).*

*Typically – especially for undergrad, it doesn’t matter where one goes. So when we’re looking at advanced degrees, I typically would hone in on where they got their graduate degree – but I wouldn’t disqualify somebody from an interview, all things being equal,*
because they went to a lesser-named school – however, looking at the bigger picture, if I had to choose one person to give an interview to, I would probably look a little bit with a close eye with the person who went to the higher-ranked university – because we’re always seeking top talent, but going to a top university doesn’t mean you’re necessarily top talent, right? (Personal interview, 2013)

The danger of blindly relying on reputation/brand inherent in this last quote is important as many HR leaders reported not being able to rely on reputation as a perfect proxy for ability – and did not want to exclude high talent students who may have attended less highly ranked or reputable schools. A technology firm referred to the high talent professional/student at a less elite school as the “diamond in the rough”:

*We’ve proven that someone from an M.I.T. or Stanford... doesn’t necessarily do better here than – pick just a classic national school, any school. The difference comes down to the diamond in the rough phenomenon. I know I can get 50, 60, 70 from a given school, versus 1 or 2. The diamond in the rough: a smart, passionate person can succeed no matter what school they go to, you just tend to find more of them at certain schools* (Personal interview, 2013).

Along these lines, a number of employers made the point that their process and ethos focused on assessing the individual rather than the school. Still, there were some cases where HR and recruiting leaders certainly referred to the importance of brand in screening and sorting between potential candidates, as in the following example which also encapsulates the value of experience embedded in an executive program:

*If you’re comparing two individuals with similar backgrounds and levels of experience, you’re always looking for what puts someone ahead and I think that executive M.B.A.*
from a very prestigious academic institution that’s a little more of a variable to consider when you’re comparing a couple of candidates (Personal interview, 2014).

This particular employer put extra weight on the competitiveness of program admissions, especially in an era where master’s degrees are more prevalent:

Getting an advanced degree from a non-competitive school, to me is not worth anyone’s time because it’s not weighed into consideration. I get this question from time to time... I almost always say don’t waste your time because it’s not going to be factored into hiring decisions, it’s not going to make you a more attractive candidate – only if it’s a competitive, credible institution, would it really stick out for people – because so many people get it now (Personal interview, 2014).

When speaking about reputation, participants almost universally tended to refer to the most elite universities in the world – e.g. Harvard and other “Top 20” institutions, as in some of the preceding examples – compared the thousands of other names in the broad spectrum of higher education institutions. Reputation and brand appears to be an easy screening/filtering mechanism at the extremes of the bell curve – but often only at those extremes. An engineering company referred to the reality of a spectrum with a vast middle between an elite top and a less selective bottom in the following terms, suggesting that a master’s from an elite, selective institution was a unique differentiator and all others were virtual commodities:

I don’t know that the University of Phoenix has an advanced degree in materials engineering... or any of those things... on the other end of the spectrum you still have the Ivy League or Top 20 business school M.B.A.s still carry weight. It’s kind of everything in that swath in between has become much more homogenous – and it’s a check the box vs. a differentiator” (Personal interview, 2013).
It is significant to note that many participants acknowledged that graduates of elite schools represent only a very small minority of the total workforce, with the majority of their hires coming from non-elite institutions – and they also consistently referred to the challenge of distinguishing between reputations and brands beyond the most elite tier. Distinguishing quality among institutions was seen as a special challenge outside of M.B.A. programs, as other types of master’s programs do not have as prominently published rankings. In fact, most employers emphasized that once outside of the elite, household-name tier (e.g., “Top 20”), a distinction was very often not made.

One series of cases where “pedigree” and reputation were especially valued was in domains where the organization’s people were its “product” – e.g., consulting and investment banking (consistent with Rivera, 2011); or settings such as pharmaceutical sales, where knowledge of the product is complex and decision-makers at the other side of the table were themselves highly educated (e.g., doctors), giving the degree important value in terms of signaling credibility. As one example, a financial firm noted that the brand behind a degree is especially valuable in asset management, where potential clients partially assess the credibility of asset managers based on the brand name degrees listed in their biographies in the firm’s “pitch book” or prospectus. Across the many interviews, financial firms emerged, not surprisingly, as the types of companies that clearly place the greatest emphasis on brand and top-ranked programs. Related to this type of emphasis on selectivity and reputation, some employers also referenced the caliber of the master’s program and its students connected to the value of professional networks generated by the program, addressed earlier.

Despite making some references to published rankings of M.B.A. programs to sort through institutional reputations, many interviewed leaders emphasized that they were not overly
reliant on rankings outside of small-scale elite M.B.A recruiting (such as prioritizing top-tier schools for special relationships or qualification into leadership development programs). One downside of relying on top-tier M.B.A. programs, referenced consistently, was the fact that many graduates of these programs had what employers deemed to be “unrealistic” expectations of salary or career progression, and often came with a negative sense of entitlement.

**The Precedence of Program Reputation**

A significant dynamic uncovered in the course of the interviews is how highly employers value individual *program reputation* over broader institutional reputation. That is, the quality of a specific master’s degree program is oftentimes recognized and valued more than a university’s general reputation, especially when considering specialized master’s degrees. Participants often invoked examples of Ivy League-level institutions versus large state schools known for their individual program excellence to paint this contrast, while also emphasizing the importance and power of their familiarity and relationships with individual, best-in-class programs. One company put this in the following terms, while echoing earlier themes related to reputation and brand as a signal:

*Master’s programs... that really does become far more specialized... and it depends on the role. So we might go to M.I.T. for a highly skilled technical data scientist... But if I’m thinking of hiring software developers, smart software developers... I need many of them and there’s a scale there, I actually may not go to...M.I.T.... but I may go to Pace University or something like that because we have a relationship and we know that we’ve sewn into a particular degree program and a particular arena (Personal interview, 2013).*

Likewise, in the case of a healthcare firm:
We may know of a school that turns out people who seem to have a good grasp of – I’ll make it up – healthcare administration. So that may prompt us to do more college-level recruiting at that particular school because we find that their people come out well prepared: but that’s again kind of a market-driven kind of thing. (STATE) University is one where we used to do a lot of college-level recruiting – those people primarily went to (STATE)-based locations (Personal interview, 2013).

Overall, because employers tend to recruit with specific business functions in mind (e.g., engineering, finance, marketing), they prioritized their recruiting activity to focus, where possible, on colleges and universities with strong programs and individual program reputations in those domains. One major employer pointed toward a growing array of assessments geared toward optimizing its understanding of program reputation:

*We look at, as best we can, how are the people performing who come from these institutions – are they a good fit for us... do their programs map out well to the needs of our company. Even when we’re hiring predominantly for technical-related roles or commercial roles – so obviously a liberal arts school is not necessarily going to be the best fit for us. And I think what’s interesting there is we are now at the point where we’re starting to re-evaluate if we do have the right schools on the list. So it is something we look at every 4-5 years, whether the schools we’ve identified are still going to make the list or do we need to shift or switch it up a little bit. So as we’re globalizing, we’re now starting to do more rigor around the assessment of the schools and figuring out who should be on the list and who shouldn’t (Personal interview, 2013).*

This important concept of assessment and analysis is addressed in more detail shortly, in a later section. First, as alluded to in one of the employer quotes above, it is useful to characterize the
nature of employers’ master’s-focused recruiting activities, which touches on special programs and geography.

**The Master’s is Increasingly Becoming a Ticket to Leadership Roles Given the Prevalence of Special Graduate-Level Recruiting Programs**

- Most employers’ recruiting initiatives targeting master’s degree graduates are interwoven with undergraduate recruiting efforts
- Many firms require or prefer master’s degrees as a condition of entry into leadership development programs and have special master’s recruiting programs for these programs that target distinct lists of preferred schools

Most hiring that corporations do is in the open marketplace of “experienced hires” – where individuals in the workforce with master’s degrees move from job to job. However, of special concern to colleges and universities is the graduate-level direct-from-college recruiting that major employers engage in. Historically, many companies have centralized their college recruiting activity (Rynes, Orlitzky, & Bretz, 1997) and often make significant investments in on-campus recruiting to increase their visibility and generate interest and applications from students (Breaugh, 2013). One of the questions in this research study is to understand if companies recruit master’s-level candidates in a special fashion that is distinct from undergraduate recruiting. A key finding that emerged here is that indeed, master’s degree holders are often recruited direct from universities through special channels and programs that offer privileged paths to leadership roles – and that graduate-level college recruiting beyond the classical focus on M.B.A. programs is an increasingly common phenomenon within major employers.

Many interviewed employers reported that graduate-level college recruiting functions existed alongside general, undergraduate-focused college recruiting efforts. A number of others emphasized that they had only in recent years ramped up graduate-level recruiting efforts as a
distinct enterprise, responding to both the growing importance of the master’s degree and increased recruiting competition from other firms. Not surprisingly, many companies – especially those in consulting and finance, which have historically drawn on hires from elite schools (Rivera, 2011) – reported having special M.B.A.-focused recruiting programs.

Since companies have a choice of schools in deciding where to focus their college recruiting efforts, this choice is itself an important screening process. This type of selection is at the heart of the idea shared by many employers that colleges and universities serve as talent screening vehicles for major corporations, by aggregating talent and through their admissions processes. One HR/recruiting leader at a major technology firm described the “controversial” tension between the skills- and knowledge-centric orthodox human capital view and the concepts of filtering, screening, and signaling, in the following way:

*Is it honestly what they (master’s graduates) have learned or is it more a part of our sourcing strategy? Meaning, I could go on the open market and try to hire people – or, I know that when I go to these great schools, whether or not that person ever graduated or not, that would be an aggregator of some really smart people. Let’s say somebody pulled up 3 credits short. Would it really matter? Or if they pulled up 20 credits short, would it really matter in terms of their value to us? If people were being honest you’d say probably not (Personal interview, 2013).*

A similar screening and filtering example was provided by another firm, which limits its M.B.A. recruitment to college and university programs that require 2 years of work experience as a condition of admission: in this way, the company will know that any hire from these institutions will come with the firm’s desired minimum level of professional experience.

Another key finding is that the master’s degree is often a primary qualification or
condition for entry into major companies’ internal leadership development programs – the common vehicles that rotate recent master’s (most often M.B.A.) graduates throughout the business as a pathway to executive roles. For example, as described by a financial firm that is one of a number of employers across industry sectors with this type of program:

*The ultimate goal of the M.B.A. program would be that they would start with a certain line of business and have a senior leadership team member as a mentor. So that was much different from a regular leadership/management associate going into the training program (Personal interview, 2013).*

Another major company spelled out that leadership development programs focused on master’s graduates represented a “fast track” to leadership roles, and how the experience of having completed a master’s program made a candidate a better fit for the firm:

*These programs tend to be a little bit of a fast track for students, so the master’s degree gives us a little bit of comfort that they can handle the rigor and the pace – and they’re probably going to adapt a little bit better to how they’re going to progress through our leadership program. And in many cases when they graduate from our program they tend to go into pretty senior leadership roles within the company… I think just overall, the way of working that you gain from being in a master’s program, it certainly aligns to kind of the pace and the feel of working in a company like COMPANY (Personal interview, 2013).*

In fact, it was clear that holding a master’s degree increasingly appears to be a requisite qualification for entry into many companies’ leadership development programs. In other cases, although the master’s degree is not required, it may accelerate a new hire’s progression through a training or leadership development program, as in the example of one healthcare firm:
When we’re looking for administrators – our requirements indicate “master’s preferred; bachelor’s is required” and many administrators when they go through a training program, if they have a master’s degree, the length of their in-training program is less, because there’s some thought that they have that additional leadership skill and education through their master’s degree (Personal interview, 2013).

One additional dynamic of note is that a number of HR leaders and managers described the role of social/cultural capital in determining what schools made each firms’ list of preferred or target institutions to recruit master’s graduates from – as in Bordieu & Passeron (1977) and Field (1995). For example, if top executives in the company held degrees from a certain institution, that institution was likely to be a target school or pipeline to the leadership development program. And, as a recruiter for a major financial institution noted, “[it’s] almost like an exclusive club: they really want people who have gone about it a certain way and have gone to a certain school” (Personal interview, 2014) – consistent with the assertions of Rivera (2011, 2012). These references to the role of social/cultural capital were generally exceptions and were made in the context of regretting that entrenched relationships and convenience at times drove the selection of targeted schools more than objective analysis or a deep quality review. At the same time however, the vast majority of companies reported that target/preferred schools for master’s recruiting were selected due to strong program reputations, past quality graduates, or geographic proximity. This latter dimension, geography, is addressed in the second part of the following section.

**Educational Qualifications Vary Little by Geography – While a Globalizing Market for Talent Introduces New Dynamics**

- Geographic location is largely a “non-factor” for most major employers, who draw on an advanced degree talent pool that is national and global in scope
Many employers’ master’s recruiting efforts give special preference to local institutions close to their headquarters or operations.

Given the regional variation in educational attainment by economic geographers and other scholars (Florida, 2004; Berube, 2011; Moretti, 2012), it was expected that employers would report some geographically driven variation in educational qualifications. For example, given that 13% of adults in the workforce in Boston hold a master’s degree compared to only 6% in Los Angeles, presumably master’s-level credentials might be demanded more for positions in Boston. However, in this sample of large, often multi-national employers who represent the leaders by volume in master’s-level hiring each year, little variation in educational qualifications/standards by geography was reported. Corporations most often referred to geography as a “non-factor” in their large, global organizations – and especially in markets for talent where individuals are seen as more mobile and are recruited from the national marketplace. This lack of variation in preferred/required educational qualifications by region was nearly universal. One of the few exceptions was a major financial firm that reported that more advanced levels of education might generally be expected in major metropolitan centers, where the supply of such individuals was rich.

Although educational qualifications were reported to vary little across the domestic U.S., a number of employers with a global presence reported variation when seeking to fill roles outside of the country. A number of firms referred to a set of “global standards” or a “global framework” for educational qualifications that provides a baseline codification of qualifications but also some flexibility. This was seen as especially important given the lack of comparability between various tertiary/postsecondary education systems (e.g., across North America, Asia, Europe). One employer, for example, described the goal of having a fixed set of standards in
such a diversified global business but underscored the need for some flexibility:

*We’re a very global, very complex organization and we have operations in... so many countries all over the world. I know that personally (in) the group I work with, we have operations in 60+ countries and that’s just my group. So within that there’s flexibility that there’s some global consistency – but it also takes into account that flexibility of what makes sense for the region; what makes sense for the country; what makes sense for the operating company; for the sector of business, etc.* (Personal interview, 2013)

**Geography and Mobility in Master’s Recruiting Strategies**

Interestingly, although educational qualifications tend not to vary by region, companies’ general college/university or graduate-level recruiting strategies often had some aspect grounded in location and a sense of place. Porter (1998) argues that even as business becomes more global through open markets and advances in communications and technology, physical location and place are paradoxically more important in a knowledge-based economy where capital, talent, and ideas are locally grounded. Many companies reported focusing their master’s degree recruiting efforts on local schools in geographic regions where they had operations, if not their headquarters. This was a very frequent theme. As described by one firm, this calculus hinged on both local workforce needs and individual program reputation:

*It also depends on the roles that we’re looking for and the location. So if we know a certain college has a reputation for generating skilled labor that are local like I’ve got 1,000 people, there’s a master’s program at (STATE UNIVERSITY) – that will be one of our target schools. Because we know, on:; they’re growing talent there; two, we know the majority of their talent doesn’t move once they graduate, so we know that there’s an ability to hire at a certain price point. So it really depends on a market analysis and the*
This mobility theme was an important one, with many organizations viewing master’s degree graduates (and especially M.B.A. holders) as more mobile than individuals with bachelor’s degrees. A brand-name company that hires many thousands of graduates each year perhaps best encapsulated this idea:

*Top-tier schools are drawing folks from across the nation much less the globe already. And so particularly with master’s degree population, they’re more fluid and mobile than undergrad. Now they may have an affinity to a certain area, but they likely came from all over the place anyways, and we can play that to our advantage... master’s degree folks I think view their careers very, very differently than undergrad, and it’s almost like a free agent mentality – every opportunity is great and I’m opportunistic and it’ll build my portfolio, and that portfolio will help me go to the next assignment, and as long as I’m mobile and there’s opportunities, I’m willing, ready and able to move – move jobs, move companies, move industries – so it provides a great basis to do that (Personal interview, 2013).*

The interviews made clear that major employers exist simultaneously in both a local and a global/transnational context – and this is reflected in their views on where to find master’s-level talent. Most of the major employers interviewed emphasized their ability to draw qualified candidates from across the U.S. or across the globe to their headquarters location or wherever their job need might be. Many firms referred to their interest in and ability to fill needs for specific skillsets by drawing from certain countries/regions globally. For example, one major employer that competes in the engineering domain lamented the shortage of Americans with advanced degrees in engineering – so this firm turns to regions such as India, China, and Eastern
Europe for these skills and qualifications. This employer also cited the need for aligning the specialized work that takes place at certain locations with the human capital and educational qualifications in the local workforce (the dynamic that often didn’t factor in domestically):

*I’m working on this one project around advanced manufacturing. And the question is often posed: why are we not doing more advanced manufacturing in China? And the reality is, China is great for not so much advanced manufacturing... If you want the really high-tech stuff, we actually think about Germany, because there’s such a high concentration of engineering and design. It’s fascinating because it’s almost like certain countries have competencies...* (Personal interview, 2013).

Related to this theme, other employers cited the inconsistency of credentials across countries and the difficulties that this introduced in terms of setting standards and assessing global qualifications. As one diversified international employer articulated, this will take on growing importance as markets become more globalized and as the notion of the professional master’s develops in other nations outside the U.S.:

*The idea of an advanced degree is a fairly American concept in my experience. And it really goes away as you get into Europe and Asia I’d say it’s probably too early to say what educational model really breaks out there, and is it more of the U.S. model or more of the European model* (Personal interview, 2013).

**Analysis Comparing Professional Performance to Educational Credentials is the Exception Rather than the Rule, Representing an Opportunity for Optimization**

- The vast majority of employers are not conducting post-hire analysis of on-the-job performance relative to educational credentials, with strategies driven more by instinct than by data.
- Among employers who have engaged in deep analysis of job performance versus educational credentials, recruiting strategies have adapted significantly as a result.

The previous sections have touched on a range of themes related to how employers make
decisions about master’s degree credentials, including why certain credentials are preferred, if brand or geography matters, and so on. Given the considerable time and resources that employers invest in recruiting, screening, and selecting candidates – and in developing relationships with colleges and universities – it might be expected that large organizations are deeply analyzing the on-the-job performance of their hires and correlating performance to the educational institutions or types of programs that these individuals attended. In research decades ago, Rynes & Bordreau (1986) reported the Fortune 1000 companies they surveyed were undertaking very little systematic evaluation of their college recruiting outcomes. This original research study some 30 years later finds that apparently relatively little has changed – aside from a few exceptional and compelling examples of firms that are conducting advanced analysis.

A strong majority of employers interviewed reported simply and briefly that they were not conducting post-hire assessment or analysis that linked master’s degrees (or educational credentials generally) to on-the-job performance. However, the examples from the few firms that are conducting this analysis are illuminating. Even with most companies not having any robust analysis underway, a majority of these human resources leaders expressed great interest in such analysis – and highlighted it as an important future strategic direction.

The firms that are conducting this type of analysis typically referred to it as a “quality of hire” analysis. This analytical exercise longitudinally evaluates dynamics such as how employees perform and how long they stay in the firm (retention), correlated with how these individuals entered the company (e.g., from a certain school, through a referral, etc.). In some cases, these analyses had only been conducted in specific settings, such evaluating M.B.A. cohorts in leadership development programs, or within a single division of a company. Many executives noted that their master’s or university-focused recruiting programs were still too new to have
multi-year longitudinal outcomes to assess.

The most compelling example of “quality of hire”-type analysis came from a technology firm that had, through deep evaluation, proven that hires sourced direct from colleges and universities have the greatest return on investment for the organization:

_We have a quality of hire metric. And what we do is we have a longitudinal view of the last 10+ years now of source of how you came into the company – did you come in as just a college grad, did you come in as a former intern who converted to full-time; were you hired from industry; were you an exec referral – we look at all different sources. And we look at the first couple years of performance. And then we also factor in attrition – you obviously had to stay a certain amount of time. We now have proven statistically that the college hires in our system are the top quality of hire source. We’ve proven it. The best hire that we make is someone who’s a former intern and now is full-time (Personal interview, 2013)._

One of the clear practical limitations to conducting this type of analysis, suggested by a number of employers, is the statistical need for high volume in hiring a given “profile” of professional. In other words, homogeneity across key professional roles, educational qualifications, or college/university sources – or simply a very large sample and good longitudinal data – is required. Indeed, the few companies who did report having undertaking such analysis are especially large firms that have some of the most significant volume in undergraduate and master’s-level hiring. As one example, a “Big 5” accounting firm may be able to easily analyze the performance of CPAs or accounting graduates due to the large volume of professionals in nearly identical roles. However, most employers discussed their diversified professional roles, corporate divisions, multiple lines of business, and large number of schools
recruited from as limitations on conducting such analysis in a statistically meaningful way. As one company explained:

This may be kind of a defensive sounding answer, but we’re a classic conglomerate... If I’m a consulting firm, I would absolutely be giving you a different answer... And same thing if you were talking to my colleague at (ANOTHER COMPANY, HIGHLY SPECIALIZED) who’s responsible for hiring advanced degree engineers. They absolutely will have that. They will have a view on the materials science degree at Georgia Tech vs. the University of Wisconsin vs. the University of Michigan (Personal interview, 2013).

Certainly there is potential power and value in this type of analysis, as such assessments and linkages would theoretically allow employers to optimize their recruiting activities, investments, and evaluation of master’s degree credentials. Many human resources leaders acknowledged this potential and missed opportunity – and reported planning or beginning to undertake more analysis in the future, as in the case of a HR executive at one diversified organization:

To be honest we haven’t done a very thorough job in assessing or evaluating how these people perform or deliver. At least we haven’t tied it back to having a master’s degree or not having a master’s degree. And to be honest I don’t think as a company we’ve really gone into that depth around doing any analysis around performance in terms of somebody’s skillset or background, to be quite frank – but that is something that we are starting to look into now (Personal interview, 2013).

In addition to this “back-end” analysis of post-hire employee performance, one additional activity of interest in this study is the extent to which employers evaluate the details of a candidate’s master’s degree credential itself at the “front end” of the hiring process – e.g., by
analyzing transcripts or considering GPA or grades. Transcripts, GPA and so on are of course much more detailed measures of academic performance and potential skill or knowledge beyond the gross level represented by completing a degree. Whether employers take the view of optimally “screening” professionals through their academic credentials or if they see professional’s academic achievements as representing specific skills or knowledge, presumably more detailed records or signals of knowledge and performance would be valued.

However, in this regard, employers nearly universally said that they focus only at the credential level when evaluating master’s degrees – and that GPA, transcripts, or further academic details were not considered. Interestingly, many employers reported that they did focus on grades and transcripts at the undergraduate/bachelor’s level – but that the same scrutiny did not apply at the master’s level. The general feeling among employers was that academic performance was less relevant with master’s-level professionals – under the assumption that they tend to be experienced hires who have job performance in addition to the master’s to evaluate instead. This potentially underscores how employers, when possible, prefer to evaluate and weight experience and professional results over academic performance. For newly minted undergraduates, by contrast, academic performance is one of the only signals that an employer has to work from.

These findings are consistent with Cappelli (1992) and Rivera (2011, 2012) who reported, respectively, little linkage between grades and job performance, or grades/GPA and hiring decisions. The exception to employers not evaluating details of graduate education performance beyond the degree was that some did point to graduating with a level of distinction/honors at the master’s level as a potential threshold to cross for entry into leadership development programs.

This chapter has presented the study’s major findings, detailing the relationship between
employers’ job requirements and preferences and the master’s degree as a qualification; identifying how the master’s degree is perceived and valued, particularly its use as a screening tool; and discussing employer perception and practice related to many specific dimensions of the master’s as a professional credential – e.g., program content, reputation, salary implications, and connectivity to professional experience. Each of these areas had been either understudied or identified as meriting further and more nuanced study based on the existing research literature. The rich detail and strong patterns evident in the preceding findings – as well as some of the ambiguities and areas of contention or differences in opinion – point to many specific potential actions and considerations for this study’s audience (principally universities, but also employers, policymakers, and students). The following chapter analyzes the findings and discusses the implications that can be drawn from them.

Chapter 5. Analysis and Implications

At its core, this study aimed to explore a surprisingly unexamined phenomenon: the function of master’s degrees in major employer’s hiring and recruiting process. From this investigation – which uncovered new dynamics and themes as well as providing empirical insights related to existing theories – a series of clear and important implications emerges. This analytical chapter is focused on drawing out the conclusions and recommendations that result from the findings, with implications for colleges and universities offering master’s programs – as well as employers, students, policymakers, and others with an interest in this topic. In addition, although this study is tightly focused on professional master’s degrees, a number of its findings can be applied to university-industry relations generally.

The major implications and analytical themes resulting from this study include:

- The market for master’s degrees is evolving and globalizing, and all stakeholders
should recognize the implications of the master’s degree’s use as a screening and signaling tool and pathway to leadership roles (rather than purely/only a skills-based certification of competence)

- Universities and students in particular should evaluate master’s degrees in terms of their communication, collaboration, and leadership elements – as well as their technical focus or professional networking components – given what employers value
- Higher education should better define and communicate the master’s degree’s identity and meaning during a time of change in growth, as well as monitor other emerging forms of credentialing that do not yet have a strong foothold
- Universities, students, and policymakers should acknowledge that it is difficult to decouple how employers value master’s degrees from professional experience
- Universities and students should appreciate the often unheralded value of program-level brand over broader institutional reputation in their investment and enrollment decisions
- Analysis, assessment, and data represent a significant future opportunity in the market for talent and graduate recruiting, given the lack of evolved practice (as well as successful early efforts) in this area

These dynamics and other points are discussed over the course of this chapter.

Master’s Degrees are Valuable and Differentiating Professional Qualifications, with Still Evolving Market Dynamics

This study illustrates through empirical study that college-level education is contemporarily an especially important hiring criterion for many large employers, and that
degrees are among the most important qualifications or criteria considered by employers. Moreover, degrees generally appear to be increasing in importance – as the college-educated workforce grows and the nature of work globally continues to demand higher levels of knowledge and skill. The decades-long debate about the “value” of college degrees and apparent credential inflation continues, as evidenced by a 2013 front-page story in the *New York Times* titled “It Takes a B.A. to Find a Job as a File Clerk” (Rampell, 2013). This original research provides evidence that bachelor’s degrees are indeed very often a baseline requirement or “floor” for professional roles at large employers – and it is within this context that the master’s degree, as the next highest level of attainment, often becomes distinguishing or differentiating for candidates in the job market. For all colleges and universities offering bachelor’s programs, this suggests that the bachelor’s degree has clear and continued utility in today’s economy (contrary to some contemporary press accounts, and consistent with the assertions of economists such as Carnevale and others). However, at the same time, the bachelor’s degree may be less distinguishing in a competitive job market where candidates seek an edge over their peers. Thus, the longstanding value of a bachelor’s degree in helping individuals to “stand out” in the job market may be lessened or waning – particularly in fields that are growing to more greatly value or expect a master’s (e.g., domains ranging from finance and engineering to biomedical physics). In this way, while this study has focused on the master’s degree, its results have important implications for considering the value and utility of bachelor’s degrees.

To the extent that the interviews confirmed wide variation in the necessity or value of a master’s degree by field/industry or depending on business function, students and professionals making decisions about graduate study should be carefully attuned to the importance and impact of the master’s degree within their specific industry or discipline/domain of choice.
Based on large employers’ views on the master’s degree, if current trends continue, it appears that employer and student demand for master’s degrees is likely to remain strong – and that universities can forecast, plan, and operate based on this assumption. Employers appreciate that the growing pool of professionals with master’s degrees means that candidates are even more qualified – and the “arms race” in educational credentialing that Cappelli (2012) speaks of may also continue to drive increases in master’s enrollment for universities.

On this important concept of the demand for master’s degrees and its longitudinal trajectory, this study was inspired by the data as reviewed in the literature showing rapidly growing attainment rates; surging enrollments; apparently escalating educational requirements; and the growing economic value of the master’s degree. The expectation was that employer preferences or requirements for master’s degrees would be escalating at a similarly strong rate as growing student enrollment and salary premiums. This picture was more mixed than expected, with the data making a solid case but not arguing convincingly for dramatic change in master’s degree preference among interviewed employers over the last handful of years. On the whole, the situation that emerges is indeed one of growth in the master’s degree as a hiring preference – but more modest and steady growth, rather than exponential increases – and, as detailed in this study, truly as more of a preference than a job requirement. As a result, it does appear that the role of the master’s degree is often more about differentiation in the job market and a screening tool for employers just as much as it is a certification of knowledge or competency – and this function of the degree has been relatively unheralded to date.

For universities developing new master’s degree programs, this suggests the need for nuanced market demand analysis, especially by field and industry; and for a careful alignment and calibration among all parties (to the extent it is possible to control) between master’s degree
programming and enrollment and job openings. As Carnevale, Cheah, & Strohl (2013) have argued, graduates degrees improve employment prospects significantly but do not outperform bachelor’s degrees in all areas.

*All Stakeholders Should Recognize that Employers Use the Master’s to “Screen” and Students Use the Master’s to “Signal” - Rather than Only Assume Traditional Human Capital Explanations for the Value of Degrees*

It was somewhat surprising that most employers spoke to screening and signaling-related ideas in their descriptions of why they valued and what traits they associated with master’s degrees – and addressed skills and degree content typically at only a very high level. The orthodox human capital theory perspective that is more dominant in the landscape suggests that employers would be able to more deeply articulate the specific skills and knowledge that they associate with a master’s degree. Employers’ rich comments, responses, and rationale provide empirical support for the tenets of this branch of the screening and signaling branch of human capital theory. Overall, of course, employers often described a mixed picture of both valuing specific skills and knowledge and appreciating certain signaling attributes or the screening utility of the master’s as a job qualification. This fact and the diversity of employer practices uncovered in the study at the same time suggests that no one theory or branch of theory can singularly explain the landscape: multiple forces are at work, and opinions and perspectives among employers often vary widely. This situation may also reflect that candidates’ skills and competencies – and the differences between one credential and another – are difficult to evaluate and measure. In addition, as identified in the findings, it is clear that employers’ technical analysis of candidate capabilities, skills, and performance is not particularly robust.
As a result of this evidence for screening and signaling, various stakeholders in graduate education may want to subtly shift some fundamental assumptions to account for these dynamics. Policy dialogue and economic analysis often view higher education and graduate degrees, perhaps too simplistically, as purely about job skills – and ignore the competition and signaling dynamics present in the hiring/job search process. For universities, this study’s revelation that screening and signaling forces are indeed at work in many major employers’ use of master’s degrees as professional credentials suggests that they may wish to place added emphasis on career services, certain types of branding (discussed later), student networking (also discussed later) and other aspects of the master’s-level educational process that generate value recognized by employers and help students to “signal” to their advantage and compete. This is in addition to the presumed given of developing and delivering quality curriculum and relevant skills and educational outcomes. Further, prospective graduate students may wish to consider the fact that many employers often report valuing the perseverance and goal achievement of degree completion (and for related reasons, part-time programs completed while working) as much as the content covered in a program. In addition, it is worthwhile for students and universities to know that master’s degrees are in many cases viewed more meaningfully compared to an equivalent amount of post-baccalaureate courses or continuing education, a punctuated equilibrium of sorts. Many human capital economic models treat additional courses and degrees equally as “years of schooling,” and the findings of this study appear consistent with Belman & Heywood’s (1997) “sheepskin effect” – in which a degree provides a larger impact on earnings (or perception of “value”) than a given year of schooling.

The Master’s Degree is as a Pathway to Leadership Roles and a Tool for Social Mobility
For professionals and students who have aspirations for leadership or executive roles, it does appear that master’s degrees can present a special channel or “fast-track” into corporate leadership development programs, while this varies by company. Among the skills, characteristics, and attributes that employers reported associating with master’s-educated candidates, leadership ability and the idea of “promotability” were common themes, and these dynamics are related to the screening value of the master’s in addition to the degree’s content-specific components. At a number of firms, the master’s degree (and particularly the M.B.A.) has become an expectation or de facto credential for senior management roles. Prospective graduate students and professionals in the workforce should consider and explore if – but not assume that – a master’s degree is important for advancement into leadership roles in their firm or field. Further, universities may have an opportunity if they can link their master’s programs directly to major employers’ leadership development pipelines – especially because the lists of schools that employers qualify into these programs tend to be limited in scale.

Policymakers, states, and entities operating at more of a system-wide level have long championed and funded the earning/completion of college credentials with the goal of encouraging social and economic mobility. Much of this work and funding – such as the college completion initiatives at the Bill & Melinda Gates Foundation and the Lumina Foundation’s 2025 degree attainment goal – has focused at the associate, bachelor’s, and even sub-baccalaureate level (Bill & Melinda Gates Foundation, 2009; Lumina Foundation, 2014). Admittedly this focus on lower levels of postsecondary education represents the “lowest hanging fruit” and largest scale impact in an economy where two-thirds of the workforce does not have a bachelor’s degree or above (U.S. Census Bureau, 2012). Still, to truly create labor market value and economic mobility and development, these groups and other thought leaders in policy may
wish to reconsider the value, importance, and commonality of the master’s degree as a qualification for many upper middle/professional-class jobs.

**Globalization May Reshape the Value and Use of Degrees**

Among employers based in the United States, this study found very little variation by geography or region in educational qualifications and the value of a master’s degree. This is interesting given disparate levels of educational attainment by region (Berube, 2011; Moretti, 2012), and the focus by policymakers and others on this geographic analytical lens. Among the large employers interviewed for this study – many of which operate in international markets – it appears that the market for talent is largely a global one, consisting of importing talent from wherever it is available, both domestically and abroad. This means that when it comes to jobs at these major employers, professionals in a given region are clearly competing versus professionals in other regions both near and far. In addition to the implications of this for students/professionals, Universities therefore must consider not only the employer demands and career outcomes for students in their immediate regions, as they historically have – but also how their programs articulate into a global market. This is particularly true as online and transnational programs continue to grow and the traditional borders on recruiting and higher education program access dissolve. Policymakers and regional economic development leaders may likewise increasingly want to think beyond the traditional borders of their jurisdiction in terms of assessing employer human capital needs and higher education supply. Given the references made by employers to countries and talent pools outside of the United States, it will be important for all parties to monitor how globalization and the market for graduate-level talent across borders develops – and for American institutions to be aware of the master’s program offerings and degree production of institutions far beyond their borders. Future research could explore some of
the dynamics covered in this study from an outside of the United States perspective, where the fundamental frameworks for higher education and the prevalence of the master’s degree in the professional population differ dramatically.

**Employers Value Well-Rounded Master’s Graduates who are Strong Communicators, Collaborators, and Leaders – in Addition to Technical Specialists**

In addition to the signaling and screening factors that are at clearly at play, it is meaningful to recognize the skills, attributes, and traits that employers expect and associate with master’s degree holders and programs. Universities can improve the utility and value of their master’s programs by embedding these skills and outcomes in them; and students can evaluate programs based on their potential ability to deliver the types of outcomes that are valued by employers. Along this skills and content dimension, what this research study provides is qualitative color and a sense of employers’ major priorities and themes. Most employers interviewed emphasized higher-level communication, critical thinking, leadership, and collaboration skills in association with master’s degrees. Each of these dimensions can be embedded in virtually any master’s degree program offered by a university – through projects and presentations, seminars, the structuring of team activities, etc. Students should recognize that upon the completion of their master’s degree, employers will potentially expect that they can demonstrate these types of competencies through their actions and documentation of what they achieved – and the more they can do so, the more successful their job search may be.

Of course, the skills associated with graduate education can in part be revealed and even quantitatively measured in a variety of other ways. For example, Labor Insight – a database in the emerging business intelligence category of real-time labor market information – mines and analyzes the content of literally millions of employer job postings. This database shows that as of
December 2013, the baseline skills that appear as most commonly desired across millions of
employers’ graduate-level job openings are: communication skills; organizational skills;
leadership; writing; research; problem-solving, and so on (Burning Glass Technologies, 2013).
This list of skills is consistent with the findings from this original qualitative study, in addition to
past research by scholars such as Paranto and Kelkar (1999) and Parante, Stephan, and Brown
(2012). Interestingly, these types of skills are presumably very present in liberal arts programs
and non-professional master’s degree study. While employers clearly also value and in many
cases prioritize hard technical and business skills, the value also placed on these softer skills
suggests utility for master’s degree study outside of professional areas if the content and
outcomes of these programs are appropriately framed and articulated to employers. Of course,
these broader aspects should be balanced with the specialty skills and deep commitment to a
domain that employers appreciate in specialized professional and technical master’s programs.

For universities’ specialized master’s degree programs, an additional important takeaway
is employers’ concern that these programs can sometimes be too myopic or technical. The ideal,
as stated by employers, is to also have interdisciplinary, cross-functional perspectives and
understanding. As one firm stated: “you can’t just be a scientist coming in here. You have to be
able collaborate with marketing and supply chain and sales – all the different functions, because
it’s so collaborative” (Personal interview, 2013). Employers want master’s degree programs that
not only create valued technical specialists – but programs that while creating specialists also
build strong leaders, communicators, and team contributors. Indeed, the particular interest in
interpersonal, communication, and soft skills as an aspect of graduate programs was a common
theme. Again, employers’ own voices and recommendations are illuminating in their emphasis,
as in the following case:
I’ll tell you the gap that is there… (is) around the ability to develop relationships in an organization… For example guys are coming out of top engineering schools but can they interact socially with people and have good interpersonal skills – and by the way can they even write a business letter. They can build a rocket ship that can go to the moon and have great skills in terms of thinking through the engineering components of it – but they lack other general interpersonal skills, there could be huge gaps. The same thing even with an M.B.A. is: so that’s really good you can... build your business case and support what you’re suggesting – but can you sell it to somebody? Can you explain it and articulate it in a clear and concise way that doesn’t either insult somebody’s intelligence or go over their head? Those are whole other skillsets. (Personal interview, 2013)

In addition to the notion that programs should not be too narrow or technically focused, the need for universities’ master’s degree programs to embed leadership skills and experiences was another major recommendation from employers. Leadership capability was clearly a top priority and expectation or ideal among employers, who underscored that master’s graduates must be versed in leadership to move into management roles. As many business schools have recognized, leadership skills can be developed and taught – and it may be useful for all types of master’s programs to infuse this perspective and expectation.

**Creating and Sustaining Professional Networks is also an Important and Sometimes Unheralded Feature of/Opportunity for Professional Master’s Programs**

Colleges and universities often tend to approach their degree programs primarily from the perspective of the academic content and outcomes – with less attention to other types of outcomes or the holistic student experience. This study surfaced many examples of employers especially valuing the networks and social capital that master’s students gained through their
studies, in addition to the intellectual and more personal human capital that is built. This type of social “capital” has long been a recognized feature of M.B.A. programs, especially elite ones (Hall, 2010). However, creating powerful networks can extend beyond elite/selective management education programs. Given the findings, universities can create more value by providing opportunities for master’s students – both full-time students and working professionals – to strengthen their alumni networks through investment in alumni relations and keeping alumni connected and engaged not only with each other, but with the master’s program. Perhaps too often, universities’ networking and alumni development efforts focus at the gross institutional level or on fundraising alone. Individual master’s programs can themselves potentially create more value by bringing more intentionality to student networking with outside organizations, thought leaders, and executives within the context of the program.

The question of developing professional networks is also an important one for the growing field of online education, which is representing a larger share of master’s enrollment – and this dynamic was raised by a handful of employers. For online master’s programs to deliver equivalent value to traditional face-to-face settings, they must ideally find ways to foster network and relationship creation – a challenge in formats where there is no face-to-face or live interaction, but a problem that can be potentially addressed through technology. The geographically distributed nature of students in online programs can create a more diverse global network, in a world that increasingly does business in both global and virtual modes. Similarly, universities should monitor the aspirations and actions of social networking companies such as LinkedIn, which are both creating value in and are potentially disrupting educational institutions’ relationships with students and strong holds on unique professional networks, through tools and services related to alumni relations and connecting professionals in the economy (Weiner, 2012).
Master’s Degrees Must be Considered in a Broader Context, and Higher Education Should Better Define and Communicate the Credential’s Identity and Meaning in a Time of Change and Growth

Admittedly, the term “master’s degree” is an extremely broad one, covering a wide range of academic and professional disciplines, formats, lengths, and so on, as discussed briefly in the introduction to this study and throughout. As such, any inquiry into the master’s degree is challenged by this diversity. Still, at the grossest level, it was clear that many employers often bundle all master’s degrees together with M.B.A.s; while many others have a bifurcated worldview with general M.B.A.s in one category, and technical and specialized master’s in another.

Given the diversity in programs highlighted earlier and throughout this study, the concept of the “master’s degree” can benefit from clearer definition, in terms of how universities identify, label, and communicate what their programs and their curriculum represent. One simple distinction is between the traditional research master’s and the more practical or applied professional master’s. This need may in part exist because the master’s degree has continued to fly under the radar, so to speak, just as it was termed a “silent success” by Conrad, Haworth, and Millar (1993). As new types and forms of master’s programs (including new names describing certain master’s credentials) develop, it will be important for colleges and universities to articulate for employers and students what these degrees entail and how they are similar or different compared to more standard terminologies and structures.

Clearly defining and communicating what a master’s degree entails is also especially important for the higher education field during a period of dynamic change such as the present – that is, given the proliferation of various types of post-baccalaureate education providers and
options, including the potential longer-term challenge posed to the credentialing and academic credit system posed by innovations such as MOOCs, badges, and so on. A growing array of online master’s degree program options from accredited universities is also in this mix. As a result of this proliferation of options – and no longer being able to rely on the master’s degree typically constituting two years of study and 30+ credits in an intensive, face-to-face format – many employers reported confusion in interpreting what a master’s degree is; what it took to earn; and what the outcomes of the degree are. “Four-plus-one” accelerated bachelor’s-to-master’s programs are another model blurring distinctions between undergraduate and graduate education, making the master’s degrees earned in these cases – once associated with some degree of professional experience, reflection, or polish – less reliable signals for some employers. Indeed, it appears that many employers give less value to accelerated master’s degrees earned following/concurrent with undergraduate study, believing that this dilutes the value of the master’s as a higher-order professional credential. This points to both the value of work experience and the potential risks of a proliferation of short, undergraduate-linked master’s programs.

Given this apparent interest among employers in more consistent or easier-to-understand educational “products” and outcomes, logic would dictate that capstone projects and courses, portfolios, and other master’s program features that provide demonstrations of competency may be increasingly compelling. At the same time, as this study revealed, employer perspectives present somewhat of a paradox in this regard – given that many employers reported that they often do not look beyond the degree itself (e.g., at transcripts, coursework, or academic performance) when considering the master’s as a qualification. Perhaps if outcomes and competencies were easier to interpret, employers would dig deeper in terms of this type of
evaluation. Still, as recently reported by the *Wall Street Journal* (Korn, 2014), despite a push by schools and technology firms to create e-portfolios and deeper, digital forms of the résumé, uptake among employers/hiring managers appears minimal.

In addition to these implications and considerations for universities, graduate students themselves should be cognizant that while many employers lump all master’s degrees in one category, many employers do make a clear distinction between an M.S. in Finance and Marketing; an M.A. in Administration; and an M.B.A., for example. In the business school world, which has long been dominated by the M.B.A., the clear trend in recent years among schools’, students’, and M.B.A. employers’ preferences has been away from the general M.B.A. and toward the specialized master’s (Gupta, Saunders, & Smith, 2007; Graduate Admissions Management Council, 2013). The continuation of this trend is worth monitoring for each of these parties – as should employer or student preferences for business degrees shift dramatically, the resulting impact on the broader perception of other types of master’s degrees would surely shift as a result. Additionally, insofar as much of the existing research literature on the connections between graduate education and the skills desired by employers comes from the management education realm, there is a need for more and continued research on the master’s degree outside of the management discipline.

Finally, it is important for universities not to forget to place the master’s degree in the context of the labor market and the economy outside the walls of academe’s ivory tower. For employers, degrees are one very important qualification among many – including experience – and not the only axis that the setting of job qualifications revolves around. While higher education institutions tend to view the world through the lens of their structures – undergraduate education, master’s-level education, doctoral/Ph.D. education and research – employers
experience and tend to blend various levels and forms of college and university level education together. Additionally, employers’ college-facing recruiting functions are often bundled together, with graduate recruiting often indistinct from undergraduate education-focused activities. To the extent that employers are often not organized around master’s degree or graduate education lines, any efforts on the part of universities to engage employers more deeply – in career placement, curriculum development, partnership, or other activities – should ideally be approached holistically and at an enterprise level rather than purely from the perspective of graduate studies or an individual master’s degree program.

**Degrees are Firmly Ensconced – for Now – as More Meaningful than Other Graduate Education Forms and Credentials, in the Eyes of Employers**

As introduced earlier, many leaders within and outside of higher education are both intrigued and concerned about the prospect that new forms of credentials and competency assessment – such as certifications, badges, MOOCs, etc. – may displace the traditional degree. Although there may be merit to this potential development over the longer term, such talk of displacement or “disruptive” innovation often ignores what is known about credentialing and the role of the degree – as a special type of labor market currency and professional signal or employer screening tool. The evidence and examples presented in this study on the screening/signaling value of degrees (as well as the presence of the “sheepskin effect”) on their own could argue for not discounting the power and meaning of the degree. Further, however, as detailed in the findings, when employers were asked directly about the value of other forms of graduate education relative to degrees, the master’s degree as a unit and credential of substance often had greater meaning – while there is also clarity in the value of industry certifications,
which are sometimes equivalent or preferable to a degree in specific and often highly technical contexts.

Interestingly, a recent article in *The Chronicle of Higher Education* reported that Harvard and M.I.T.-led MOOC provider EdX was abandoning plans to connect MOOC course completers with job opportunities at employers, following a pilot project where of 868 students who completed a course, only 3 were granted job interviews and 0 were ultimately hired. EdX concluded that “existing HR departments want to go for traditional degree programs and filter out nontraditional candidates” (Kolowich, 2013) – a statement consistent with the findings of this study.

Thus, despite the prognostications, there appears to be little evidence to date of the uptake of alternative forms of credentialing and screening by major employers, in lieu of the graduate degree. However, this is an area that bears very close monitoring by all stakeholders in the marketplace, particularly universities. On this point, a few interviewed HR leaders at corporations known for their progressive practices and leadership in talent recruitment specifically called out these types of changes that may be likely to come in the marketplace, due to online programs, technology, alternative forms of certification, and so on– while admitting that it was impossible to predict how this would play out. If there is significant change in the ecosystem of credentialing – perhaps enabled by advances in technology and global markets, which fundamentally disrupt decades-old barriers and the status quo – the foundations on which the theoretical framework for this study and its findings rest might indeed be quickly shaken. Further, as many universities themselves embrace graduate certificate offerings in addition to traditional degree programs (Olson, 2013), universities and students should be clear on the intended value proposition of these programs relative to the master’s degree. Although it is
difficult to be definitive, the interviews conducted for this study confirmed that the fragmentation and innovation in graduate-level credentials is an evolving issue that many employers are quite cognizant of.

Despite the meaning that employers associate with degrees as a unit/credential of substance, industry certifications and the like should not, however, be discounted. Some of the findings in this thematic area suggest that there is indeed value (as described by employers) in colleges and universities aligning their content and outcomes with professional industry certifications, where appropriate and possible. For example, the Project Management Institute, which manages the popular project management professional (PMP) designation, operates a program that officially accredits college and university project management graduate programs, aligning their curriculum and outcomes with the valued industry credential (Project Management Institute, 2014). As a similar example, the CFA Institute manages the Chartered Financial Analyst designation, which came up often in interviews referencing the finance domain and the utility of industry credentialing over graduate degrees. The CFA Institute’s university partnership program structure allows universities to incorporate into their curriculum the body of knowledge that prepares students to sit for CFA exams (CFA Institute, 2014), giving these finance degree programs additional value. These types of third party endorsement of master’s curriculum and linking to accepted industry-led, non-university credentials can provide universities with expanded marketing and business development opportunities, more market-relevant curriculum, and outcomes, differentiation from competitors, and even potential grant funding. In addition, graduate students earn both a master’s degree and a recognized industry credential. Assuming that the lines between university credentialing and industry credentialing continue to blur, it could be valuable for universities to consider collaborating rather than competing with outside
professional bodies. And, it would be equally helpful for employers and industry to communicate the graduate-level competencies that are valued in their field, for linkage into master’s program curriculum.

Experience May Count as Much as a Master’s Degree – and a Lack of Work Experience May Diminish the Perceived Value of the Credential

Because of the economic value of master’s degrees documented in the literature review, it was anticipated that this study would find consistent evidence of premiums awarded to master’s degree holders by virtue of their degree, and enable the deep exploration of employers’ rationale for such economic premiums, which are also consistent with human capital theory. The findings present a more mixed picture. Although many employers do recognize master’s degree credentials as having inherent economic value in salary offers, many others underscored that that their salary practices are based more on results and experience; and that the process is not formulaic. Therefore, professionals/students should not assume that master’s-level education will necessarily on its own command a salary premium: in many cases it may, but in others, it may not. While it is widely recognized that the value of a master’s degree may vary by industry/field or business function, it may also vary from employer to employer within the same sector. Master’s degree graduates should be confident but careful about their salary expectations, especially in cases where they have little professional experience prior to the master’s – such as in the case of “4+1” programs. Moreover, 4+1 programs may have less economic utility than assumed, given the perception by many employers that they are often little more than an extended undergraduate education experience and less of a useful screening tool or source of deep content/skill value. Given the diverse perspectives that major employers appear to hold on valuing the master’s degree economically relative to other degrees or experience, universities
and master’s programs should pay extra attention to carefully evaluating the career outcomes of their programs (e.g., through investment in salary and career outcome surveys) – especially in an era where governments, accreditors, and other parties are increasingly evaluating and publicizing such outcomes.

The great value and frequent prioritization that employers place on professional experience – relative to the master’s on its own or concordant with it – is additionally a critical finding from this study. Employers often reported that the evaluation of master’s degree credentials was inseparable from experience, an important finding and a complicated dynamic. Insofar as some employers reported that a professional master’s degree can in some cases substitute for years of work experience, this appears to confirm the utility of the master’s for career change, especially in certifying a professional as a specialist and demonstrating their commitment to and understanding of a chosen field. To the extent that employers often place a premium on professional experience relative to degrees, this may suggest special value for experiential learning master’s programs that combine university study with periods professional work experience – and a number of employers highlighted the value of university-affiliated internships. Similarly, some professionals may continue to find part-time/executive master’s degree programs valuable as they enable the student to continue their career progression or reflect their learning into their professional setting without sacrificing years of work experience.

Additionally, this study also provided evidence of one key aspect of Belman and Haywood’s (1997) “sheepskin effect,” in terms of the signaling value of educational credentials declining as additional years or work experience and results become observable to employers. Many employers shared the perspective that the value of a master’s degree is greater earlier in professional’s careers – and students, universities, and others should take note of this dynamic.
**Economic Debates and Our Understanding of Employer, University, and Student Actions**

**Should Move Beyond the Focus on When Degrees are “Required” to Account for their Frequent Status as a Preference**

Economic analyses, university program planning, and student advising often focus on when degrees are “required” for a certain occupational role as the only measure of the degree’s professional utility – missing the far more prominent range of instances where a certain level of degree attainment, such as the master’s, is preferred. In addition, because employers appear to be, in most cases, legally limited in their ability to define the master’s degrees as a requirement, this frame is not as relevant with the master’s degree as compared to bachelor’s degrees or lower-level college credentials. This research makes clear that there are significant distinctions made between requirement and preference, and that this distinction is often quite nuanced. Determining preferred or required levels of educational qualifications is clearly often subjective and varies from employer to employer and field to field – especially, according to this research, when it comes to master’s degrees.

As a result, nuanced analysis may be necessary to truly understand when a master’s degree will give a student an advantage in economic returns or career progression. Additionally, much of the prominent debate in labor market economics and in the popular media about the value of college degrees (as highlighted in the literature review) revolves around defining certain occupations as “requiring” a degree. If employers themselves are not drawing a line that says master’s degrees are required, then it is difficult to make economic assessments that assume degrees are valued only when they are required for a position. What level of education is necessary for or preferred for a job appears quite dynamic, as argued by Carnevale, Smith, and Strohl (2010b).
Further, to the extent that this study does provide evidence of bachelor’s degrees as often being a minimum requirement – and master’s degrees being a preference or requirement for leadership development programs or management tracks – it introduces questions for universities to consider about what professional levels a given degree might take students to. If the emphasis among employers on the bachelor’s degree as a “floor” continues, it could be argued that the associate degree may wane in value. And, if the master’s degree continues to emerge as strongly preferred in many fields, this will create pressure on the utility of some bachelor’s degrees. Some may refer to this simply as “credential inflation,” but many of the employers interviewed for this study and the work of scholars such as Baker (2009), Autor (2010), and Goldin and Katz (2010) argue that higher levels of education will inevitably be required as the economy continues to transition to one driven by knowledge. Ongoing structural changes in the economy; continued globalization and differences among countries; and the competitive marketplace will all have an impact on these dynamics.

This study also confirmed that who within the organization was responsible for making decisions about educational credentials in hiring varied tremendously. These decisions and activities span a wide range of functions and individuals within companies, meaning that it may be challenging for universities to determine a single point of contact in employer/university relations, liaising with employer recruiters, and influencing hiring managers.

Employers and all interested parties should closely monitor legal rulings and regulations that impact whether various levels of education such as the master’s degree can be required for a certain job. Compliance with laws and regulations (such as those concerning discrimination) was an important dimension that interviewed employers took seriously. Just as legal rulings and regulations have in the past had an impact on the use of educational credentials in hiring (Arkes,
1999; Calvasina, Calvasina, and Calvasina, 2008; O’Keefe & Vedder, 2008), new legal and regulatory implications are developing monthly. It may be that some employers are not yet aware of new or important legal interpretations. It appears, for example, that one of the key U.S. Equal Employment Opportunity Commission decisions on the issue of degrees in hiring – related to age discrimination – occurred relatively recently, in a 2011 case (Chianti v. Soc. Sec. Admin., EEOC Appeal No. 0720080031) where:

The Commission also agreed with the AJ that the District Director's use of the four year college degree as a criterion for selection was troubling in this case. The District Director testified that he added that criterion after reviewing all of the applications, and, thus, was aware that Complainant did not have a four year degree. While management officials provided some testimony that Complainant's production and technical skills could warrant improvement, there was no evidence that Complainant ever received counseling or other discipline with respect to those alleged deficiencies, or that they were documented in his performance appraisals. Thus, the Commission concluded that Complainant established, by a preponderance of the evidence, that the Agency's articulated reason for his nonselection was a pretext for age discrimination (U.S. Equal Employment Opportunity Commission, 2011).

This study is not a legal analysis, and as a result did not include an in-depth review of legal rulings related to educational credentialing, beyond understanding the general context of relevant legal and regulatory issues. However, it is clear from the interviews that this area of law and regulation is an important one for employers, universities, and others to watch closely, given the significant considerations and risks involved in determining hiring preferences and requirements.
Universities and Students Should Recognize that Brand is Often Commoditized Outside of the Most Elite Schools and Program Reputation May Matter More than General Institutional Reputation

This study has provided a unique opportunity to surface perspectives on how the reputation or brand of the awarding institution factors into employers’ evaluation of master’s degree credentials – an important dynamic not well-covered in the existing literature. The historical lack of understanding here is especially problematic given the energy that the public and higher education institutions themselves focus on college reputation.

According to the management research literature, a company or product “brand” stands for and communicates the promise of a certain level of quality or identity, ideally reducing risk and creating trust for the product buyer – something that is particularly apparent with products that are difficult to assess, and in markets with imperfect information (Leishnig & Enke, 2011). The market for degrees meets both of these conditions. The substance and details behind a degree are certainly routinely difficult to assess – especially with hundreds or thousands of unfamiliar institutions awarding degrees – making strong reputations/known brands powerful in higher education. Further, as the literature on educational credentialing discusses, in the labor market, employer “buyers” of talent have imperfect information on job seekers – and thus, degrees stand as an indicator for potential performance.

Despite the centrality of brand and reputation in higher education, interviewed employers were, somewhat surprisingly, fairly dismissive of the power of university-level reputation, while acknowledging that the very top, elite brands – household names like Harvard – “stand out” on a resume or from a candidate pool. Only in some cases did employers report that a stronger brand/institutional reputation would lead to a better chance at an interview or a hiring decision.
To the extent that it was typically only the very top-ranked institutions that stood out for employers, in terms of creating advantage or “tie-breaking,” this does suggest that at the top end of the market, students’ competitive fervor to be admitted into and highly selective, elite institutions’ master’s programs may be warranted. This is further the case because many companies’ leadership develop programs recruit only from “top” schools. This appears especially true in sectors such as professional services where the organization’s people are its customer-facing product, and “pedigree” therefore matters more – confirming the types of dynamics recently documented by Rivera (2011; 2012)). The vast majority (perhaps 80%) of the millions of students pursuing graduate degrees each year do so at moderately selective or less selective institutions that are not as well known compared to the few elite global educational brands. Thus, there may be truth to the advice given by graduate admissions experts that an individual student’s return on investment expectations should be carefully calibrated when considering certain types of graduate programs outside of the top institutions.

Distinct from institutional brand, the clearest finding in this area was the greater value that employers place on individual program-level reputation and excellence. That is, while a given university may not be nationally known or top-ranked, employers recognize and seek out when an institution or program produces high quality students in a specialized domain, and these institutions become privileged in their access to major employers. Examples of this abounded. This means that universities have the opportunity to develop strong brands and outcomes at the program level (rather than writ-large) and may be better served by focusing on reputation/brand and excellence in specific domains where they can lead. For states, policymakers and other investors in graduate education, this may lend support to the idea that institutions within systems should be “differentiated” and can benefit from investments in program distinction and
excellence, rather than engaging in the arms race to be best known/most highly regarded institution at a general level. For employers, the lack of reliability that sometimes exists in assessing reputation as a further signal of master’s degree quality, at both the institution and program level, points to the potential value in more detailed data, analysis, and assessment of the performance of individual graduates/professionals, as described below.

**Analysis, Assessment, and Data Represent a Significant Future Opportunity in the Market for Talent and Graduate Recruiting**

Whereas this study found that surprisingly few major employers conduct robust post-hire analyses to understand the relationships between educational credentials and on-the-job performance, this presents a significant future opportunity. Among employers who had engaged in this type of analysis, many reported beneficial changes in recruiting strategy and outcomes. And, the majority of employers interviewed – after answering so often that they had not conducted much analysis – acknowledged the great importance of doing so in the future. Given the rise of “big data” and analytics in the economy, whole new lines of business and research opportunities may emerge in this area among employers and for universities, given the level of investment and effort that is at stake and could potentially be optimized. Human resources experts at consulting firm Deloitte, for example, have recently made the prediction that in 2014 “talent analytics” will become center stage, as competition for talent becomes more global and talent acquisition grows to be an even greater organizational priority (Bersin, 2013).

For universities, there is opportunity to create greater transparency in student career outcomes and progression, for the benefit of students and program improvement. Employers clearly want to see evidence of what master’s graduates can do, not just what they learned – and they also clearly value experience. As alluded to earlier, this may not be a choice: the growing
market of information and data aggregated and published on the web; the drive toward outcomes assessment by accreditors, governments, and other bodies; and the demands of master’s degree consumers themselves may well drive universities in the direction of greater data disclosure and transparency. It will be important to monitor if new types of rankings or employer measures of what constitutes a “quality” program emerge. Also, to the extent that many employers are also not closely evaluating transcripts or the grades of master’s students at the front-end of the hiring process, there may be opportunity here for universities to test employer demand for more transparent demonstrations of competency, such as portfolios and competency-based education. Although few direct/discrete references emerged from employers with respect to these types of activities, employers’ strong and consistent emphasis on greater analysis and transparency suggests future opportunity here for universities and others.

CHAPTER 6. Conclusion

The preceding chapter explicated the major conclusions, implications, and recommendations that could be drawn from this study’s findings, along major thematic lines. Since this study’s major desired outcome was to inspire the ability for various parties to make better-informed decisions and take new actions based on a deepened understanding, it is useful to briefly recap some of the major recommendations at a macro level, by audience. The principal audience for this study is colleges and universities (“universities”), but as outlined in the preceding chapters, the findings and conclusions also point to considerations and actions for other parties in the professional master’s degree ecosystem as well. The major implications by audience are summarized in the following table, and are then recapped narratively in this brief concluding chapter.
<table>
<thead>
<tr>
<th>Audience</th>
<th>Major Implications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Universities</td>
<td>• Professional master’s demand is growing moderately and likely to continue, but the nature of growth is nuanced and field-specific  &lt;br&gt;• Need for monitoring and analysis of the degree market and substitutes, including clearer communication of what a given master’s entails  &lt;br&gt;• Acknowledge the value of employer recruiting relationships, especially local ones  &lt;br&gt;• Balance breadth/general skills in curriculum with technical depth, leadership experiences, and other key competencies  &lt;br&gt;• Consider investments in program-level excellence/reputation over general institutional reputation  &lt;br&gt;• Potentially favor educational models that include or do not sacrifice professional experience and treat “4+1” programs with caution</td>
</tr>
<tr>
<td>Policymakers, researchers, and others influencers and analysts of graduate education</td>
<td>• Acknowledge master’s degree’s status as a preferred credential for many leadership and management roles  &lt;br&gt;• Revisit assumptions about degree attainment, employer recruiting interests, and the utility and value of bachelor’s degrees  &lt;br&gt;• Recognize screening/signaling as a pertinent dynamic in the hiring process vs. focus on skills/competencies alone</td>
</tr>
<tr>
<td>Students</td>
<td>• Recognize competitive advantage of master’s degrees and status as frequently favored pathway to leadership roles  &lt;br&gt;• Understand different forms of reputational/brand value in program selection, and clarify goals and motivations in masters’ degree pursuit given variation in utility and by field  &lt;br&gt;• Seek programs that build specialized/technical skills balanced with well-rounded general competencies  &lt;br&gt;• Carefully consider salary expectations and recognize value of professional experience</td>
</tr>
<tr>
<td>Employers</td>
<td>• Consider tighter cooperation with universities in program design  &lt;br&gt;• Forge deeper relationships in college/master’s-level recruiting  &lt;br&gt;• Conduct data-driven analysis of post-hire performance linked to educational credentials  &lt;br&gt;• Monitor evolving hiring legal/regulatory dynamics and ensure compliance</td>
</tr>
</tbody>
</table>

*Figure 2. Summary of Major Implications by Audience*

For universities, this study confirmed that demand for the professional master’s degree is high and increasing modestly – but the nature of demand is rich with nuance, and varies
significantly by industry, function, and business type. It is also clear that changes in the job market and the market for degrees create an increased need for the monitoring of trends and analysis. Universities may also wish to acknowledge the value of recruiting relationships with employers, taking advantage of the opportunity to build local relationships and recognizing that geographic proximity often matters. In addition, as master’s degree options and formats – and alternatives and “disruptions” or new forms of credentialing grow and evolve – it will be important to clearly communicate the master’s degree identity and outcomes. While the evolution of the market for alternative credentials is important to monitor, the master’s appears solidly ensconced for now as a credential of greater meaning among employers. Master’s curriculum should balance both general skills and breadth with specialization, and leadership skills and experiences appear especially valued among employers. Universities should also think carefully about reputation and brand, and recognize that program excellence may be valued more than general reputation in some cases. In addition, insofar as the value of master’s degrees appears to be tightly coupled with professional experience, universities should consider favoring educational models (e.g., part-time or experiential) that include or do not sacrifice professional experience – and treat the expansion of “4+1+” programs with caution.

For policymakers, researchers, and other audiences that often have influence over the actions of universities, it is important to acknowledge or pay more attention to the role of the master’s degree within the broader spectrum of educational credentials, especially given its status as a preferred credential for many leadership and management roles. The use of the master’s degree as a key professional credential also pressures the utility of the bachelor’s degree, with implications for the policy emphasis on bachelor’s attainment and sub-baccalaureate credentials. In addition, the globalizing market for talent is likely to reshape many historical
trends and assumptions about degree attainment, major employers’ recruiting interests, and so on. Also, it should be acknowledged that screening and signaling is a real and pertinent dynamic in the hiring process – and that the value that employers place on master’s degrees is not driven by job skills alone. While the generation of new theory is beyond the scope of this study, there may be opportunities for research to break new ground in this regard.

There are also a number of recommendations for students from this research. First, it is clear that the master’s degree is a competitive advantage in the “arms race” in credentialing. Further, the master’s degree is often a pathway to leadership roles. However, students should recognize that various master’s degrees are perceived differently and should be as clear as possible in their goals and motivations for pursuing a master’s, with an understanding of the particular utility the degree will bring them in the job market for their chosen field. Students should seek programs that not only build specialized skills, but build a well-rounded set of competencies – with leadership skills of particular value. Students should be balanced in their expectations of salary premiums for their master’s degree, and recognize that professional experience is highly valued. This latter point suggests potential added value for part-time/executive, experiential, and other master’s program models that provide the benefit of education and a credential without sacrificing career experience. Brand and reputation are an additional important consideration, with best-in-class program brands often valued highly by employers – and the highly elite/selective schools being potentially worth the investment depending on the field and students’ professional goals.

With regard to employers, they are of course the focus of this study. Thus, the conclusions from it are very much more about how other parties should relate to employers, rather than for employers. However, it is clear that employers, universities, and students alike
can benefit from tighter cooperation in program design between employers and universities, and in aligning curriculum and educational outcomes with job market demand. In addition, many employers have strategically recognized the value of college recruiting in recent years, with the potential for deeper relationships to be forged in this area. Likewise, major employers who are conducting analysis of post-hire performance report useful changes in strategy and performance as a result, with the data-driven setting of educational qualifications and recruiting activity representing a significant future opportunity (not only for employers, but for universities and perhaps even new businesses). Regulatory and legal issues also appear to be of paramount importance to employers’ recruiting and talent sourcing activities, with the distinctions between preference and requirement – as well as a host of other related issues – bearing careful monitoring and compliance. It also appears that employers should be increasingly cognizant of the recruiting activities and educational preferences of their competitors in the globalizing market for talent.

Across all of these areas, the recommendations that are perhaps most immediately actionable include closer cooperation between universities, employers, and policymakers; universities’ embedding certain elements or attributes into their master’s programs; and the opportunity for employers to engage in deeper analysis and evaluation of their hiring process and results. Across all stakeholder groups, the opportunity for more analysis, monitoring, and research along all of these dynamics is also clear and immediately actionable – and important given our still relatively limited understanding of this space.

On personal reflection, this study presented the researcher with a journey through the history of the master’s degree, and also offered a preview of its future. It is clear that both the value ascribed to the master’s by employers and the degree’s value in society is continuing to
evolve. Whereas conventional wisdom and orthodox interpretations of human capital theory – that master’s degrees are principally about skills – do appear to account for much of the value placed on this degree by employers, it is notable that screening and signaling play such a prominent role as well. It is puzzling that more researchers have not examined these dynamics previously. Independent of the focus here on the master’s degree – itself an understudied area – it is rather astounding that there has not been more study of how employers interpret and use educational credentials, particularly given the hundreds of billions if not trillions of dollars that are invested annually in higher education globally by students and universities, and in recruiting/hiring and training and development by corporations. More research and attention from practitioners is needed in this area. For this particular scholar-practitioner, the study’s findings underscore the importance of recognizing the nuance and complexity associated with various types of master’s degrees and professional settings.

It is the belief of this researcher that demand for master’s degree is likely to continue to grow significantly in the years ahead. Still, given the major structural evolutions and disruptions seen in both the global economic landscape and in higher education over the last decade, providers of graduate education should stay on alert to ensure that the programs they develop and the graduates they create align with economic and societal needs. It would be valuable if more graduate-level institutions and research universities embraced understanding and aligning with the needs of industry and the workforce, an ethos often relegated to community colleges and vocational institutions.

At its most fundamental level, this research study exists as an investigation aimed at bridging the gap between university master’s degree programming and the world of employment, focusing on the hiring process in particular. In addition to addressing the detailed research
questions as discussed in the preceding narrative, this research stood as a special opportunity to garner the priority recommendations for universities and their master’s programs from senior executives of some of the largest and most influential corporations in the United States. One theme that was evident is, simply, the lack of dialogue and connectivity between universities and employers. At a very basic level, there appears to be great latent value in creating richer and more consistent dialogue between employers, universities, and other parties in the ecosystem. As described by one of the largest employers in American business:

How to use and connect universities to companies to have that dialogue?... I think even corporate America and corporate around-the-world doesn’t necessarily do a good job of engaging in that dialogue with universities to educate them on “Hey, here are the competencies and the skillsets that we’ll be looking to hire in 5 years time: can you start building programs to meet those needs?” and with (COMPANY) in particular it’s tough, because again we hire for so many different discipline areas, it’s hard for me to really identify one (priority)... we do really struggle on trying to find that quality talent. So I think that anything universities can do to better train their students on the latest technology, the latest innovation, and where the economy is headed would be very helpful for us. I think it’s incumbent upon us to do a better job educating universities on what skills we need (Personal interview, 2013).

Going forward, it appears that all stakeholders in the market for professional master’s degrees can benefit from increasing the historically limited dialogue and engagement related to aligning degree program offerings with economic needs. This study has offered one contribution to this evolving and important dialogue. Both American universities and the large employers that drive the U.S. and global economy are currently seen as world leaders in their respective domains.
Given their symbiotic relationship, these two intertwined parties are dependent on each other for their continued success and global market leadership.
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Appendix 1. Employers with the Greatest Number of Graduate/Professional-Level Job Openings

*Statistics reflect open graduate-level roles, by employer, for January-September 2013

Source: BurningGlass Technologies LaborInsight Database, October 1, 2013

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<th># Open Positions</th>
<th>Employer Name</th>
<th># Open Positions</th>
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Appendix 2. Recruitment Letter (E-mail)

Sean Gallagher, Doctoral Student
Dr. John LaBrie, Principal Investigator (Doctoral Advisor)

Northeastern University
College of Professional Studies
360 Huntington Ave, Boston, MA 02115

Dear ___(potential participant name)___,

I was provided/identified your name by ___(referrer)____. I am writing to invite you to participate in a research project. The purpose of this research is to understand why and how employers use master’s degrees as professional qualifications. The study is being conducted as a student doctoral thesis project in Northeastern University’s higher education administration doctoral program. The results of the study will be useful to helping higher education institutions, policymakers, and employers understand the nature of demand for professional master’s degrees.

I came across your name through ___(source)____. Your organization, ___(organization)___, was identified as a major recruiter/hirer of individuals with graduate degrees through an analysis of national job posting databases. The study is focusing only on major employer organizations/companies that value graduate-level credentials in their hiring, as indicated by their activity in this area. Therefore, your experience and opinion regarding master’s degree credentials would be especially valuable for this study. If you are not the best person to speak with within ___(organization)___, I would welcome a referral to a colleague or other contact. Given ___(organization’s)___ pattern of seeking graduate-level-educated professionals, we thought that you might be interested in participating given the potential benefit that the research may contribute to the field and our understanding of employment/higher education credentialing dynamics.

The study is being conducted through telephone and in-person interviews and the interview is expected to take only 45-60 minutes. If you decide to take part in this study, we will ask you discuss your opinions and perspectives about recruiting and hiring for master’s degree-level professional roles.

Importantly, your responses in this study will be handled in an confidential manner. Only the researchers will know that you (both as an individual and in terms of your organization) participated in this study. The final study based on this research will not identify you, nor your organization, nor will it attribute specific quotes to you. In cases where the analysis refers to specific organizational practices as examples, pseudonyms will be used.

There is no compensation or direct benefit to you for participating in this study. However, your answers may help us to learn more about why and how organizations like yours

[Approval stamp: CP213-05-03
Valid through 06-21-14]
values master’s degrees as professional qualifications — which over the long-term can lead to better educational programs and graduates. In addition, as a courtesy, I would be delighted to provide you with a copy of the research results when the study is complete.

I thank you for considering participating and would welcome the opportunity to gather your perspectives through a short interview.

Thank you and regards,

Sean Gallagher
Gallagher.sc@husky.neu.edu, 617-378-7475
Appendix 3. Consent Form

UNSIGNED CONSENT DOCUMENT

Northeastern University, College of Professional Studies

Name of Investigator(s): Dr. John LaBrie; Sean Gallagher (Ed.D. Student)

Title of Project: Understanding the Role of Employer Hiring Practices in the Rise of the Professional Graduate Degree

Request to Participate in Research

We would like to invite you to take part in a research project. The purpose of this research is to understand why and how employers use graduate degrees as professional qualifications. The study is being conducted as a student doctoral thesis project. The results of the study will be useful to helping higher education institutions, employers, and policymakers to understand the nature of demand for professional master’s degrees.

You must be at least 18 years old to be in this research project.

The study is interview-based and will take place via telephone or at your office, at a time that is convenient for you. The interview will take approximately 45-60 minutes. You potentially may be contacted by e-mail or phone for follow-up questions that require clarification.

If you decide to take part in this study, we will ask you to share your perspectives, opinions, and experiences related to recruiting and hiring for master’s degree-level professional roles. Participation will consist of a telephone or in-person verbal interview with the researcher. If you are willing and able to share them, we may also be interested in – as background – policy documents related to your organization’s hiring activities, if you are able and willing to share them.

There are no foreseeable risks or discomforts to you for taking part in this study.

There are no direct benefits to you for participating in the study. However, your answers may help us to better understand employer recruiting trends and to improve the program offerings and strategies employed by universities as a result. To the extent that it is of interest, the researcher will share a copy of the completed study with you.

Your part in this study will be handled in a confidential manner. Only the researchers will know that you participated in this study. Any reports or publications based on this research will use only group data and will not identify you or any individual as being of this project.

The decision to participate in this research project is up to you. You do not have to participate and you can refuse to answer any question. Even if you begin the study, you may withdraw at any time.

You will not be paid for your participation in this study.

If you have any questions about this study, please feel free to call or e-mail Sean Gallagher, the person mainly responsible for the research, at 617-378-7475 or Gallagher.se@husky.neu.edu. You can also contact Dr. John LaBrie, the Principal Investigator, at 617-373-2412 or j.labrie@neu.edu.

If you have any questions about your rights in this research, you may contact Nan C. Regina, Director, Human Subject Research Protection, 960 Renaissance Park, Northeastern University, Boston, MA 02115. Tel: 617.373.4588, Email: n.regina@neu.edu. You may call anonymously if you wish.

You may keep this form for yourself.

Thank you.

Sean Gallagher

APPROVED

NU IRB # 253-08-03
VALID THROUGH 8/22/15
Appendix 4. Interview Guide

This study’s qualitative, general inductive analysis approach used semi-structured interviews to source data. The interview questions that follow are based on the study’s core research themes and questions generated by the literature review and theoretical framework. The interview questions that follow were developed to specifically address the questions and gaps raised in preceding literature review, theory discussion, and the problem of practice.

This study’s first research question is why and how employers are using master’s degrees as professional qualifications in their recruiting and hiring process and how this has changed over time. In this area, the work of Bills (1988a, 1990, 1992, 2003), Cappelli (1992, 2012), and Brown and Sessions (2006) points to the need for further inquiry on how employers use educational credentials relative to other hiring criteria. Furthermore, much of the previously reviewed gaps in the literature suggest the need to inquire about advanced levels of education and professional-level roles, specifically (Rivera, 2011, 2012). In addition, given the growth momentum in master’s degree attainment and enrollment addressed throughout the literature review (Glazer-Raymo, 2005; Williams-June, 2011; Allen, Bell, and Sowell, 2012; National Center for Education Statistics, 2013a), it is important to inquire about how this has changed over time.

Further, a range of scholars including Bills (1998a, 2003, 2011), Baker (2011) and Rivera (2012) point to the need for empirical evidence from studies of employers to reconcile the competing theories that describe how employers use educational credentials in their decision-making. Thus, the primary research questions seek to uncover whether employers take a more orthodox human capital view of the master’s degree in which the credential represents hard skills and knowledge (Becker, 1964; Smart, 2004), or if the master’s degree is also or instead used as a
signal or screen representing other traits or characteristics (Arrow, 1973; Spence, 1973; Stiglitz, 1975; Weiss, 2005; Cappelli, 2012). Understanding the specific skills and traits that employers do associate with master’s degree-educated candidates will also be an important line of inquiry given that many (Wendler et al., 2010; Cappelli, 2012) have posited that master’s degrees and advanced levels of education are associated with higher order skills and traits such as critical thinking or promotability – yet as noted earlier, there has been relatively little empirical documentation of this.

The study’s second major research question is how employers are using and interpreting master’s degree credentials in their recruiting and screening process. The analysis and critiques of major employers’ recruiting and screening process by scholars such as Rynes and Bordreau (1986), Rynes, Ortlitzky and Bretz (1997), Breaugh (1992, 2013), and Cappelli (2012) point to a need to understand where and how within organizations decisions about required or preferred levels of education, such as the master’s, are being made. In addition, to the extent that Cappelli (1992) and Rivera (2011, 2012) have found no link between in-school performance/grades earned and on-the-job performance, it would be useful – for higher education institutions in particular – to understand if major employers are reviewing grades or transcripts in addition to the degree, as well as if they are assessing or analyzing the correlation between pre-hire educational credentials and later on-the-job performance. This is an especially intriguing question in an environment where a leading company with a highly competitive recruiting process such as Google has announced that it has done away with requiring candidate GPA’s and test scores in their hiring process after finding through deep analysis no correlation with post-hire performance (Bryant, 2013).
Much of the content in the literature review highlighted how the master’s degree has become a prominent credential – and has a varied history and value – across various occupations and industries (Glazer-Raymo, 2005; Carnevale, Cheah, and Strohl, 2013), as well as regional variation in educational attainment (Berube, 2011; Moretti, 2012). Thus, it would be valuable to explore how employers’ valuing of master’s degree credentials varies across industries and also if there is variation across occupations or regions of operation within a given single employer. Further, while many analyses and studies have quantitatively documented a wage premium for graduate degree holders (National Association of Colleges and Employers, 2012; Zaback, Carlson, and Crellin, 2012; Carnevale, Cheah, and Strohl, 2013), it would be useful to confirm these economic premiums and explore employers’ rationale for them, as well as whether a master’s degree not only results in higher pay, but whether it can also be a substitute for work experience. In addition, Rivera’s (2011, 2012) recent scholarship identifying the importance of prestige and educational brands in employers’ evaluation of educational credentials points to the utility of exploring how employers consider or weight the reputation of the institution that awarded a candidate’s master’s degree in evaluating it as a credential. Brown (2001) also proposes that institutional prestige and specialized degree types are important beyond the credential itself in helping employers to sort candidates and make hiring decisions.

**Interview Questions**

**Part I. Why Master’s Degrees Are Used as Professional Qualifications in Recruiting & Hiring Process**

1. Generally, how important is education, relative to other hiring criteria, and why?

2. Why does your organization look to master’s degrees as professional qualifications?
   - Has this changed over time – and if so, why?

3. In your professional opinion and speaking for your organization, is the master’s degree as a job qualification more about the skills and knowledge that the degree represents, or
other traits that you associate with individuals who have earned a master’s?

4. When you think of an individual with a master’s degree, what skills, traits, or characteristics come to mind that you associate with attaining this level of education?
   • How do these skills and traits differ from bachelor’s degree-educated individuals?
   • How important is a degree credential compared to another form of graduate or continuing education?

Part II. How Master’s Degrees Are Used and Interpreted in Recruiting & Screening Process

5. Please describe who within the organization most influences the setting of educational qualifications – line managers, central HR, or some other group or person?

6. How/through what process is the determination made to designate a job role as having a master’s degree preferred or required?
   • How would you describe the criteria or logic in distinguishing “required” from “preferred”?
   • Do you do any assessment of employee performance or post-hiring outcomes that provides evidence for your designation of educational qualifications?

7. How does the use of the master’s degree as a qualification differ, if at all:
   • By occupational role or level within the organization?
   • Within regions that the organization operates in (if applicable)?

8. Generally, how is master’s-level recruiting approached or how are master’s degree candidates treated differently (if at all) from candidates without the master’s degree qualification?

9. How does the reputation/brand of the college or university that awarded the master’s degree factor into decision-making about recruiting strategies or candidates?
   • Do you recruit from certain colleges and why? How are they chosen?

10. Does your organization create minimum thresholds for grade point average (GPA), or review transcripts?
    • Have you ever done post-hire assessments of employees to study how hiring thresholds correlate with later on-the-job performance?

11. All other things being equal, is there an earnings/job offer premium that is typically given to master’s degree holders? What percentage or dollar figure would you place on the master’s?

12. In practice can a master’s degree be substituted for years of experience, and if so what is the value/differential? Why?