LUND UNIVERSITY
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COVID-19 and Incentives of Higher Education

Did the COVID-19 pandemic affect incentives of higher education for Swedish university students?

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Abstract:
What incentives do Swedish University students have to pursue higher education? If and how are these incentives affected by the COVID-19 pandemic? This study aims to investigate incentives of Swedish university students and possible influence of the COVID-19 pandemic on said incentives. This research is based on a qualitative survey and interviews that will contribute with nuanced reflections of the studied sample. The findings of this study suggests that due to an already existing high demand for higher education, COVID-19 affected incentives of Swedish university students to a small extent of the studied sample. The findings of this study connects to the presented literature of The Knowledge Economy and theoretical framework of Sheepskin Effects and theory of Signaling. This study's findings confirm the proposed tentative proposition and answers the research question, that due to presented literature and theoretical framework, COVID-19 will have little impact on incentives of Swedish university students' incentives. This research aims to contribute to the field of implications of COVID-19 on tertiary level education.

Keywords:
Higher Education, COVID-19, Incentives, Knowledge Economy, Human Capital Theory, Signaling Theory, Sheepskin Effects

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1 Introduction

1.1 Background

Why do people pursue university education? Is it a genuine strive to educate and increase theoretical knowledge or a strategic financial decision for future economic gain? Moreover, are incentives to pursue higher education affected by exogenous factors like the COVID-19 pandemic? This study examines Swedish students' incentives to pursue university education during the COVID-19 pandemic in Sweden.

This study bases its research on incentives to enroll in Swedish universities, a scope which derives from Sweden being a knowledge intensive economy. Sum and Jessop (2012) describes the Knowledge Economy as a creative, information and learning economy, all which describe the strategic economic shaping of an economy, a term which emerged in the 1980s. The knowledge economy utilizes high levels of education as means to develop human capital and institutionalize lifelong learning to increase innovation and efficiency. Sanandaji and Fölster (2017), state that Sweden has the highest ratio of knowledge intensive professions in Europe with 87.1 of 1000 positions, and the second highest percentage of national GDP invested in R&D (3.2%). According to the World Bank (2022), Sweden had the highest share of GDP invested in education among neighboring countries of Denmark, Norway, Finland, Germany, Netherlands and France in 2020, which accentuates the importance of the education driven economy of Sweden.

In light of the knowledge economy, researchers argue that economic incentives of investing in education increases in importance for university students. However, simultaneously, declining competitive advantage and wage premium for professions after graduation comes as a result of high competitiveness of a knowledge intensive economy and increased demand for higher education. The Human Capital Theory (Becker, 1994) (1992), Signaling theory (Spence, 1976) (1973) and theory of Sheepskin Effects (Hungerford and Solon, 1987) all state that investments in education yields increased economic return where theories of Signaling and Sheepskin Effects highlights the importance of utilizing academic degrees as credentials to prove competencies and increase competitiveness to achieve higher earnings in the workplace.

With respect to the COVID-19 pandemic, (Krisinformation, 2020) states that the first recorded outbreak of COVID-19 in Sweden occurred in January 2020 and became an appointed pandemic in Sweden by March 2020 (Folkhälsomyndigheten, 2023). As a result, SCB (The Swedish bureau of statistics, 2021) reported that the unemployment rate in Sweden was at 8,3%, higher than it had been since 2010. To this, UKÄ (2022) (Swedish university chancellor's office) describes that 291,000 individuals got laid off permanently in 2020 due to COVID-19, while 936,000 individuals got temporarily laid off. At the same time, UHR (Swedish university

council, (2020) reports that applications to Swedish universities increased 13% in 2020 compared to 2019 and a higher percentage of eligible students applied which could suggest that individuals formerly working, decided to study as a result of the pandemic. UHR further states that applications decreased in size as the magnitude of COVID-19 decreased as well. With increased unemployment and university application rates, Holmlund, Sjögren, Engdahl, Hall, Lundin,Öckert (2021); Betts and McFarland (1995); Clark (2011); Reimer (2011) and Barr and Turner (2015) describe the impact economic shocks like the COVID-19 pandemic can have on choice of tertiary level education and explicitly argues the existence of a relationship between unemployment in recessions and increased university applications. Additionally, Blom, Cadena and Keys (2021); Liu, Sun and Winters (2017) and Altoniji, Khan and Speer (2016), argue that choice of university major is impacted by labor market fluctuations in relation to economic downturn like the COVID-19 pandemic.

With this in mind, this study aims at providing in-depth knowledge of incentives behind Swedish university students' higher education choices in relation to COVID-19. Haekal, Muttaqien and Fitri (2021) have researched the fairly scarce field of literature regarding university students' reflections in relation to COVID-19. On the other hand, Modestino, Shoag and Ballance (2016); Kahn (2010) and Heisz (2012) contributes to the large literature of short and long term effects on employability, return to human capital investments and incentives to higher education through economic shocks similar to COVID-19, as the financial crises. To that, Aalto, Müller and Tilley (2021) have researched implications of business cycle fluctuations on choice of high school majors where no relationship between economic shocks and choice of high school major is found.

Previous literature provides relevance to researching the implications of COVID-19 on incentives of tertiary level education. This is due to the scarcity of literature of implications as a result of the COVID-19 pandemic, and plurality of literature connected to implications to previous, similar economic shocks. In combination with literature of implications of the knowledge economy and COVID-19 and theoretical framework, the tentative proposition of this study states that incentives of pursuing higher education for the sample studied will not be affected to a great extent by COVID-19.

1.2 Research problem

The incentives that underpin the choice of attending university are crucial in order to understand the development of the educated labor force, especially in a knowledge driven economy like Sweden. The reasons for pursuing higher education ultimately affect the performance of students and purpose of utilizing obtained knowledge and credentials after graduation, which have implications on both the micro and macroeconomic level. With that, the extent to which said incentives can be affected by exogenous events like the COVID-19 pandemic, presents important

aspects to the objectives of obtaining a university education and whether these are a result of a current state in the business cycle or a consolidated career path resilient to economic shocks. Therefore, exploring the possible impact of COVID-19 on incentives to pursue university education present an opportunity to explore the magnitude of importance the knowledge economy has on young individuals in the early stages of their careers and to what extent the importance of higher education can be fortified or deteriorated in the light of COVID-19.

1.3 Aim and scope

The aim of this study is to shed light on nuanced and in-depth individual reflections of Swedish university students and their respective incentives of pursuing higher education during the COVID-19 pandemic. The results obtained in this study ought to contribute to the current scarce literature on implications of the COVID-19 pandemic on incentives to pursue higher education and the literature of the relation between incentives to higher education and implications to a knowledge intensive economy like Sweden. Exploring incentives of higher education for individuals studying in a knowledge intensive economy like Sweden and the purpose of utilizing achieved education, insights useful at both the micro and macroeconomic level. In turn, this study provides relevance for related research and policymakers as this research provides results of how economic shocks and the development of knowledge intensive economies affect incentives and purposes of obtaining higher education, knowledge and degrees.

Although this study is of general interest, the study sample is based on Swedish students which signifies that findings of this study can not be generalized to nations with differing characteristics compared to Sweden along with different experiences of the COVID-19 pandemic. Moreover, the studied sample is collected through a combination of a convenience and generic purposive sampling methods (Bryman, 2012), which implies that this study is not attempting to generalize results outside of the studied sample and is solely meant to develop nuanced insights on the topic of the study.

1.4 Research Question

Did the COVID-19 Pandemic affect Incentives of Higher Education for Swedish University Students?

1.5 Outline of thesis

This thesis study is structured in five main parts. The introduction of this study includes background, problematization of the research and aim and scope of the study. The second, following section includes previous research on the topic followed by the theoretical framework in which the result section will be related to in order to provide meaning and insights of the

findings. The third part includes the methodology and data collection and the fourth part includes the results followed by the fifth section of the discussion. Lastly, the study ends with a conclusion that relates to the introduction of this thesis.

2 Theory

2.1 Literature Review

The following sections will describe previous literature related to the topic of this study divided into parts of how the characteristics of the knowledge economy have affected competitiveness of higher education, and COVID-19 pandemic has affected incentives of university education.

2.1.1 The Knowledge Economy

This section provides insights to different scholars' research on how the knowledge intensive economy increases competitiveness in the higher education and labor market sector, which affects both the tendency to enroll in university education and the choice of university major. Brown, Ashton, Lauder and Tholen (2008) develop ideas on the declining competitive advantage higher education provides as acquiring an academic education gets more common. Through a variety of OECD countries with Sweden included, the amount of people from the age of 25-34 that pursue higher education have increased from approximately 25% in 1991 to about 40% in 2005. The authors further describe that higher earnings is a result of how scarce your credentials connected to your education and working life are. With that, depending how common your degree is, the ranking of your university and other factors compose the market value of your credentials. As previous wages for university educated workers compared to non graduates have been significantly higher, the outlook for a continued relative higher wage for high skill workers will ultimately depend on the current and future market conditions. The authors state that the wide understanding of both individuals and society that post secondary education is necessary for a knowledge driven economy, seems to have affected the enrollment in higher education. Additionally, at a glance in 2003, the premium of investing in higher education in Sweden was much smaller compared to other OECD countries like the UK, Korea and the US.

In addition, Abel and Deitz (2014) explores the economic return to a university education in light of knowledge economies. After the Great Recession, college tuition fees increased and raised questions whether it was economically defensible to invest in a university education in relation to simultaneously falling wages. The authors address that despite falling college graduate wages since the 2000s, high school graduates wages have fallen further. Therefore, the wage premium for college graduates has never been bigger when all direct and indirect costs taken into account, it is still a sound investment over time to attend college and pursue an undergraduate degree. Donald, Ashleigh and Baruch (2018) describes that depending on major, the wage premium for

university graduates constitutes incentive to educate in higher institutions where especially degrees such as finance and engineering find that associated benefits to costs still prove a good investment. However, in general, the authors argue that newly graduates find their personal competencies contribute more to their employability than acquired theoretical knowledge and academic competencies.

To further describe implications of the increased competitiveness of the knowledge economy, Mok and Jiang (2018) describes the potential challenges for newly graduates in the developing knowledge economies of East Asia. The authors address the development of higher education institutions through public and private funding in universities to provide international status. As a result, graduate unemployment has increased with greater competition for high skilled jobs. To this, the increased competition for sought after jobs have resulted in precarious working conditions for highly skilled graduates. Therefore, graduates can be forced to accept jobs below their skill level to avoid unemployment, causing a crowding out effect and in turn decrease the wage levels for high skilled professions. Moreover, Mok and Jiang present another challenge for graduate employment which concerns the university wage premium. When competition increases vastly in high skilled sectors, the oversupply of an educated workforce can drive down wages for related professions and as a result, make investments in education less profitable. In contrast, Zaback, Carlson and Crellin (2012) prove evidence through their study that post secondary degrees yield higher earnings in the labor market even though the wage premium varies depending on location and situation. To this, the authors state that for each level of academic degree one acquires, expected earnings increase accordingly.

To elaborate on incentives to pursue higher education, Kennett, Reed and Lam (2011) discusses the reasons undergraduate students have for pursuing their studies, which relates to this study's aim and relevance. The authors found that a mixture of internal and external factors motivated students. Major findings included factors related to proving to others that one could achieve an academic degree and to not disappoint friends and family with poor performance and grades. Fredriksson (1997) further describes the economic incentives of Swedish university students in relation to their demand for higher education. Accounting for the decrease in wage premium for university education in Sweden through the 1970s and 1980s, an immense decrease in eligible male applicants followed as a result and hence that the education sector responds to alterations in the labor market. Lauer (2002) further discusses whether economic incentives affect enrollment in higher education. Lauer highlights the importance of an academic education in knowledge driven economies and that rational individuals weigh benefits to losses in choosing academic education. The educational choice of individuals is highly influenced by family background and pressure related to expectations of an academic career. In addition, the author highlights the importance of being personally affected by unemployment and its effect on the tendency to enroll in university, where economic return on education is highly correlated with choice of education. Mentioned scholars in summary, describe the various ways in which the nature of a

knowledge intensive economy provides increased incentives to pursue university education, in terms of increased competitiveness and the economic and individual motivation characteristics of the knowledge economy increases.

2.1.2 COVID-19 and Higher Education

Holmlund (2021); Betts and McFarland (1995); Clark (2011); Reimer (2011) and Barr and Turner (2015) describe how external factors like the COVID-19 pandemic and other shocks to the economy affects the choice of academic education at the tertiary level. Holmlund (2021) describes the difficulty for young individuals entering the labor market in economic downturn and uncertainty where less opportunities are available at a greater risk of layoffs. Clark (2011) describes that for young individuals in the UK, economic recessions incentivize enrollment in higher education. In detail, Clark describes a strong correlation between young individuals' enrollment in higher education and fluctuations in the labor market and predominantly economic downturn. In addition, Betts and McFarland (1995) argue that there is a strong correlation between unemployment of recent high school graduates and increased post secondary enrollment where evidence of a one percent increase in unemployment for high school graduates spark an increase of 0,5 to 4% increase in community college enrollment and hence that such applications are highly sensitive to business cycle fluctuations and especially in crises and economic recessions.

In addition, Barr and Turner (2015) describes the effect the economic downturn had on individuals in the aftermath of the financial crisis of 2007-2008. The authors argue that during and after the crisis, individuals that were or became unemployed and those that were struggling to find employment during weak labor market conditions, were more likely to apply to higher education. Reimer (2011) , in line with mentioned scholars, proposes that unemployment rates and overall state of the labor market and economy have an impact on higher education choices of students and that students are responsive to labor market fluctuations.

Additionally, Blom, Cadena and Keys (2021) describes how business cycles affect the choice of major for undergraduate students. With a sample of 4.8 million individuals in the US between 1960 and 2013, the authors provide evidence that the choice of college major is heavily affected by changes in the business cycle. They estimate that a one percent increase in unemployment results in a 4.2 percent change in choice of major for women and 2.9% change for men. This shift in major is in general towards more difficult and challenging majors that typically include more math and consequently are majors that should result in better paid jobs after graduation. In addition, the authors shows that in times of economic downturn, students allocate more time in researching potential earnings of challenging majors. Furthermore, Liu, Sun and Winters (2017) discusses the effect the Great Recession had on choice of major for college students in the US. Following the aftermath of the Great Recession, the authors found evidence that more college students chose to major in a STEM related field while other college students also chose to not

study business and especially finance and management as their major. Altoniji, Khan and Speer (2016) describe how labor market consequences in a recession affect different majors and skill levels of university students. For graduating classes of 1974-2011, the authors found that recessions have an impact on early careers for young professionals and that wages in their first year can decline by 10% by entering the labor market in economic downturn.

In contrast, Aalto, Müller and Tilley (2021) argues that labor market fluctuations and unemployment rates do not impact high school choices of Swedish adolescents. The authors describe that the COVID-19 pandemic had no bearing on high school level choice of education in 2020 and despite labor sectors that were heavily affected by the COVID-19 pandemic, high school applications for related programs to said affected labor sectors only saw a small change in applications. This study shows an important insight that study choices might only be affected at the tertiary level in Sweden and not for secondary education. In turn, the relevance of investigating changing incentives for university studies increases by dismissing the effects of COVID-19 on secondary education. To this, Modestino, Shoag and Ballance (2016); Kahn (2010) Oreopoulos, von Wachter and Heisz (2012) discusses the long term implications of earnings for individuals studying and graduating in recessions and economic crises. Moreover, Haekal, Muttaqien and Fitri (2021) contribute to the scarce literature of implications of the COVID-19 pandemic.

In light of the above, it is evident that researchers show the various implications that come as a result of different economic crises and recessions. These implications include increased incentives to enroll in higher education and choice of higher education major. Research on implications of recessions and crises similar to the COVID-19 pandemic increases the relevance of researching consequences on incentives to pursue higher education as a result of the pandemic. To this, Aalto, Müller and Tilley's (2021) research of implications on secondary education choice show the research interest in implications of COVID-19 and further motivates aiming this study towards tertiary education. Haekal, Muttaqien and Fitri (2021) show that implications of incentives and individual reflections on higher education in relation to the pandemic is currently a scarce research field which this study can contribute to.

2.2 Theoretical Framework

This section will provide three major theories on the forces driving incentives to pursue university education, that the subsequent results will be related to in order to contribute with context and meaning of the results section in this study.

2.2.1 Human Capital Theory

With its starting point in the 1960s, Gillies (2015) describes that the Human Capital Theory has widely influenced modern economics. With the growth of the 'Knowledge Economy', the relevance and importance of the relationship between higher education and economic growth has increased. The Human Capital Theory is mainly divided into two parts, where the first discusses the wage premium that arises from increased education and the second where the theory assumes that educated individuals provide higher quality in their work compared to uneducated peers and that increased quality traces the reasons for the wage premium. Becker (1994) describes the formation of human capital through channels of education and training which according to the author are the most important channels of acquiring human capital. Becker further states that possessing and increasing high levels of human capital contributes to increased personal earnings over time as a result of increased productivity in the workplace. Becker and Chiswick (1966) further propose that individuals maximize their personal economic welfare by investing in human capital to acquire economic gain over time. Schultz (1961) describes how education previously has been regarded as consumption due to its related tuition fees, instead should be seen as investments in education as it is meant to yield dividend over time as a result of the time and capital invested in the education. Schultz (1962) indicates that personal income depends on the amount of investment in human capital and as a result, increasing human capital investment also contributes to reducing income inequality among individuals. Moreover, Schultz addresses the benefits related to investment in human capital beyond increased earnings, such as increased opportunities in the workplace and increased well being.

Moreover, Becker (2002) describes the importance and relevance of human capital to our current age. This refers to human capital investments as the most important form of capital in modern economies. The efficient recovery after the financial crisis in the US in the 1920s, was according to Becker, in part explained by their high percentage share of human capital as it helped recover work sectors heavily affected by the crisis. Becker (1992) also proposes that the Human Capital Theory assumes that education provides increased earnings through the ability to produce more qualitative work compared to uneducated workers. With that, analytical ability and theoretical knowledge should contribute to increased quality of individuals output. Becker, (1962) discusses that investment in human capital constitutes the future income distribution of individuals. There are various ways where one can increase their human capital stock, however, Becker states that despite that investment in human capital can occur both at the individual and firm level, in order for education and training to account as human capital *investments*, the knowledge obtained

should ideally not be tied to a specific workplace as this increases risks of wasted human capital if it can not be utilized elsewhere.

To provide a critical perspective of the Human Capital Theory, Gillies (2015) states that as the theory extended its relevance in light of the 'Knowledge economy', this also assumes that increased human capital sparks economic growth in developed, knowledge intensive economies. Therefore, the application of Human Capital Theory is not relevant across economies of different prerequisites, namely developing countries with more industry heavy production related to its economic growth. With those aforementioned economies, individuals can perhaps not expect increased wage premiums when increasing their human capital and invest in education at the tertiary level, if the country in which the extended human capital will be applied to is not embossed by knowledge intensive industries.

In addition to provided critique, Fix (2018) also presents a critical perspective to the Human Capital Theory as explanation to income distribution among individuals. Fix argues that if increased productivity increases income as a result, then income should be equal to the level of productivity which in turn does not account for the decreasing wage premium for educated individuals in the 21st century for developed, knowledge intensive economies. Fix also presents other factors influencing return to human capital investment outside of the Human Capital Theory. The hierarchical rank in an organization is argued to have substantial impact on earnings and described by the author to impact ⅔ of the income variation which in the example is double the size of variation the amount of human capital affects earnings. To this, the example proves that income increases exponentially in relation to hierarchical ranking in the organization while the productivity that corresponds to hierarchical ranking does not have the same relationship, indicating that increased income related to hierarchical position does not increase productivity accordingly. This entails an increased definition of human capital in relation to what essentials actually contribute to increased earnings whether it being education, corporate friendly skills or hierarchical ranking obtained while at the workplace.

2.2.2 Sheepskin Effects

A theory that is both a development of the Human Capital Theory and contradicting it in nature is the theory of Sheepskin Effects. Hungerford and Solon (1987) have proven significant statistical evidence that earnings increase by acquiring an academic degree which theory of Sheepskin Effects refer to. Apart from the Human Capital Theory, which assumes that the amount of schooling makes an individual more productive, the theory of Sheepskin Effects instead bases its argumentation on that amount of schooling does matter, however, that the education yields greater economic returns in combination with corresponding credentials. Hungerford and Solon found the existence of Sheepskin Effects in the returns to education in their testing sample of approximately 17 000 observations. The authors indicate that the

existence of Sheepskin Effects does not eliminate the possibility that amounts of education increases productivity of individuals. Antelius (2000) shows evidence of Sheepskin Effects on Swedish data which contributes to the relevance of this study. Antelius' study states that employers are not interested in the amount of years of schooling when hiring, but rather who is qualified through an academic degree or other credentials. Antelius argues that years of schooling are not a fitted measure for productivity. Instead, individuals with the same amount of schooling and credentials can vary vastly in their productivity. Therefore, the author argues that signaling knowledge through credentials and assuming productivity by amount of schooling should be separated and do not necessarily complement each other. Antelius finds signs of Sheepskin Effects at both the high school and university level in Sweden. The author, like Hungerford and Solon, makes future recommendations that the magnitude of Sheepskin Effects is hard to estimate as an isolated effect and that future empirical studies should test for potential education effects as well.

Further research has investigated possible evidence of Sheepskin Effects in return to tertiary education. Yunus (2017) discusses the returns of credentials and education in the business service sector in Malaysia through 2002-2012. By separating the effects of education related to the Human Capital Theory and economic gains related to signaling credentials to employers through Sheepskin Effects, Yunus found increasing importance of a college degree related to Sheepskin Effects during 2002-2012 in Malaysia. The author states that increased worth of academic degrees was primarily in the business service sector despite the decreasing general return to education in relation to academic degrees in Malaysia, which the author suggests is a result of over-education in the higher education sector. Olfindo (2018) in line with Yunus, also provides evidence of Sheepskin Effects and higher return to degree holders of urban wage workers in the Philippines.

In contrast to Yunus and Olfindo, Silles (2007) disregards Sheepskin Effects for high school diplomas in the UK. Silles' findings represent the contrasting return of degrees at the secondary and tertiary level. However, Ferrer and Ridell (2001) provides evidence from the US and Canada that both secondary education diplomas and college degrees provide increased earnings as a result of Sheepskin Effects. Ferrer and Ridell displays evidence that the percentage return on undergraduates degrees compared to high school diplomas are vastly higher, where a 21% increase in earnings for undergraduate degrees is described. The findings of mentioned research proves existence of Sheepskin Effects and hence the increased return on higher education due to possession of academic credentials which in turn, contributes to increased utility for this study as the existence of the aforementioned relationship propose that the awareness of Sheepskin Effects have potential impact on incentives to pursue higher education.

2.2.3 Signaling

The concept of Signaling for increased earnings is tightly connected to both the Human Capital Theory and the concept of Sheepskin effects. This section provides the functioning of the Signaling theory along with the demand and supply sides of the labor market with corresponding reflections of importance and utilization of the Signaling theory. Spence (1976), describes that employers on the demand side of the labor market utilize credentials individuals provide to signal their productivity in order to assert individuals' competencies and provide a salary based on competitiveness of the market and aforementioned credentials. Moreover, the signals workers provide through credentials which possibly differ in relation to investments individuals made in education to achieve said credentials, do not necessarily reflect the increased productivity. Spence (1973) further describes signaling costs in relation to future wage premiums for university graduates. When considering investing time and capital in education, one is considering whether such investments will increase the gap between signaling costs and earnings.

Signaling occurs both from the demand and supply side of the labor market. Bardhan, Hicks and Jaffee (2010) accounts for students' responsiveness to demand side signals. The authors address the propensity for US post secondary graduates to respond to fluctuations in the labor market in relation to their demand for higher education. They address the increased demand for educated workers and increased competition on the labor market, their study finds that college graduates are responsive to wage signals which offsets increased college completion. Moreover, the elasticity of demand for higher education depends on the specialization and its elasticity of supply on the labor market, where Bardhan, Hicks and Jaffee address that computer science is far more elastic in demand and supply than medicine and therefore, students in computer science are more responsive to business cycle fluctuations than medicine students are. Tomlinson and Anderson (2020) further investigated the relationship of signaling the labor market and the demand for credentials of academic and corporate kind. The authors investigated employers' viewpoint of what makes college graduates employable where signaling academic credentials to employers is evidently important for employability. Signaling productivity through credentials in combination with organization-specific and sociocultural skills are crucial for level of employability.

Barrera-Osorio and Bayona-Rodriguez (2019) describe the effect on employability from a selective, prestigious university in Columbia. Their study found that probability of employment and increased earnings are positively correlated with a prestigious university and moreover, addresses the efficient signaling to the labor market that prestigious universities provide for graduates. Accounting for the supply side of signaling, Heywood and Wei (2010) found signs of signaling for workers in the highly competitive labor market of Hong Kong. In their results, comparing returns to education for self-employment in highly competitive labor markets, the authors found signaling to increase returns to education substantially when signaling employers

instead of being a self-employed professional that is signaling the market. Additionally, Ehrmantraut, Pinger and Stans (2020) researched differences in returns to education for a sample with and without academic degree for the similar acquired knowledge. Their study found substantial differences in returns depending on signaling their credentials where increased earnings from increased human capital was less pronounced. Bostwick (2016) in line with previous authors, address that the choice of majors in tertiary education is affected by the ability to signal attendance at a prestigious university to a future employer and moreover, that lower ability students tend to sway away from STEM related fields to a greater extent at universities with greater reputation. This section summarizes the effect academic credentials contribute with in terms of economic return to education and additionally, that providing these credentials as a signal to employers to justify increased earnings occurs for the mentioned research.

2.2.4 Tentative Proposition

The background of this study in combination with aforementioned literature review on previous research conducted on the implications of the COVID-19 pandemic and the Knowledge Economy and theoretical framework, provides this study with the ability to form a tentative proposition to base the empirical study upon. The literature provides a foundation that states that the nature of the Swedish economy with high percentages of knowledge intensive professions and percentages of GDP invested in education and R&D, contributes to a highly competitive tertiary education sector. This in turn, results in an increased demand for university education of both individuals and employers. The literature of implications of the COVID-19 pandemic and similar recessions and crises, state that fluctuations in the labor sector and economic downturn incentivizes increased enrollment in higher education. The literature on implications of COVID-19 would suggest that the pandemic would majorly affect the incentives of higher education for the sample in this study. Moreover, the theoretical framework suggests that Sheepskin Effects are present for increased returns to education which ties in with the theory of Signaling and accounting for the Human Capital Theory, investing in human capital would yield more qualitative work which in turn would yield higher productivity and increased earnings.

In light of the background information of the knowledge intensive characteristics of Sweden and the literature of the Knowledge Economy, the characteristics of Sweden suggests that obtaining higher education already is in high demand. In combination with the theoretical framework, benefits to acquire academic degrees to increase employability and earnings characterizes both demand and supply side of the labor market. With this in mind, the tentative proposition for this study suggests that the magnitude of implications of COVID-19 pandemic on incentives to pursue higher education for this study will be minor in contrast to implications of the Knowledge Economy and theoretical framework.

3 Methodology

This section describes the motivation and relevance of the chosen research methods and data collection, where potential biases and limitations are reflected upon.

3.1 Qualitative Research

According to Creswell (2014), the qualitative research approach entails understanding the deeper meaning of individual reflections that is involved in a societal problem. This is in line with Bryman's (2012) description of the qualitative approach that concerns the words of individuals rather than numbers and are not ought to be quantified. To this, the theoretical approach presented in section 2.2 highlights the importance of the decision making of the individual that will constitute the foundation of the analysis of this study. The emphasis of individualistic choices and reflections in both literature review and theoretical framework further motivates the choice of qualitative research for this study. Moreover, as this study's research questions explore incentives and perceptions of individuals in relation to higher education and COVID-19, the qualitative approach is a suitable choice to absorb individual reflections and contribute to answering the research question.

3.2 Methods

For this study, the chosen methods are in-depth semi-structured one-to-one interviews and a qualitative online survey. The methods are of qualitative kind, based on the aim to extract reflections, opinions and other subjective data from individuals participating as interviewee or survey respondent. The choosing of in-depth semi-structured one-to-one interviews is twofold. Firstly, conducting one-to-one interviews with an in-depth approach allows for a thorough understanding of individual reflections (Creswell, 2014), on topics related to this study which is imperative to grasp meaning and context that bases the interviewees' answers. Secondly, the semi-structured format allows partial guidance from interviewees where their answers can direct the discussion elsewhere and by doing so, enhance data obtained (Bryman, 2012). The motivation behind conducting a qualitative survey is based on the aim to provide more descriptive data over greater extension of age, field of studies and time of starting studying at university in order to both compare findings of methods and broaden the scope of the study outside of a narrow sample chosen for the interviews.

The motivation for pursuing these methods together is in line with Bryman's (2012) argument of triangulation. The term of triangulation is utilized to explain the benefit of combining methods and sources of data to provide more confident answers to the analysis. For this study, combining in-depth interviews with a qualitative survey provides data obtained by both a convenience and purposive sample (Bryman, 2012) where the survey aims to provide a general overview of its sample and the interviews will complement the general data with more nuanced and through

observations and reflections of a purposively selected sample. Triangulation is therefore utilized as means to produce richer data than the two methods would obtain exclusively.

3.3 Data Collection

The primary data for this study is collected through one-on-one interviews conducted online through Zoom and through an online survey questionnaire. The interviews were recorded and later transcribed through *Transkriptor.com* to transform words into text for the subsequent analysis. To this, certain body language, pauses and reactions in the interviews will also be noted to form a deeper understanding on what questions are interpreted in certain ways and demand more thinking and consideration. The online survey is of qualitative nature, however, aims at maximizing amount of respondents to provide richer descriptive data. Therefore, survey questions were constructed as multiple choice questions that enabled quick answers and where respondents could choose multiple options as answers to one question to provide a more nuanced understanding of the respondents perceptions and incentives.

3.3.1 Setting & Sample

The sampling for the two methods were strategically decided upon for multiple reasons. For the online survey, a convenience sample is, according to Bryman (2012), suitable as the researcher has access to students pursuing their studies before or during the pandemic as the researcher has done so herself, suggesting that requesting survey respondents based on easy accessibility on social media platforms can procure this study with the demanded sample. The survey's purpose hence was to reach a sample homogenous in their studies' starting point, however, the convenience sample and structure of the survey allowed for a heterogenous sample besides common starting point of studies. This broadened the data obtained in terms of age, geographical location and level and field of degree and provided the ability to compare data on students that started their education during the COVID-19 pandemic and before its outbreak. The reached sample however, can not be regarded and does not have the purpose to be representative to the general university student as inevitable bias arises when utilizing a convenience sample through personal social media channels of the researcher.

The sampling decisions of the in-depth semi structured interviews are meant to complement the survey and provide imperative nuanced data on reflections of interviewees that contributes to nuanced understanding of individualistic choice, data the format of a survey can not produce. The choosing of individuals for the interviews is based on a generic purposive sampling method which according to Bryman (2012), apart from a random sample, chooses its interviewees based on characteristics that are needed in order to help answer the research question. These characteristics are for this study, a group of individuals that share the starting point of their education, program and location for their studies. The research question of this study is

concerned with incentives of higher education in relation to the COVID-19 pandemic and therefore, the sample for the interviews all started their undergraduate studies in the fall semester of 2020 and applied to university in spring of 2020, when COVID-19 had its first outbreak in Sweden (Folkhälsomyndigheten, 2023). Moreover, the chosen interviewees were cautiously picked as they study the same undergraduate program, which is ought to eliminate possible bias and variations of quality and content of the education and instead, focus on personal incentives of higher education. Further, the six interviewees are primarily a homogenous group in terms of their common starting point of studies and undergraduate program. However, they were chosen in an attempt to create a diverse sample in terms of hometown, age and background in order to maximize diversity of reflections and incentives and achieve nuanced understandings of the individuals interviewed. This is according to Bryman (2012), a way of maximizing the variety in purposive sampling as differing characteristics probably yields a more nuanced answer to the research question than a sample with identical characteristics would have.

3.3.2 Conducting Interviews and Survey

Prior to conducting the interviews and the survey, no information of the purpose of the study was presented for the interviewees or survey respondents. Being university students, the majority of participants in both methods can be assumed to be acquainted with the functioning of thesis writing, and therefore additional information of the thesis was left out in order to ensure that answers were not based on what participants thought the researcher wanted for the study.

Instead, a brief introduction of the subject of the survey and interviews were presented where individual reflections and thoughts on presented subjects were encouraged. Furthermore, survey and interview participants were asked to mark or orally consent to participate in the survey or interview and that the researcher could make use of their answers in this study, a question to which all respondents in both methods agreed to. Moreover, participants of both methods were informed about their absolute anonymity and that they were encouraged to answer the questions in the honest way possible and that there were no wrong answers.

When the interviews and survey subsequently took place, the researcher decided to conduct the interviews digitally through Zoom and the survey through Google Forms. For the interviews, recording was enabled and participants themselves could choose an environment they felt comfortable in. The interview was based on a semi-structured in-depth interview model with both closed and open ended questions, and was guided by an interview protocol which according to Creswell (2014) initially aims to guide the interview although the semi-structured format allows temporary deviations from the protocol as rambling was encouraged as a way to let the mind spiral free and in that way, enhance interviewee's answers. With that, the participants were asked to elaborate on parts where clarifications were needed which had a stimulating effect on the conversation and often participants came up with more opinions of the question.

The survey was constructed based on the ambition to provide a questionnaire participants could fill out easily which motivated the multiple choice questions of the survey. The respondents could on the majority of questions choose their personal combination of alternatives, which provided qualitative and nuanced answers. In total, six participants were interviewed and 107 responses were obtained through the online survey. The interviews took from 30 minutes to over an hour which in part is explained by the individual progression of each interview where clarifications and follow up questions differed and participants naturally had more or less to say on the matter.

3.3.3 Participants Survey and Interviews

After having conducted the survey and interviews, groups based on characteristics of answers in the survey were decided upon in order to simplify analysis and results. To extract recurring themes and patterns from the survey, participants were grouped into three main categories based on their answers on their incentives. Group EDU, CAR and EDUCAR were created to form clarity on characteristics of the respondents based on their academic incentives. EDU refers to EDUcation which corresponds to respondents who answered one or multiple alternatives of incentives that relate to increasing theoretical knowledge and human capital and hence incentives based solely on the education pursued. Group CAR, instead refers to CAReer and respondents which incentives solely related to acquiring academic credentials and improving employability, eligibility and earnings after graduating from university and in their future career. Naturally, group EDUCAR refers to respondents which answered a combination of education and career based incentives.

To extract the sought after data of the survey and due to the nature of the convenience sampling method, all respondents that answered no to ‘Are you Swedish?’ were not taken into consideration as the research question primarily regards Swedish students. Although nationality is not necessarily a problem for the quality of the data obtained, incentives to attend or choose a major at university can be based on education funding, which is not dealt with in this study. Also, to gather a control group that started studying at university before the COVID-19 pandemic, all survey respondents this applied to were added to one category named ‘Earlier than Fall 2020’, presented in Figure 4.6. Descriptive data on the gender and age dispersion as well as dispersion of the survey respondents’ field of studies are presented in said order in Figures 3.1; 3.2 and 3.3.

The interviewees were purposely chosen for this study which in turn provided useful data from all interviewees. Table 3.1 describes basic characteristics of interviewees, however, to maintain anonymity of the interviewees, they have been received respective interviewee ID to which this study will refer to their answers with. A brief overview of themes and questions utilized in the interviews and survey are presented in Table 3.2 to provide an understanding of what the results of this study has been based on.

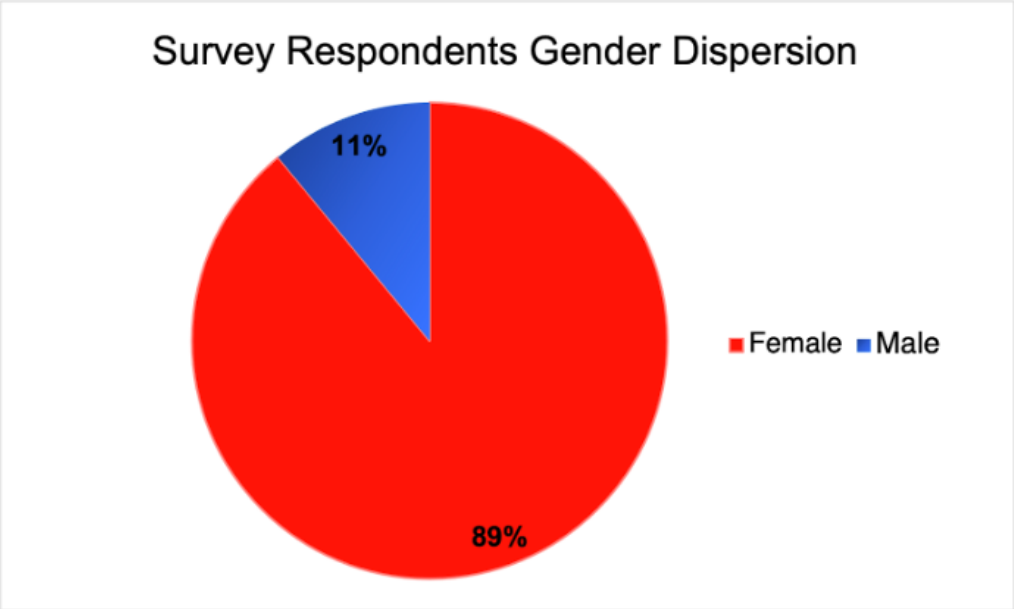

Figure 3.1 Gender Dispersion of Survey Respondents

Notes: Percentage Dispersion of Gender among survey respondents. Of the total sample was 99 of 107 Swedish, where 87 respondents were female and 11 male that corresponds to 89 and 11% respectively (Author's calculations).

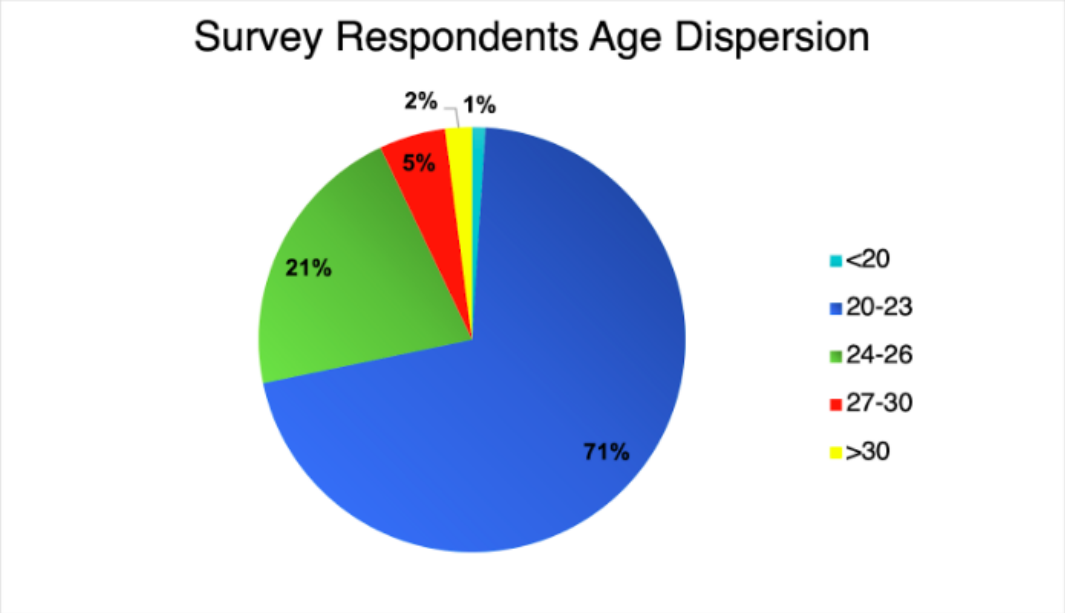

Figure 3.2 Age Dispersion of Survey Respondents

Notes: The percentage dispersion of displayed age intervals of survey respondents. Of a total number of 99 Swedish survey respondents, the percentage of each age group corresponds to intervals presented in the margin to the right in the figure (Author's Calculations).

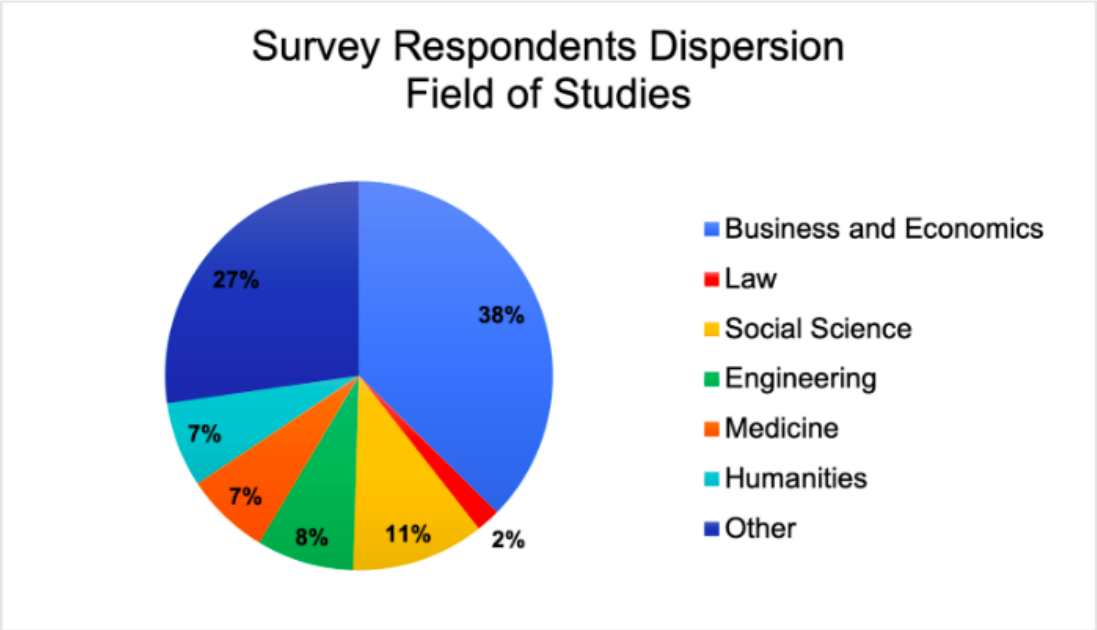

Figure 3.3 Field of Studies Dispersion Survey Respondents

Notes: The Percentage Dispersion of Survey Respondents. The Sample of 99 Swedish Survey Respondents split between categories of field of studies presented in margin to the right in the figure (Author's Calculations)

Table 3.1 Overview of Interview Participants

Notes: Descriptive Information of the total six participants interviewed. All interviewees have been assigned Interviewee ID, age and gender corresponding to the presented table (Author's Summary)

Interviewee ID	**Age**	**Gender**
Interviewee 1	23	Male
Interviewee 2	22	Male
Interviewee 3	26	Male
Interviewee 4	23	Female
Interviewee 5	23	Female
Interviewee 6	24	Female

Table 3.2: Overview of Interview and Survey Questions

Notes: This is not a complete list of questions asked, including both follow-up questions in the interviews and the options survey respondents could choose from are excluded from this table and a full list of questions can be found in Appendix A and B (Author's Summary)

Interview Questions:	**Survey Questions:**
What did you do between student (high school) and university and for how many years?	When did you start studying at university?
Did you always know that you wanted to study your particular undergraduate program, university and at that particular point in time? When did you decide this?	What degree of studies are you currently pursuing?
What reasons and incentives did you have for applying to your higher education?	What department / field of study do you study?
Would you consider your academic education an investment in yourself? Why / Why not?	What factor(s) affected your decision to study at university the most?
Would you have studied the same course curriculum if it did not result in an academic degree? Why is that the case?	Did the COVID-19 pandemic or inflation, unemployment and other consequences related to the pandemic affect your decision to study at university?
How do you perceive your education in relation to the COVID-19 pandemic? Did the pandemic affect your incentives to pursue your academic education?	If yes, what factor affected you the most?
Could you describe your perception of the relationship between higher education and the labor market today?	Would you study the same field if the expected salaries for related professions decreased?
Would you argue that external factors such as the state of the labor market, inflation, unemployment etc affect your study and career choices? To what extent does it influence your decision making and why?	What would you say is the highest priority in your studies - increasing theoretical knowledge or acquiring an academic degree?

3.3.4 Coding

After the interviews, Transkriptor.com was used for transcribing all interviews from spoken to written word which simplified analysis of the results. Coding for this particular study and for the interviews, follows Creswell's (2014) steps to in what ways qualitative data can be analyzed. This entails recurring themes, similar ways of arguing, thinking and connections to different subjects are recognized and puzzled together in order for the author to form an understanding of what the results mean in the context of this study. This is performed by inspecting recordings and transcriptions of the interviews along with the researcher's notes to compare and contrast different viewpoints of the interviewees. This coding process is similar for the surveys where the primary data obtained were sorted and filtered through Excel to recognize themes of interest for the research question. The design of the survey allows for a descriptive picture of different variables as age, gender, starting time of studies that can be compared to survey respondents' answers on incentives and effect of COVID-19 which provides the researcher with the possibility to draw conclusions and form and understanding of how different answers to questions could relate to one another.

For both methods, in accordance with Creswell's (2014) section of coding, multiple codes were established in order to gather findings in relation to the research question of this study. Such codes include: How important is acquiring an academic degree; Did COVID-19 affect one's incentives?; What constitutes one's responsiveness to COVID-19?; What are one's primary incentives for higher education?. All codes were utilized for both methods and provide clarity in the result and discussion section of this study.

3.4 Ethical Considerations

3.4.1 Reflexivity of Researcher and Credibility of Research

Creswell (2014) discusses the importance of recognizing the role of the researcher when conducting a study. This entails any possible bias the researcher has that is based on their gender, age, socioeconomic status, personal values and background that can influence the way data is perceived and analyzed if the researcher either has a personal connection to the subject or is researching a subject unknown to the author. In this study, the researcher has a clear connection to the subject as being a current university student and having started higher education during the COVID-19 pandemic. The researcher's personal connection to the subject will inevitably create a bias when analyzing the results. This does not ultimately mean that reflexivity of the researcher will result in bias negative for the results of this study where personal connections constitute a thorough understanding of the subject and enable thorough analysis which can contribute positively to this study. However, despite potential enhanced richness of the analysis, it is important to recognize the obvious bias that arises from studying a subject to which the

researcher has a personal connection compared to how a researcher without a personal connection would interpret similar results.

In light of the above, in order for the researcher to minimize potential bias that decreases the credibility of the research, triangulation of the survey and interviews is utilized to increase credibility of the research. This is according to Bryman (2012), ensuring the research is carried out in good practice and indeed corresponds to the actuality of the topic researched. Bryman also discusses the importance of confirmability that applies thoroughly in this study. Qualitative research is not aimed at ensuring objective research as it is naturally subjective, however, it is crucial that the researcher recognizes the worth of not incorporating personal values to actively drive the research in desired direction. These insights of the importance of separating personal values and remaining an observer in the role of researcher and increasing credibility through triangulation has constituted fundamental viewpoints of this study.

3.4.2 Language Bias

For the interviews conducted in this study, the participants were asked if they were more comfortable talking in English or Swedish during the interview, and as Swedish was the mother tongue of all participants, all chose to conduct their interview in Swedish. According to Bryman (2012), a cruciality for utilizing conversational analysis in conducting interviews, the ability to extract underlying meaning of answers interviewee's provide make speaking in one's mother tongue naturally suitable as normally, people are more comfortable expressing themselves in their own language as this eliminates possible difficulties finding proper phrases to describe your thoughts. To this, although Swedish people on average are excellent English speakers, expressing abstract thoughts and reflections on matters without possibility to prepare, might limit respondents to express themselves through sayings and phrases they perhaps would use if they were speaking in their mother tongue. Such phrases not only puts a personal touch on one's answers but also adds to seriousness and other underlying hints a native speaker of a language subconsciously includes when speaking freely.

3.4.3 Selection Bias

The possible selection bias applies to both methods utilized in this study. For the interviews, the motivation of purposely choosing a sample to generate a greater diversion of data (Bryman, 2012), inevitably also provides bias and possible limitation to what data interviewees not selected instead could have provided to this study. With that, as the researcher selected students studying the same undergraduate program where evident benefits have been lifted in this section, an alternative selection of interviewees of diverse educational backgrounds could potentially provide richer data. The survey sample in this study have been selected based on a convenience sample (Bryman, 2012) which in nature is more randomized than a generic purposive sampling.

On the other hand, utilizing the researchers social media channels to collect respondents ultimately gathers a specific sample in contrast to a more random selection would which creates a bias in terms of geographical position, age, gender, field of studies and more importantly, are not ought to be generalized to Swedish university students in general due to obvious selection bias. However, as with all choices, there are always alternative routes and elevating potential biases in this study is ought to reflect the natural narrowed scope and magnitude of this study and that decisions have been reflected upon to ensure the best possible methodological foundation of this study.

4 Results

This section provides the results obtained from the conducted in-depth semi structured one-to-one interviews and online survey. The results will be presented in the order of following: The results obtained from the conducted survey followed by a separate section with results of the conducted interviews. The results of the survey provide a general overview of the results in relation to the research question and the results of the interviews complement results of the survey and contribute with nuanced data to increase richness of all data in relation to answering the research question.

4.1 Results from Survey

4.1.1 Survey - No Effect of COVID-19

The general result of the survey conducted for this study is that the COVID-19 pandemic did not affect incentives to pursue higher education to a great extent. The dispersion of survey respondents that were or were not affected by COVID-19 in relation to their incentives of higher education is displayed in Figure 4.1 where 63% of respondents answered that COVID-19 had no bearing on what incentives constituted the basis of their studies. The results of the survey provided another measure to which the majority of respondents seem resilient to effects of COVID-19. In detail, this entails the unaffected choice of survey respondents to prioritize acquiring an academic degree over increasing theoretical knowledge. A choice which persists to be the priority for the majority of respondents, regardless whether respondents argued that COVID-19 affected their incentives of higher education or not, which is displayed in Figure 4.2.

Another result of the survey regards which incentives that motivated respondents university choice to the greatest extent. Figure 4.3 displays the occurrence of the different alternatives among the respondents where including academic degree as part of individuals incentives to pursue higher education occured for 75% respectively 70% of respondents depending on whether respondents were affected by COVID-19 or not. This entails that including ‘Academic Degree’

as part of respondents' answers in what formed their university studies incentives were relatively unaffected by the effects of COVID-19 and that it was the highest occurring alternative among respondents, which suggests that prioritizing achieving an academic degree as a result of one's study is important for the majority of the survey sample.

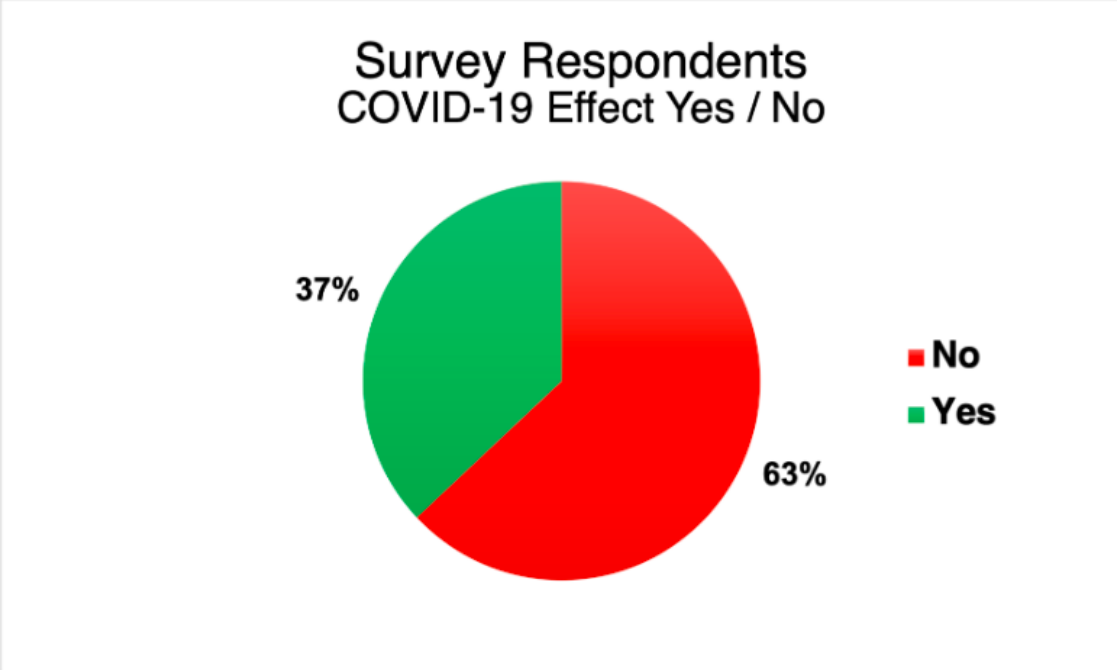

Figure 4.1 Survey Respondents Yes/No COVID-19 Affect

Notes: Of 99 respondents collected, the percentage dispersion of whether survey respondents answered that COVID-19 affected their incentives to pursue university education or not where 'Yes' corresponds to COVID-19 having affected incentives and 'No' corresponds to no effect of COVID-19

(Author's Calculations)

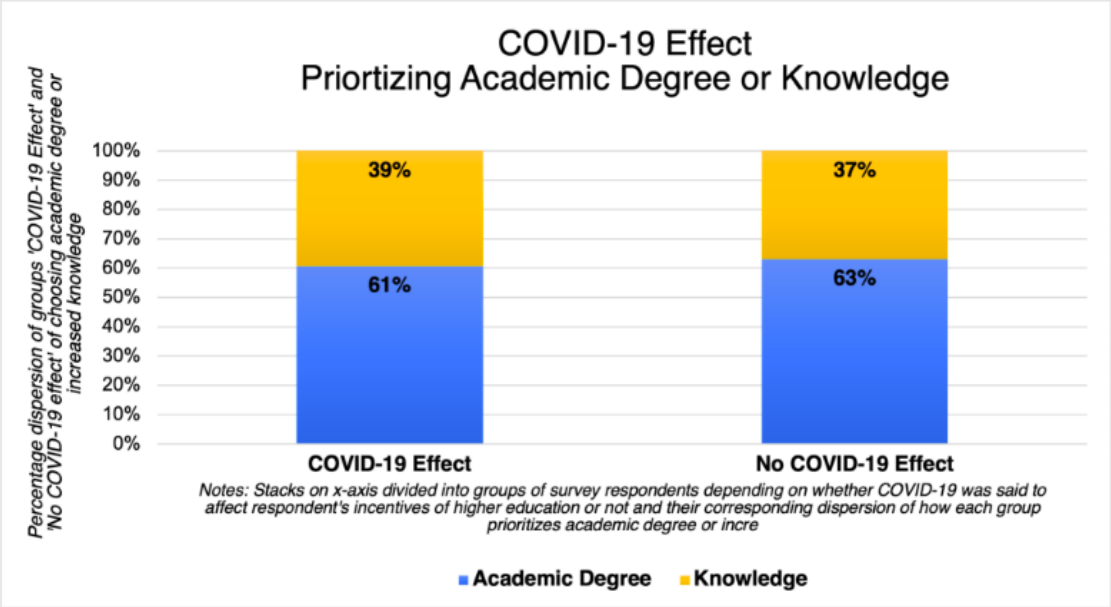

Figure 4.2: Survey Respondents Choice - Academic Degree vs Knowledge

Notes: Sample of 99 Survey Respondents' answers on prioritization between acquiring an academic degree and increasing theoretical knowledge, depending on whether respondent's argued that COVID-19 had affected their incentives of higher education or not (Author's Calculations)

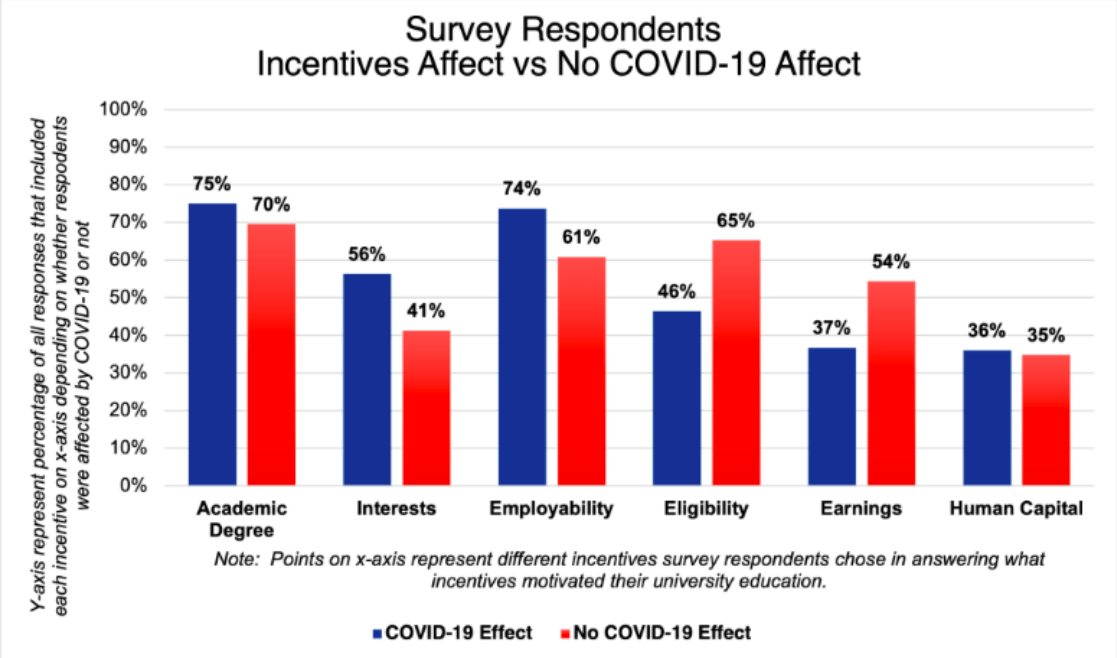

Figure 4.3: Survey Respondents Incentives Affect vs No COVID-19 Affect

Notes: Sample of 99 Survey respondents' choice of including above incentives as part of their answer to what incentives constitutes their choice of higher education, depending on whether the respondents were affected by COVID-19 or not. Percentage dispersion corresponds to percentage of all respondents that marked incentives as part of their answers (Author's Calculations)

4.1.2 Survey - Effect of COVID-19

The previous section presented results of the survey where respondents evidently were unaffected by the COVID-19 pandemic. This section instead, provides results from the survey where respondents were affected by COVID-19. Figure 4.1 describes that 37 % of survey respondents' incentives of higher education were affected by the COVID-19 pandemic. To elaborate in what ways respondents of the survey and interviews were affected by the pandemic, Figure 4.4 presents the survey respondents that answered 'Yes' to whether their incentives were affected by COVID-19 or not, and their corresponding reasons for being affected. For the sum of 28 respondents that answered yes which corresponds to the 37% of all survey respondents, the foremost alternative to why incentives to pursue university education were that studying at university constituted a sound alternative during the pandemic where little other alternatives of working, traveling and other occupations were available. Pursuing university education due to travel restrictions that prohibited other activities and occupations; utilizing CSN (Swedish student aid and grant system); and experiencing unstable employment or unemployment as a result of the COVID-19 pandemic, were also highly occurring among the affected survey respondents.

To elaborate on the survey respondents' responsiveness to COVID-19, Figure 4.5 displays incentive groups responsiveness to COVID-19. To reiterate, group EDU refers to the grouping of respondents whose incentives to pursue higher education were based solely on matters related to increasing human capital and knowledge. Group CAR instead refers to respondents where incentives solely constitute increasing benefits to future career as earnings and employability where EDUCAR constitutes respondents with a combination of education and career related incentives. From Figure 4.5, it is evident that 'Group Car' overall had the lowest percentage of its respondents affected by COVID-19. In contrast, 'Group Edu' had the majority of its respondents affected by COVID-19 before the fall semester of 2021, whereafter group Edu experienced an immense decrease in affected respondents. 'Group Educar' experienced a split dispersion of affected to unaffected respondents within this category, however, for the overall trend, 'Group Edu's' respondents were evidently the most affected by COVID-19. This entails that survey respondents who pursue university education solely on education based incentives had the highest percentage of affected respondents for the sample studied in the survey. This in turn assumes that 'Group Car' with respondents basing their incentives solely on future career prospects, had the smallest percentage of its respondents affected by COVID-19.

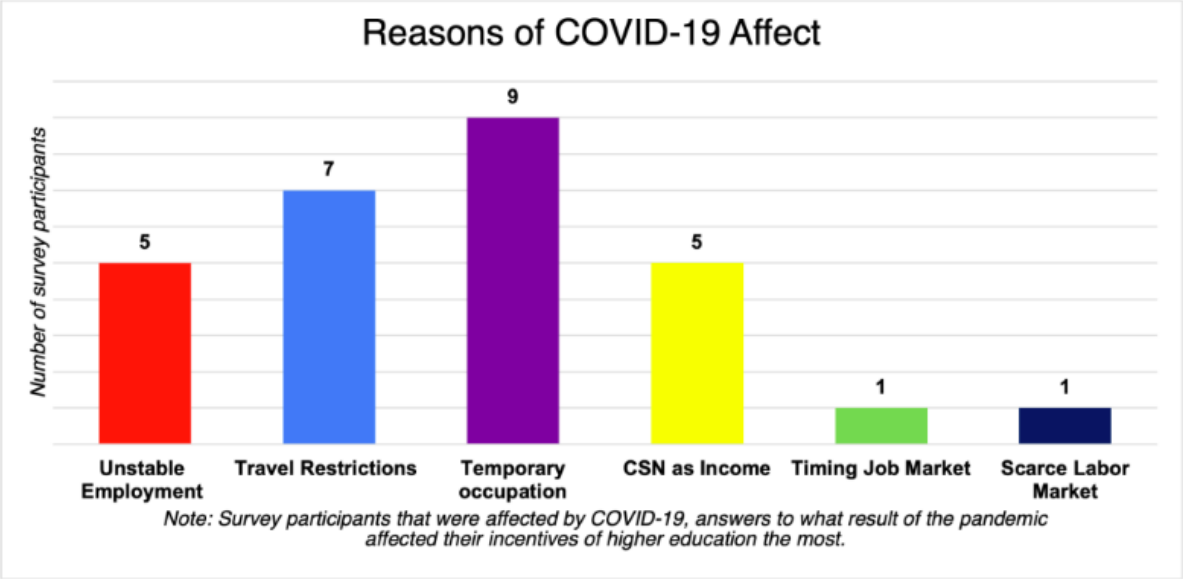

Figure 4.4: Survey Respondents How COVID-19 Affected

Notes: Of the sample of 28 survey respondents that answered that COVID-19 affected their incentives to higher education, Figure 4.4 displays the different reasons to which made COVID-19 affected their incentives to the greatest extent (Author's Calculations)

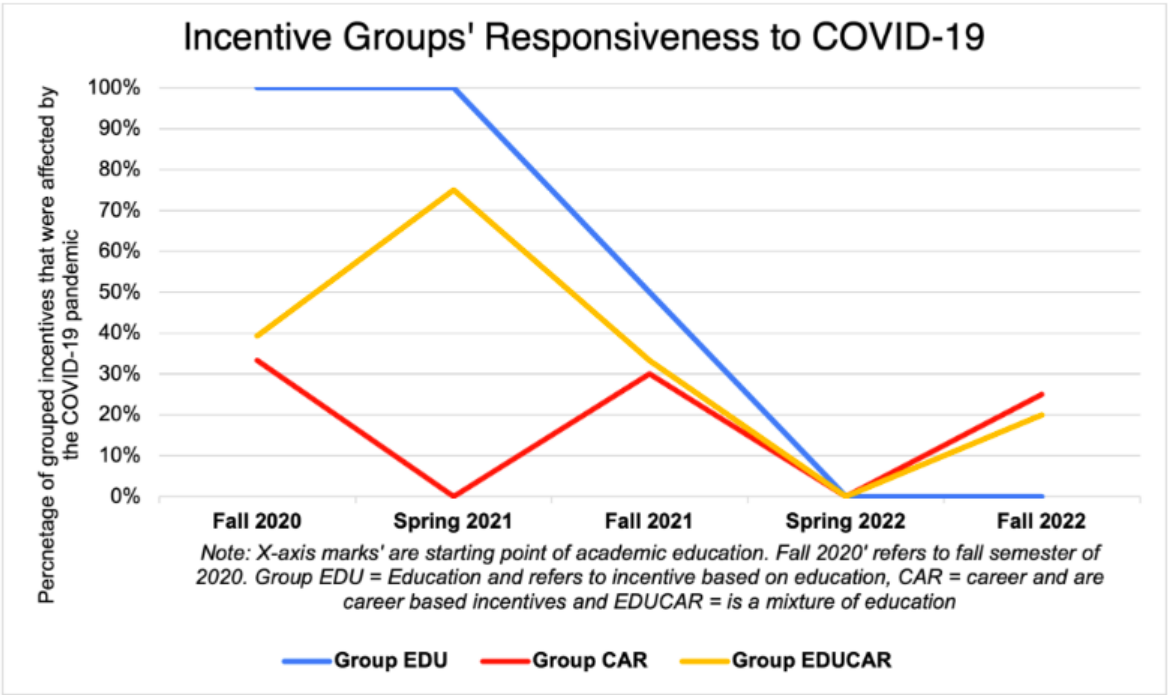

Figure 4.5: Survey Respondents Responsiveness to COVID-19

Notes: The sample of 99 survey respondents dispersed in groups depending on what incentives are the basis of respondents' higher education studies. The percentage of responsiveness to COVID-19 imply the share of each incentive group described in figure 4.5 that answered that their incentives to higher education was affected by the COVID-19 pandemic (Author's Calculations)

Figure 4.6 also focuses on said incentive groups and displays the percentage of incentive groups through all semesters survey respondents started their university education on, which contributes to determining what combination of incentives to base university education on was the most common among the survey respondents, depending on starting semester. From Figure 4.6, it is evident that dispersion of the groups did not change to a great extent from 'Earlier than Fall 2020' and hence before the outbreak of the COVID-19, to 'Fall 2020'. However, progressing through the starting semesters, the isolated incentives groups 'Edu' and 'Car' grew in dispersion related to 'Educar' which decreased simultaneously. For all incentive based groups, a recovery to their initial dispersion occurred in 'Spring 2022'. Figure 4.6 can conclude that through the COVID-19 pandemic, compared to pre pandemic dispersion of the incentives groups seen in 'Earlier than Fall 2020' on the x-axis, isolated incentive groups 'Edu' and 'Car' experienced increases in percentage dispersion among the groups, while Educar experienced a decrease until the spring semester of 2022 where the dispersion of the groups formed in similar levels to the starting point of Figure 4.6.

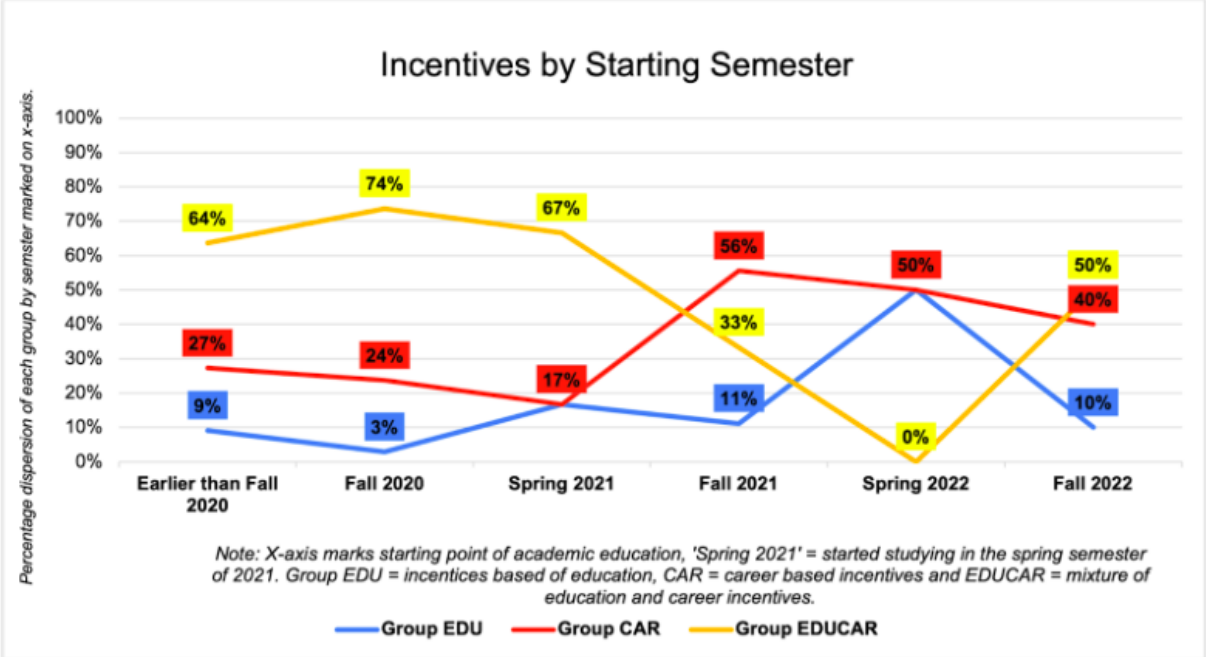

Figure 4.6: Survey Respondents percentage dispersion of incentive group by starting semester
Notes: For a sample of 99 survey respondents, incentive groups described in Figure 4.6 and their corresponding dispersion depending on starting semester is displayed (Author's Calculations)

Lastly, again examining Figure 4.3, where the occurrence of incentives to base higher education on for survey respondents with effect vs no effect of COVID-19 is displayed. Although ‘Academic Degree’ and ‘Human Capital’ saw little difference irrespective of effect of COVID-19, ‘Eligibility’ and ‘Earnings’ experienced vast decreases in occurrence for respondents affected by COVID-19. On the other hand, ‘Interests’ and ‘Employability’ experienced vast increases for respondents affected by COVID-19, which describes that for respondents affected by COVID-19, basing incentives of university studies on increasing eligibility and earnings in future career became a less occurrent choice for respondents while basing incentives on interests in the field of study and increasing employability were more common for affected respondents.

For the displayed figures regarding results of the conducted survey for this study, attention should be placed at the possible disparities of applicability when comparing for different characteristics of respondents affected or unaffected by COVID-19. This is due to differing sample sizes as displayed in Figure 4.1 where 63% unaffected respondents and 37% affected naturally corresponds to vastly smaller sample sizes. Although the aim of this study not is to produce results applicable to the general university students, displaying percentage changes of occurence of incentives ought to create descriptive data on the possible effect of COVID-19 in order to answer the research question of this study.

4.2 Results from Interviews

4.2.1 Interviews - No Effect of COVID-19

The interviews conducted provide detailed reflections of whether the interviewees’ incentives of higher education were affected by COVID-19 or not. The results show that 4/6 interviewees argue the COVID-19 pandemic had no bearing on their incentives for attending university and elaborates on particular reasons for their resilience. Firstly, all unaffected interviewees described that attending university and pursuing an undergraduate degree was a decided plan long before the outbreak of COVID-19 and was not altered by consequences of the pandemic. Said interviewees also discussed both pressure and expectations of family to attend university and educate oneself as the majority of the interviewees’ parents had done. Interviewee 5 states that fields of study were not decided by expectations of the interviewee’s family, however, attending a university of good quality and receiving an undergraduate degree at the very least, were expected of the interviewee. Interviewee 2 instead said that field of study in part was influenced by family background, as parents and other family members had pursued a certain field of study to which interviewee 2 decided to enroll in as well. The understanding of pursuing a university degree in line with family backgrounds seems to have influenced the interviewees' resilience to

COVID-19. In particular, interviewees 5 and 6 proposed that taking a couple of gap years between graduating high school and attending university were enough before it was “time to attend university”. These interviewees discussed the timing of their studies as providing resilience to COVID-19 due to their perception of the nature of attending university in close relation to having graduated high school, which in part also were influenced by family background.

Furthermore, interviewee 1,5 and 6 discussed an important aspect to their resilience of COVID-19 in relation to their incentives of higher education. Although their description of resilience to labor market fluctuations vary, there is wide consensus among these interviewees that fluctuations in the business cycle are not worrying nor affecting career and study choices. In detail, interviewee 1 and 6 describes that unemployment and inflation levels are not aspects that alter their decision making for education and career, which according to the interviewees are based in a faith for the market and personal competencies that difficult times eases and educating oneself will increase resilience through economic downturn. Interviewee 5 presents the same attitude towards to what extent external factors influence her personal decision making for education and career but argues that her attitude may be naive and unrealistic in light of recessions and crises. Moreover, interviewee 5 despite her resilience of COVID-19, discusses that past education choices have been grounded in career outlooks for related professions and hence that despite her naive attitude, the state of the labor market influences her choices to a certain extent.

On the other hand, all interviewees regardless of COVID-19, state that they perceive their education as an investment in themselves and their obtained academic degree as an incentive to pursue university education. The interviewees describe that the reason for regarding their education as investments are due to the ability to require increased earnings at their future workplace as a result of their education and academic degree. Interviewee 2 argues that in relation to a highly competitive labor market in Sweden, obtaining an academic degree in a certain field creates opportunities one without an academic degree would not have as certain professional fields require a minimum of an undergraduate degree. Interviewee 1 argues that utilizing his academic degree as a signal of higher earnings is important in the long run as Interviewee 1 believes that an academic degree yields return in the long run on the labor market with benefits that go beyond increased earnings, which further motivates his choice of undergraduate degree. Interviewee 5 and 6 both broadens the definition of benefits that they relate to obtaining an academic degree. Due to their belief that their ability and education will yield a successful career, they hope that their academic degree will yield benefits related to acquiring meaningful and complex tasks at their workplace and being able to work at an organization of their choice.

4.2.2 Interviews - Effect of COVID-19

For the two interviewees that argued that COVID-19 did affect their incentives of their university education, their answers were mainly based on their responsiveness to the labor market. Firstly, Interviewee 3 elaborated on the realization that his former position he perceived as a stable job with good opportunities to grow within the organization, became greatly unstable shortly after the COVID-19 outbreak in 2020. As he got temporarily laid off as a result of the pandemic, his demand for creating resilience towards unstable employment increased. Further, interviewee 3 states that he believed pursuing an undergraduate degree would provide him with academic credentials, experiences and connections with a wide, international network through the university and in that way create resilience to future recessions and other shocks to the economy.

In addition, interviewee 4 argued that when COVID-19 had its first outbreak in Sweden, interviewee 4 was about to graduate from high school in Sweden. Her reflections of the unstable labor market in Sweden of 2020 where a young, high school graduate like herself with little work experience would find difficulty in landing a job. The economic uncertainty the labor market held provided interviewee 4 with increased incentives to pursue university education and making use of CSN (Swedish student aid and grant institution) to create a stable economic source over the study period. Both interviewees discuss the timing of their studies in relation to COVID-19 and that interviewee 3, being on the labor market in the outbreak of COVID-19, argued that the timing of the pandemic provided an opportunity for him to academically educate himself before he became too old for studying at university. Interviewee 4 discussed the timing of her studies in the same way, while she had taken a gap year in high school and graduated a year later, she already felt behind her peers in beginning an academic education as young, and soon as possible. The stress of not falling behind peers in pursuing an academic education and the timing of the outbreak of the COVID-19 pandemic provided incentives for her to undertake her degree in the fall semester of 2020.

The interviews conducted for this study brought some general insights to reflections of the interviewees in relation to their academic studies that are of value in relation to the research question of this study. First and foremost, there is an absolute consensus among all interviewees that achieving an academic degree is important when studying at university. To this, all interviewees answered that they would change field or course load of studies if their current curriculum did not contribute to an undergraduate degree which underscores the importance of achieving a degree as a result of their studies are to the interviewed participants.

However, the interviews also provided information on the extent to which acquiring a certain academic degree is important. Interviewee 3 argues that despite the absolute importance of acquiring an academic degree as a result of his undergraduate studies, he amplifies that this choice is not solely based on future career prospects. In detail, Interviewee 3 elaborates that if his undergraduate study choice was based only on acquiring a degree that would yield the greatest

economic benefit and return to his education, his choice would be different from his current studies. Therefore, it is clear that interviewee 3's incentives to undertake his undergraduate degree is based on a combination of personal interest in the study field and future career prospects. This view is shared by all interviewees that all describe that their choice of undergraduate degree was based on personal interest in the subjects of the curriculum and the benefits to acquiring a degree.

In addition, Interviewee 1,2,3 and 4 also raised the importance of the reputation and ranking of the academic institution chosen to undertake the undergraduate degree. Interviewee 2 and 3 explicitly stated that their choice of institution was based on connections to the business sector. Moreover, interviewee 4 and 2 expresses the urgency to acquire an undergraduate degree as a base to compete for professional positions that would be out of reach without academic education. Interviewee 4 describes the importance of an academic degree as: "In an ideal world, I would not change my undergraduate program based out of whether it provide me with a academic degree but in today's world, acquiring an undergraduate degree is of utter importance to open up various doors in the labor market which I would not purposively want to miss out on".

5 Discussion

This section provides the results of this study in relation to the provided literature review and theoretical framework in order to bring meaning and context to the findings and in this way answer the proposed research question and the tentative proposition.

5.1 Did the COVID-19 Pandemic affect Incentives of Higher Education for Swedish University Students?

Firstly, from the survey and interviews conducted, there is a strong majority of respondents arguing that the COVID-19 pandemic had no bearing on their incentives to pursue higher education. The result section also shows that survey respondents and interviewees regardless of effect of COVID-19, highly prioritized acquiring an academic degree as a result of their university studies. These results suggest that the majority of the sample in this study proves a resilience to external factors like the COVID-19 pandemic.To elaborate, Sanandaji and Fölster (2017) describes the high ratio of knowledge intensive jobs Sweden has and Brown, Ashton, Lauder and Tholen (2008) in addition, describes the immense increase in university students in Sweden over the last decades which according to the authors stem from a universal understanding of the increased demand for higher education in a knowledge driven economy like Sweden. This is according to Mok and Jiang (2018) and Lauer (2002) also said to increase competitiveness of the high skilled jobs on the labor market.

In light of the above, it is evident that literature of the characteristics of Sweden as a knowledge intensive economy has contributed to an already large-scale demand for higher education for the demand and supply side of the labor market. In relation to research of Sheepskin Effects (Hungerford and Solon, 1987) of economic returns to education and theory of Signaling, that concerns increased earnings as a result of signaling academic credentials to employers (Spence, 1973) (1976), Antelius (2000) argues that employers assert newly graduates' employability by their credentials rather than amounts of schooling and to that, Ehrmantraut, Pinger and Stans (2020) show evidence of increased earnings for holders of academic credentials. The theoretical framework on said benefits in relation to acquiring an academic degree at university in a knowledge driven economy provides a theoretical foundation that the results of this study can be supported by.

This entails results showing that a majority of the sample studied is resilient to the effects of COVID-19, can be explained by their already high demand for tertiary education and stark prioritizes of achieving academic degrees as a result of their university education. This is in turn supported by researchers who found that Employers in the labor market values academic credentials as validity of employability which in turn yields higher returns to university education, which moreover explains the high resilience to effects of COVID-19 on incentives to pursue higher education for the majority of the studied sample.

A contrasting view regards the minority of interviewees and survey respondents where the COVID-19 pandemic had effect on incentives to pursue higher education. The 2/6 interviewees who's incentives were affected by COVID-19, evidently shared the influence of COVID-19 on opportunities and state of employment as a direct motive for increased incentives to pursue higher education. In detail, increased incentives of interviewee 3 and 4 incentivized pursuing their undergraduate degree in the fall semester of 2020 after the first outbreak of COVID-19 (Folkhälsomyndigheten, 2023), as a result of being personally affected by the prevailing unstable labor market that derived from the outbreak of the pandemic. Personal interaction with economic fluctuations and downturn is forwarded by Lauer (2002), to be incentivizing to enroll in higher education as the author argues that rational individuals weigh benefits to costs when applying to university. With unstable labor market conditions through the pandemic, interviewee 4 highlighted the importance of accessible student funding as a secure income and interviewee 3 accentuated the opportunity to increase resilience towards future economic challenges, like the COVID-19 pandemic.This further supports findings of Holmlund (2021); Clark (2011); Reimer (2011) and Betts and McFarland (1995) which all find an unstable labor market with increased unemployment for young individuals to increase enrollment and incentives to pursue higher education.

For the survey respondents, the aforementioned incentive group ‘Edu’ proved the most responsive to COVID-19 for the survey sample which included respondents that based their incentives to attend university on increasing theoretical knowledge and human capital. In addition, results of what provided the affected survey respondents' responsiveness to COVID-19 in Figure 4.4, presented mixed results varying from utilizing higher education as temporary occupations and to await easing of travel restrictions, the ability to substitute unstable employment or unemployment and for stable financing with CSN. These results present less uniform reasons for survey respondents’ incentives to be affected by the COVID-19 pandemic compared to those of the interviewees. However, utilizing CSN as secure income through the pandemic and experiencing an unstable labor market as a result of COVID-19 are in line with the interviewee’s experience, and literature of being affected by labor market consequences which incentivized enrolling in university.

On the other hand, enrolling in higher education as an alternative occupation and due to travel restrictions constituted 16 of 28 responses of the affected survey participants, and can not find support in the presented literature review and theoretical framework. Substituting other occupations for higher education without explicit reasons based on career prospects or demand to increase human capital can not be supported nor rejected by the literature presented, ultimately becoming a caveat for this study. While it is evident that partial survey respondents’ and interviewees’ incentives to pursue higher education were increased due to their personal experiences with unemployment and an unstable labor market as a result of the COVID-19 pandemic. As approximately half of all survey respondents’ reasons of being affected by the pandemic can not be supported by literature and theoretical foundation of this study, future research should aim at targeting the reasons of why university students are affected by economic shocks like the COVID-19 pandemic to create an understanding of how said reasons influence incentives to pursue higher education.

From the results section, there is wide consensus among all interviewees and the majority of the survey respondents that basing enrollment and choice of higher education on future career prospects is highly prioritized. Regardless of resilience of the COVID-19 pandemic, the majority of the sample studied bases their incentives on characteristics that find support from literature of the Knowledge Economy along with the theoretical framework in this study. To elaborate, all interviewees of this study regarded their university education as an investment in themselves, which has clear connections to the Human Capital Theory and Schultz (1961) who pioneered in arguing that education should be regarded as investments rather than consumption.

All interviewees also stated that they would alter their course load if their current curriculum did not yield an academic degree as a result. This career oriented prioritization is also seen in Figure 4.3, where ‘Academic Degree’, ‘Employability’ and ‘Eligibility’ constitute part of the majority

of survey respondents' incentives to pursue higher education. Research conducted on the economic benefits related to acquiring academic credentials as a result of university education (Yunus, 2017); (Olfindo, 2018) and (Antelius, 2000) creates logic to prioritizing acquiring an academic degree for the majority of the studied sample. Further research concretizises the increased employability academic credentials procure (Tomlinson and Anderson, 2020) and in relation to university student's responsiveness to high demand for higher education (Fredriksson, 1997). This further supports findings of this study of consistent career oriented incentives to pursue university education.

In addition, the results reveal that for COVID-19 resilient interviewees, apart from the evident effect of increased demand for higher education in Sweden, pressure from family members' expectations of academic education had an imperative influence on incentive to attend university for all interviewees which is much supported in research by Kennett, Reed and Lam (2011) and Lauer (2002). Family influence affected perceptions of justified amount of time between graduating high school and attending university and for some interviewees, what university major was suitable for their cause. The resilient interviewees strongly agreed that external factors in relation to the pandemic, as inflation and unemployment rates did not affect their study and career choice as other external factors as family expectations and an already high demand and plan to attend university existed. To elaborate on what created high resilience to COVID-19, all interviewees discussed the importance of attending well-renowned universities with influential connections to the business world, a focus supported by Barrera-Osorio and Bayona-Rodriguez (2019) and Bostwick (2016), which describe that attending a prestigious university can increase employability through signaling attendance at the specific university as means to prove competencies.

6 Concluding Remarks

This study has investigated Swedish university students' incentives to pursue higher education in relation to the COVID-19 pandemic. By conducting an online survey with over 100 respondents and six in-depth one-to-one semi-structured interviews with Swedish undergraduate students, the aim of this study has been to provide nuanced reflections of incentives that Swedish students base their choice of university education on, and how these incentives have been affected by the COVID-19 pandemic. The findings show that the majority of the sample for this study have an already existing high demand for higher education which creates resilience to the effect of COVID-19 on their incentives to pursue university studies. This resilience is based on future career prospects and for interviewees, family expectations to pursue university education. However, for the minority affected sample, personal experience of an unstable labor market related to the pandemic based effect of COVID-19 on their incentives to pursue higher education. These findings are connected to the literature review and theoretical framework that underpin reasons of resilience and having higher education incentives affected by the COVID-19 pandemic.

The general conclusion for this study however, is that the COVID-19 had little impact on the sample in this study which mainly is based on their already existing high demand for higher education and acquiring academic credentials as a result of higher education. This conclusion is connected to literature of the Knowledge Economy and theory of Sheepskin Effects and Signaling. In turn, literature on the implications of COVID-19 on incentives to pursue higher education have little bearing on the general conclusion of this study. This confirms the tentative proposition of this study and answers the proposed research question.

A limitation to this study is that part of the findings of this study could not be connected to the literature or theoretical framework, and therefore, advancements of future research should aim at addressing how the COVID-19 affects incentives based on matters besides career prospects and acquiring theoretical knowledge. Also, as this study's scope is limited to Swedish students and a relatively small sample, future research should broaden scopes with bigger sample sizes and to economies with differing characteristics from Sweden to explore possible differing findings.

7 List of References

Aalto, A.M; Müller, D; Tilley, L (2021) From Epidemic to Pandemic: Did the COVID-19 Outbreak Affect High School Program Choices in Sweden? *IFN Working Paper NO. 1420, Stockholm: Research Institute of Industrial Economics*

Abel,J; Deitz,R (2014) Do the Benefits of College Still Outweigh the Costs? *Federal Reserve Bank of New York Current Issues in Economics and Finance,* Vol. 20, No. 3

Altoniji,J; Kahn,L; Speer, J (2016) Cashier or Consultant? Entry Labor Market Conditions, Field of Study, and Career Success, *Journal of Labor Economics,* Vol.34, No 1, pp 362- 401

Antelius,J (2000) Sheepskin Effects in the Returns to Education: Evidence on Swedish Data, *FIEF Working Paper Series 2000,* No. 158

Bardhan,A; Hicks,D; Jaffee,D (2011) How Responsive is Higher Education? The Linkages Between Higher Education and the Labour Market, *Applied Economics*, Vol. 45, Issue. 10, pp. 1239-1256

Barr, A; Turner, S (2015) Out of Work and Into School. Labor Market Policies and College Enrollment during the Great Recession, *Journal of Public Economics*

Barrera-Osorio; Bayona-Rodriguez (2019) Signaling or Better Human Capital: Evidence from Columbia, *Economics of Education Review,* Vol. 70, pp. 20-34

Becker, G (1962) Investment in Human Capital: A Theoretical Analysis, *Journal of Political Economy*, Vol. 70, No. 5, pp. 9-49

Becker, G; Chiswick, B (1966) Education and the Distribution of Earnings, *The American Economics Review*, Vol. 56, No. ½, pp. 358-369

Becker,G (1992) Human Capital and the Economy, *Proceedings of the American Philosophical Society*, Vol. 136, No. 1, pp. 86-92

Becker, G (1994) Human Capital: A Theoretical and Empirical Analysis with Special Reference to Education (3rd Edition), *The University of Chicago Press*

Becker, G (2002) The Age of Human Capital [pdf] Available at: https://www.hoover.org/sites/default/files/uploads/documents/0817928928_3.pdf [Accessed May 19th 2023]

Betts, J; McFarland, L (1995) Safe Port in a Storm: The Impact of Labor Market Conditions on Community College Enrollments, *The Journal of Human Resources, Autumn, 1995, Vol 30, No.4, University of Wisconsin Press*

Blom, E; Cadena, B; Keys, B (2021) Investment over the Business Cycle: Insights from College Major Choice, *Journal of Labor Economics,* Vol.39, No.4

Bostwick,V (2016) Signaling in Higher Education: The Effect of Access to Elite Colleges on Choice of Major, *Economic Inquiry*, Vol. 54, No.3

Brown, P; Ashton, D; Lauder, H; Tholen, G (2008) Towards a High-Skilled, Low-Waged Workforce? A review of Global Trends in Education, Employment and the Labour Market, *Centre for Skills, Knowledge and Organizational Performance (SKOPE*), Monograph Vol. 10

Bryman, A (2012) Social Research Methods (4th Edition) *Oxford University Press*, New York

Clark, D (2011) Do Recessions Keep Students in School? The Impact of Youth Unemployment on Enrolment in Post-compulsory Education in England, *Economica,* Vol. 78, No. 311, pp. 523-545

Creswell, J (2014) Research Design: Qualitative, Quantitative and Mixed Methods Approaches (4th Edition), *Sage Publications Inc*

Donald, W; Ashleigh, M; Baruch, Y (2018) Students' Perceptions of Education and Employability: Facilitating Career Transition from Higher Education into the Labor Market, *Career Development International*, Vol. 23, No.5, pp. 513-540

Ehrmantraut, L; Pinger, P; Stans, R (2020) The Expected (Signaling) Value of Higher Education, *CESifo Working Papers*, No. 8589

Ferrer, A; Riddell,C (2001) Sheepskin Effects and the Returns to Education, [pdf] Available at: http://qed.econ.queensu.ca/pub/jdi/deutsch/edu_conf/Ferrer.pdf [Accessed 19 May 2023]

Fix, B (2018) The Trouble with Human Capital Theory , *Working Papers on Capital as Power*

Folkhälsomyndigheten (2023) När Hände Vad Under Pandemin? Available at:

https://www.folkhalsomyndigheten.se/smittskydd-beredskap/utbrott/aktuella-utbrott/covid-19/folkhalsomyndighetens-roll-under-arbetet-med-covid-19/nar-hande-vad-under-pandemin/#:~:text=2020%2D03%2D11,4%20000%20d%C3%B6dsfall%20har%20rapporterats [Accessed 16 May 2023]

Fredriksson, P (1997) Economic Incentives and the Demand for Higher Education, *The Scandinavian Journal of Economics*, Vol. 99, No. 1, pp. 129-142

Gillies, D (2015) Human Capital Theory in Education, *In: Peters,M. (eds) Encyclopedia of Educational Philosophy and Theory*

Haekal,M; Muttaqien, A; Fitri, A (2021) Student's Perspectives on Future Employment: A Qualitative Study on Indonesian Higher Education Institutions during the COVID-19 Pandemic, Al-Ishlan Jurnal Pendidikan, Vol. 13, No.1, pp. 417- 424

Heywood, J; Wei, X (2010) Education and Signaling: Evidence from a Highly Competitive Labor Market, *Education Economics,* Vol. 12, Issue.1, pp. 1-16

Holmlund, H (2021) Recessions and the Demand for Education in Sjögren, A; Engdahl, M; Hall, C; Holmlund, H; Lundin, M; Öckert, B, *Swedish Children and Youth during the COVID-19 pandemic,* Institute for Evaluation of Labor Market and Education Policy, pp. 99-112

Hungerford, T; Solon, G (1987) Sheepskin Effects in the Return to Education, *The Review of Economics and Statistics*, Vol. 69, No. 1, pp. 175-177

Kahn, L (2010) The Long-term Labor Market Consequences of Graduating from College in a Bad Economy, *Labor Economics,* Volume 17, Issue 2, pp 303-316

Kennett, D; Reed, M, Lam, D (2011) The Importance of Directly Asking Students Their Reasons for Attending Higher Education, *Issues in Educational Research*, Vol. 21, No.1

Krisinformation från Svenska Myndigheter (2020) Första Bekräftade Fallet av Coronavirus i Sverige, Available at: https://www.krisinformation.se/nyheter/2020/januari/forsta-bekraftade-fallet-av-coronavirus-i-sverige [Accessed 15 May 2023]

Lauer, C (2002) Enrolments in Higher Education: Do Economic Incentives Matter? *Education + Training*, Vol. 44, No. ⅘, pp. 179-185

Liu, S; Sun, W; Winters, J (2017) Up in STEM, Down in Business: Changing College Major Decisions with the Great Recession, *Contemporary Economic Policy,* Volume 37, Issue 3, p 476-491

Modestino, A, Shoag, D, Ballance, J (2016) Downskilling: Changes in Employer Skill Requirements over the Business Cycle, *Labor Economics*, Vol.41, pp 333-347

Mok, K; Jiang, J (2018) Massification of Higher Education and Challenges for Graduate Employment and Social Mobility: East Asian Experiences and Sociological Reflections, *International Journal of Educational Development*, Vol. 63, pp. 44-51

Olfindo, R (2018) Diploma as Signal? Estimating Sheepskin Effects in the Philippines, *International Journal of Educational Development*, Vol. 60, pp. 113-119

Oreopoulos, P; von Wachter, T; Heisz, A (2012) The Short and Long-Term Effects of Graduating in a Recession, *American Economic Journal: Applied Economics,* Vol.4, No.1, pp 1-29

Reimer, D (2011) Labour Market Outcomes and Their Impact on Tertiary Decisions in Germany: Class and Gender Differences, *Irish Educational Studies*

Sananjadi, N; Fölster, S (2017) The Geography of Europe's Brain Business Jobs, *European Centre for Policy Reform and Entrepreneurship*, available at: https://www.ecepr.org/wp-content/uploads/2017/11/Brain_business_jobs_final.pdf [Accessed 15 May 2023]

Schultz, T (1961) Investment in Human Capital, *The American Economic Review*, Vol. 51, No. 1, pp. 1-17

Schultz, T (1962) Reflections on Investment in Man, The Journal of Political Economy, Vol. LXX, No. 5, pp. 1- 8

Silles, M (2007) Sheepskin Effects in the Returns to Education, *Applied Economics Letters,* Vol. 15, Issue 3, pp. 217-219

Spence, M (1976) Competition in Salaries, Credentials, and Signaling Prerequisites for Jobs, *The Quarterly Journal of Economics*, Vol. 90, No.1, pp, 51-74

Spence, M (1978) 18- Job Market Signaling, *Uncertainty in Economics*, pp. 281, 283-306

Statistikmyndigheten, SCB (2021) Coronapandemin Slog Hårt Mot Arbetsmarknaden 2020, Available at: https://www.scb.se/hitta-statistik/statistik-efter-amne/arbetsmarknad/arbetskraftsundersokningar/arbetskraftsundersokningarna-aku/pong/statistiknyhet/arbetskraftsundersokningarna-aku-arsmedeltal-2020/ [Accessed 15 May 2023]

Sum, N; Jessop, B (2012) Competitiveness, the Knowledge-Based Economy and Higher Education, *Journal of the Knowledge Economy*, Vol. 4, pp. 24-44

The World Bank (2022) Government Expenditure on Education, total (% of GDP) - Sweden, Denmark, Norway, Germany, Finland, Netherlands, France, Available at: https://data.worldbank.org/indicator/SE.XPD.TOTL.GD.ZS?locations=SE-DK-NO-DE-FI-NL-FR [Accessed 15 May 2023]

Tomlinson, M; Anderson, V (2020) Employers and Graduates. The Mediating Role of Signals and Capitals, *Journal of Higher Education and Policy Management*

Universitetskanslersämbetet (2022) Coronapandemins Konsekvenser för Universitet och Högskolor, Slutredovisning av ett regeringsuppdrag [PDF] Available at: https://www.uka.se/download/18.72ddc32918529b363f9d77a/1675168187473/rapport-2022-12-01-universitetskanslersambetets-pandemiuppdrag%20slutrapport.pdf [Accessed 16 May 2023]

Universitets- och högskolerådet (2020) Antagning till Högre Utbildning Höstterminen 2020 - Analys av Antagningsomgångar och trender i Antagningsstatistiken, Available at: Uhr.se [Accessed 16 May 2023]

Universitets- och högskolerådet (2022) Intresset för Högskoleutbildningar minskar när Coronapandemin börjar avta, Available at: https://www.uhr.se/om-uhr/nyheter/pressmeddelanden/2022-pressmeddelanden/intresset-for-hogskoleutbildningar-minskar-nar-coronapandemin-borjar-avta/ [Accessed 16 May 2023]

Yunus, N (2017) Sheepskin Effects in the Returns to Higher Education: New Evidence from Malaysia, *Asian Academy of Management Journal,* Vol. 22, No.1, pp. 151-182

Zaback, K; Carlson, A; Crellin, M (2012) The Economic Benefit of Postsecondary Degrees, A state and National Level Analysis, *State Higher Education Executive Officers*

Appendix A

Interview Protocol

1. Could you state if you consent to participate in this interview and let the researcher utilize your answers for the purpose of her undergraduate thesis? And do you consent to letting the researcher record the interview for later transcription?

2. Could you please tell me your name, age, sex, hometown and when you started studying at university and when you plan to graduate?

3. Did you do something in between graduating high school and university? What, for how long and when did you decide to do so?

4. Did you always know that you wanted to study your particular undergraduate program at your particular university and at the time point that you did? When did you decide about this?

5. What reasons and incentives did you have to apply for your particular program at that particular time?

6. What have been your goals for your university education? Did they change during your studies?

7. Would you argue that you regard your university education as an investment in yourself? If yes, then why?

8. Would you state that an incentive to start studying your particular degree was to be able to give your achieved academic degree to future employers and by doing so demand higher earnings than you would be able to without your degree?

9. Would you study the same courses if said courses did not end up in an academic degree? Why is that the case?

10. How was your life affected by the COVID-19 pandemic? Could you describe the difference compared to before, during and after the pandemic?

11. How do you perceive COVID-19 in relation to your university education? Did the pandemic affect your decision to start studying at university or your motivation during your studies?

12. If the COVID-19 pandemic had not broken out by the time you started studying, do you believe that you would have chosen the same program?

13. Could you describe how you perceive the relationship between university education and the labor market of today?

14. How would you describe the labor market for newly graduates and what do you believe is their biggest challenge?

15. How do you view that external factors like unemployment, inflation and the state of the labor market affects your career decisions? Does it have influence and if so, to what extent? If not, why?

16. Could you share your view of the role of university education in today's society? This could be focused both on the individual and society level.

17. Is there something you would like to add that has not been said?

Appendix B

Survey Questions

1. **I consent to participate in this survey and study**
    - Yes
    - No

2. **Gender**
    - Female
    - Male
    - Other
    - Prefer not to say

3. **Age**
    - <20
    - 20-23
    - 24-26
    - 27-30
    - >30

4. **Hometown (where did you grow up?)**
    - State here

5. **Are you Swedish? (Swedish Citizen)**
    - Yes
    - No

6. **When did you start studying at university?**
    - Earlier than fall semester 2020
    - Fall semester 2020
    - Spring semester 2021
    - Fall 2021
    - Spring 2022
    - Fall 2022
    - Spring 2023

7. **How many years did you have between graduating high school and attending university?**
    - 0
    - 1
    - 2
    - 3
    - 4
    - 5
    - >5

8. **What university have you / are you studying at?**
    - Lund university
    - Malmö university
    - Gothenburg university
    - Stockholm university
    - Stockholm school of economics
    - Umeå university
    - Copenhagen business school
    - Other

9. **What degree of studies are you currently studying?**
    - Bachelor
    - Master
    - Phd Studies
    - Individual courses
    - Other

10. **What department / field do you study? (eg Economics, Medicine, Engineering)**
    - Economics and business
    - Law
    - Social science
    - Engineering
    - Medicine
    - Natural science
    - Humanities
    - Other

11. What semester are you currently studying?

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- Other

12. What factor / factors affected your decision to start studying at university to the greatest extent?

- Genuine interest in the field and wanting to know more
- Learning / increasing your human capital
- Getting an academic degree
- Becoming more competitive on the labor market
- Being unemployed / no income
- Become eligible for high skilled jobs
- Increase future earnings
- The student life
- Uncertainty in the labor market
- Other

13. Did the COVID-19 pandemic, unemployment and inflation or other consequences related to covid affect your decision to go to university (timing of starting studies, unstable labor market and income or other things related to the the covid pandemic)

- Yes
- No

14. If yes, what factor of the COVID-19 pandemic affected your choice the most?

- Unstable unemployment situation / being unemployed
- Restrictions of traveling abroad
- Difficulty in job searching due to pandemic
- Free University Education in Sweden
- A good alternative occupation until the pandemic eased

- CSN funding as a stable income
- Distance studies / being able to study from home due to restrictions
- Timing the job market with unemployment / inflation
- Other

15. **Would you study the same field if the expected wage after graduation decreased for those related professions?**

    - Yes
    - No
    - Yes, but only if my degree is demanded for other professions too.
    - Yes, the expected wage is no motivation for me to study my certain field

16. **What would you say is more important for you in your studies? (i.e what reason would you say motivates you the most / have the greatest incentive for you to be obtaining your studies?)**

    - Obtaining an academic degree that is of use after graduation
    - Increasing knowledge in the field of interest

Appendix C

Table C.1: Length of Interviews
Notes: Length of each interview corresponds to minutes (Author's Calculations)

Interviewee ID	**Length of Interview**
Interviewee 1	32
Interviewee 2	37
Interviewee 3	34
Interviewee 4	43
Interviewee 5	43
Interviewee 6	64