

AMERICAN UNIVERSITY OF BEIRUT

EDUCATION-JOB NEXUS AMONG AUB GRADUATES OF
THE YEARS 2006 UNTIL 2010
FROM SIX DIFFERENT DISCIPLINES
(ARCHITECTURE, BUSINESS, ECONOMICS, ENGINEERING,
POLITICAL SCIENCE AND SOCIOLOGY/ANTHROPOLOGY)

by
CHRISTINE AMINE SWEID

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Submitted in partial fulfillment of the requirements
for the degree of Master of Arts
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AN ABSTRACT OF THE THESIS OF

Christine Amine Sweid

for Masters of Arts

Major: Sociology

Title: Education-Job Nexus among AUB Graduates of the Years 2006 until 2010 from Six Different Disciplines (Architecture, Business, Economics, Engineering, Political Science, and Sociology/Anthropology).

This thesis examines the relationship between higher educational degree and work among AUB graduates from both theoretical and applied sciences. To assess this relationship, this research studies three major hypotheses. The first hypothesis suggests that graduates of theoretical sciences tend to work more in jobs that are not directly related to their fields of study than graduates of applied sciences. The second hypothesis suggests that graduates who work locally tend to adapt to the needs of the Lebanese market by working in available jobs that might not necessarily match their fields of study, while graduates who emigrated and work abroad tend to work in their fields of study with wider opportunities that are available in the international market. The third hypothesis suggests that the more the individual works in a job related to his/her field of study the more the job would serve his/her career aspirations.

An online survey was sent to AUB graduates who received bachelor degrees in the years 2006 to 2010 from the architecture, business, economics, engineering, political science and sociology/anthropology departments. This survey collected responses from 155 graduates. Independent samples t-tests and Goodman and Kruskal's gamma tests were performed to verify the study's hypotheses. The results of the study refuted the first two hypotheses but supported the third one. AUB graduates from both theoretical and applied sciences turned out to be performing similarly in the labor market with respect to the matching of their current jobs to their undergraduate degrees. Graduates working abroad were found to be working in jobs that match their undergraduate degrees just as graduates working in Lebanon. Graduates working in jobs that match with their undergraduate degrees considered their jobs to be serving their career aspirations more than graduates on mismatched jobs.

This study shows that AUB graduates perform well in the labor market and consider their bachelor degrees from AUB to be an important push to get into the labor market. In addition, this study also reveals that working abroad is a major remedy for graduates from Lebanon that allows them to secure highly paid and satisfying jobs.

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CHAPTER I

INTRODUCTION

“Let us think of education as the means of developing our greatest abilities, because in each of us there is a private hope and dream which, fulfilled, can be translated into benefit for everyone and greater strength for our Nation.”

(John F. Kennedy 1961)

I graduated from the American University of Beirut with a Bachelor’s degree in Economics and ended up working as an accountant. Although I pursued a degree in economics because I was passionate about it, after graduation I found myself struggling to find a job in this particular field. I found out that there were not many predefined positions for graduates in economics. To acquire a specialized position in economics, a minimal requirement was to pursue a Master’s degree. I found out that I had spent three years of my life preparing for a degree that only provided broad preparation for the labor market. I realized that if I had studied an applied sciences major like Architecture, I would have graduated with a career at hand. As a result, I made use of my degree as a ticket to obtain a general position (an accounting position which was very close to an administrative position) in the labor market. My work experience helped me realize that my undergraduate studies in Economics had widened my perspectives in such a way that my career aspirations would never be satisfied if I remained in such a general position. I decided that if I were to build a satisfying career, I had to pursue my graduate studies in a domain that I enjoyed working in. As such, I chose sociology. With this thesis, I am now completing my

graduate studies and preparing for emigration in an attempt to achieve my career ambitions. My home country gave me the chance to attain an excellent education, but unfortunately, it did not pave the way for me to attain excellent work opportunities.

Individuals usually choose a certain field of study expecting eventually to work and make a career in this particular field. However, by taking a look at the workforce in Lebanon, it was clear that not every individual works in his/her field of study. Some accept this situation and do not perceive it as an issue. Perhaps these individuals are able to earn a decent income and are satisfied with their work and their tasks. Other graduates may be discontent because they earned their higher degrees in certain fields expecting to work in those fields. As such, their inability to fulfill this expectation might have led them to be less satisfied with their work and to earn less than what they could have earned if they worked in their fields. Indeed, many studies have revealed that the mismatch between the job performed and the degree earned affects individuals' incomes and individuals' satisfaction with their jobs (Tsang & Levin 1985; Artes et al. 2014; Piper 2015). Moreover, Tsang (1987) and Sloane et al. (1999) found that this phenomenon is also associated with lower productivity and lower job involvement among workers. In the opposite sense, Kressel (1990) found that the more the individual is on a matched job the more he/she would be satisfied with his/her degree.

My case resembles the case of many other graduates in Lebanon. The idea to conduct a tracer study on the education-job nexus was inspired by my personal experience and the experiences of my fellow graduates. The ideal purpose of this research was to evaluate this relationship among all graduates in Lebanon. However, because it is difficult

to reach all universities in Lebanon, and since it requires plenty of resources, I decided to conduct the study using as a sample only some graduates of the university from which I acquired my degree, the American University of Beirut. Although results of this study would not be generalizable to the entire population of graduates in Lebanon, it can provide an important insight on the job performance of a significant bulk of graduates from a renowned university in the country and the region.

In trying to explain the relationship between education and job, I propose certain hypotheses that will be verified in the results section. These claims are the following:

- 1) Graduates of theoretical sciences tend to work more in jobs that are not directly related to their fields of study than graduates of applied sciences.
- 2) Graduates who work locally tend to adapt to the needs of the Lebanese market by working in available jobs that might not necessarily match their fields of study, while graduates who emigrated and who work abroad tend to work more in their fields of study with wider opportunities that are available in the international market.
- 3) The more the individual works in a job related to his/her field of study the more the job would serve his/her career aspirations.

This thesis is composed of seven chapters. The second chapter describes the development of the higher education sector in Lebanon and the Lebanese labor market. The second chapter also presents the different tracer studies that were conducted on graduates in Lebanon. In addition, it reveals how these studies describe the experiences of the graduates in the labor market.

Chapter three presents the theories that deal with the role of education in society with a focus on the functionalist approach to explain this role. It also discusses the main motives behind choosing a university major and the different theories that assess how a career decision is made. Moreover, this chapter presents theories that try to explain the relationship between education and work, the human capital theory, the job-competition theory, the job-matching theory and the credentialism theory.

Chapter four presents the methodology used in conducting this research, which mainly depended on sending an online survey to gather data and using statistical tests to analyze the collected data. Chapter five presents the results gathered through the online survey and chapter six discusses the results of the study in light of the study hypotheses, in light of the theories discussed in chapter three, and in light of previous studies conducted on graduates from Lebanon.

Finally, chapter seven presents a summary of the major findings of this research and discusses its limitations. It also offers recommendations for future research and concludes with the wider implications of this study.

CHAPTER II

LITERATURE REVIEW

This study traces university graduates in an attempt to tackle higher education outcomes in the labor market. In this sense, this chapter presents an overview of the Lebanese higher education sector and the Lebanese labor market. It also presents the results of the tracer studies that were previously conducted to investigate this topic.

A. Overview of Higher Education in Lebanon

A report by the European Commission entitled “Higher Education in Lebanon” (National Tempus Office Lebanon, 2010) provides an important and pertinent historical overview of the development of higher education sector in Lebanon. According to this report, higher education started in Lebanon in 1866 with the founding of the American University of Beirut that was initially named the Syrian Protestant College. Nine years later, University of Saint Joseph (USJ) was established in 1875. Later on, in 1947, the Beirut College for Women was founded, now called the Lebanese American University (LAU). After four years, in 1951, the only public university in Lebanon, the Lebanese University (LU), was established. Subsequently, Haigazian University was established in 1955 and five years later, in 1960, the Beirut Arab University (BAU) was established in collaboration with the Egyptian University of Alexandria (National Tempus Office Lebanon, 2010).

The Ministry of Education was established in 1955. In 1961, The Ministry passed a law to regulate higher education, and this law was later amended in 1967 (El-Amine, 1997).

In 1996, this law was updated through the issuance of Decree Number 9274 that set new rules for licensing higher education institutions. This law regulates all private higher education institutes but not the public university, Lebanese University, which is self-governing that has its own independent structure. To further regulate and supervise the private higher education sector in Lebanon, a Directorate General for Higher Education was founded in 2002 (National Tempus Office Lebanon, 2010).

The Lebanese Civil War which raged from 1975 to 1991 negatively affected the higher education sector as many Lebanese migrated to continue their studies abroad (Nahas, 2009). However, with the end of the Civil War, starting the year 1990, the higher education sector expanded with the increase of private investment in higher education (Dibeh et al., 2016).

This expansion of the private higher education sector created many drawbacks (Dibeh et al., 2016). With the increasing cost of private higher education, inequality in access to these educational services has become a main obstacle facing students in Lebanon who come from different financial backgrounds (Kawar & Tzannatos, 2013). In addition, the number of graduates that are graduating from all universities in Lebanon has become larger than what the Lebanese labor market can absorb (OECD, 2015).

In this section, the historical development of the higher education sector in Lebanon has been overviewed. It showed how the higher education sector has expanded with the end of the civil war due to initiatives implemented by the private sector and how the number of university graduates has increased in excess of what the Lebanese labor market can hold. As such, the role of one of the most prominent higher education institutions in Lebanon is

evaluated from the perspective of its graduates to investigate their current career statuses in a saturated labor market and their views and assessment on the effectiveness of their undergraduate degrees.

B. Overview of the Lebanese Labor Market

The Lebanese Civil War that lasted from 1975 to 1990 destroyed Lebanon's economy (Abou Jaoude, 2014). After the end of the war, the economy geared more towards the services sector and low productivity sectors, including some agricultural and industrial activities (Dibeh et al., 2016; World Bank, 2012).

Lebanon's economy operates on the basis of free market and a laissez-faire policy (Abou Jaoude, 2014). Its business sector depends mainly on private initiatives, where the majority of businesses are small and medium-sized enterprises where the role of the government is limited to maintaining infrastructures and public utilities (Abou Jaoude, 2014). The most active economic sector in Lebanon is the services sector, which depends mainly on tourism and banking services. Moreover, royalties from real estates and the financial markets are also some of the significant activities in the Lebanese economy (Abou Jaoude, 2014).

Between 2004 and 2009, the sectors that contributed to net job creation in Lebanon included commerce, low-productivity services and construction (World Bank, 2012). In 2012, 35% of wage employees and 61% of the self-employed worked in the low

productivity services sector (World Bank, 2012), while only 14% of wage employees and 3% of the self-employed worked in high productivity services (World Bank, 2012).

According to Dibeh et al. (2016), the Lebanese labor market is also characterized by an increase in unemployment due to the low levels of job creation. According to a survey conducted by the World Bank (2010), the leading constraints to operation and growth of the Lebanese enterprises were identified as the political instability, electricity, corruption, tax rates, costs of financing and the skills of available workers.

Abou Jaoude (2014) states that the Lebanese economy requires a limited number of low-skilled laborers faced with a high number of graduates from fields of study that do not match with the available economic activities in the local market. The author also pinpoints that because of the high cost of higher education in Lebanon, graduates anticipate earning wages higher than the wages that are available in the small to medium enterprises that operate in Lebanon (Abou Jaoude, 2014). As a result, the highly skilled graduates emigrate to attain better job opportunities abroad and low-skilled laborers arrive mainly as immigrants (World Bank, 2012).

Emigration has been a prevalent phenomenon throughout the Lebanese history since the 19th century (Dibeh et al., 2017). Since then the Lebanese used to emigrate to escape the internal and external conflicts and the economic crises of the country. However nowadays they are migrating in search for jobs and higher wages (Dibeh et al., 2017).

Describing the state of the Lebanese labor market shows that students graduating from universities in Lebanon have a difficult mission to achieve in the labor market. On

average, 14000 students graduate yearly from universities in Lebanon (Chaaban et al. 2009). These graduates face the problem of low demand for their skills by either accepting to work in positions that require skills less than their qualifications or try and succeed in emigrating and working abroad in positions that match with their qualifications. However a significant part of these graduates might fail to attain any of these opportunities and have to settle for unemployment for a considerable period of time. Results of the present study provide information on the performance of a portion of these graduates from AUB.

C. Tracer Studies on Higher Education Outcomes in Lebanon

This thesis is a tracer study that evaluates the relationship between education and work among AUB graduates. Tracer studies are “graduate surveys” or “alumni surveys” which seek to gather information on the performance of graduates in the labor market a certain period after attaining their degrees. These tracer studies attempt to describe the employment situation of the graduates or to analyze links between employment and the obtained degree (Schomburg, 2016). Before reporting the results of this study, this section presents the major previous tracer studies that were conducted on graduates from different universities in Lebanon.

Tracer studies are not regularly used in Lebanon to evaluate the role of universities in preparing graduates for the labor market nor to plan for the creation of jobs in the labor market to satisfy the needs of the country. Only one national study was conducted in 1998. Other tracer studies were conducted by researchers on certain universities in Lebanon in order to study the different aspects of the relationship between higher education and the

labor market in Lebanon.

The first tracer study was conducted in 1992 and targeted the first group of graduates from the faculty of social sciences in the Lebanese University who graduated between the years 1964 and 1992 (Moussawi, 2015). The aim of this tracer study was to assess the career paths of these graduates to investigate whether their careers match their initial expectations when they first enrolled within the faculty. Of the 3,830 graduates, the study was able to reach only 1,506 graduates due to several limitations, which ranged from a change in the place of residence to the lack of sufficient funding of the project. The results of this study showed that 49% of the respondents chose to major in sociology due to their preference for social work. The percentage of unemployed graduates reached 21% from the overall number of graduates' sample. In terms of matching education and work, cases of a complete match rated 23%, cases of partial match rated 33%, and cases of complete mismatch rated 41%. The main field of work for the targeted graduates was education, where 51% of the graduates were working in this field (Table 1).

Table 1: Distribution of Graduates of the Years 1964 until 1992 according to the Sector of Main Job

| Sector of Main Job | Total | Percentage |
|--|--------------|-------------------|
| Government Sector-Non Educational | 192 | 16 |
| Education Sector (Public & Private) | 602 | 51 |
| Private Sector/Employee | 194 | 16 |
| Private Sector/Independent | 102 | 9 |
| Non-Governmental Organizations | 59 | 5 |
| International Organizations | 35 | 3 |
| Total | 1184 | 100 |

Source: (Moussawi, 2015)

This study provided important analysis on the performance of graduates from social sciences department in the Lebanese University and showed that the main sector for their employment is education. The governmental sector, which should be the main employer of graduates from public universities, was not very supportive as the study showed that only 16% of graduates were employed in the public sector. In addition, there are no predefined positions in the market for this degree, which is categorized as a theoretical sciences degree. However, its basic advantage is that its graduates can be readily employed in the education sector, which is widespread in Lebanon.

The second tracer study was conducted in 1998 by the Lebanese Association of Educational Studies (LAES) on university graduates of the academic year 1992-1993 from private and public universities in Lebanon (Abdul-Reda, 2003). The purpose of this study was to evaluate the graduates' satisfaction with their current occupations. In 1999, questionnaires were randomly mailed to graduates whose contact information was attained through the registrar's offices within these universities. The study came up with several results. The main result was that university specializations that are in demand in the labor market (such as engineering and medicine) lead to graduates' satisfaction with their jobs more than those that are not in demand. The unemployment rate among the graduates surveyed in this study scored 10.3%.

This tracer study also showed that the graduates preferred receiving promotions within the same occupations and institutions rather than changing their occupations and their places of employment. Those who prefer to change their occupations do so because they are mainly dissatisfied with their positions.

Comparing between the occupational level and the university preparation level, the analysis showed that around a quarter of the graduates, especially those from the Beirut Arab University, ranked their occupational level lower than their university preparation level. Graduates from the American University of Beirut (AUB), Lebanese American University (LAU), and University of Saint Joseph (USJ) occupied higher posts relative to graduates from Lebanese University (LU) and Beirut Arab University (BAU).

Up to 60% of graduates within this tracer study were able to attain upward social mobility, especially those in the fields of engineering, law, banking and finance, technology and teaching. This upward mobility was most prevalent among graduates of the Lebanese University (LU) and Beirut Arab University (BAU). Engineering and medical sciences majors showed high correlation levels between graduates' current occupation and the occupation originally desired. Also, those graduates who succeeded to get higher on the socioeconomic ladder showed high correlation in this regard.

To enhance preparation for the labor market, surveyed graduates offered many recommendations to improve the curriculum to increase opportunities to attain their desired occupations. They mainly emphasized enriching programs with practicums and improving the language and technological skills of the graduates. These were mostly the concerns of graduates from the University of Saint Joseph (USJ), Lebanese University (LU) and Beirut Arab University (BAU).

The study concluded with suggestions to attain effective interactions between higher education and the labor market. The first suggestion was the need to ensure equal opportunities for all graduates through spreading job opportunities for each major over

different geographical areas of Lebanon. The second suggestion was the need to ensure fairness in the quality of work for entry-level workers. The third suggestion was the need to make it easier for graduates to attain jobs shortly after graduation. The fourth suggestion was the need to ensure similarity of the career path of graduates within the same major (Abdul-Reda, 2003).

Results of this study provide two basic conclusions. The first conclusion suggests that graduates from upper class universities (such as AUB, LAU, USJ) can attain better opportunities in the labor market than graduates from other universities. May be this can be attributed to the use of foreign language as a language of instruction in these universities. The second conclusion suggests that applied sciences majors (like engineering and medicine) seem to serve their graduates better in the labor market than theoretical sciences majors.

The third tracer study was conducted by the AUB Alumni Relations Office in collaboration with the Hariri Foundation for Sustainable Human Development in 2009 (Chaaban et al., 2009). Its aim was to grasp the status of the Lebanese human capacity and its link to the labor market. The methodology of this study relied on surveying four universities in Lebanon: American University of Beirut (AUB), University of Saint Joseph (USJ), Beirut Arab University (BAU), and the Lebanese University (LU). Questionnaires were sent via email to graduates of the years 1995 until 2005. The study collected responses from 430 graduates, with the majority of these graduates being from AUB (297 graduates).

The respondents of this study were graduates divided over fifteen majors (Table 2). The highest number of graduates (24.9%) came from the business major, 18.3% were from the engineering major, 14.1% were from the life and physical sciences major, 12.8% were from the social and behavioral sciences major and 8.4% were from the medical services major. The unemployment rate among the respondents was 6%. Interestingly, all graduates found employment in the first year of graduation. Employment opportunities were easier for graduates in the field of education, with this category getting paid lower than graduates from other fields. Graduates of engineering earned the highest salaries.

The average age of the graduates in the sample was the age of 29.6. The sample was formed of 54% females and 46% males. Of the respondents, 94% were Lebanese and 42% were married. Of the respondents, 67.5% males and 45% females worked abroad. Of the emigrant graduates, 50% worked in Arab countries. The survey showed that the Lebanese human capital is depleted through emigration, since engineers, doctors and business majors mostly worked abroad and those graduates who worked in Lebanon are dissatisfied.

Table 2: Graduates of the Years 1995 until 2005 by Field of Study and Gender

| Degree | Male % | Female % | Both % |
|--|---------------|-----------------|---------------|
| Education | 0 | 3.4 | 1.8 |
| Arts | 0.6 | 1.5 | 1 |
| Humanities | 0 | 6.3 | 3.4 |
| Social and Behavioral Sciences | 6.8 | 18 | 12.8 |
| Journalism and Information | 0 | 1 | 0.5 |
| Business and Administration | 27.8 | 22.3 | 24.9 |
| Law | 0.6 | 0.5 | 0.5 |
| Life and Physical Sciences | 14.2 | 14.1 | 14.1 |
| Computing, Mathematics and Statistics | 7.4 | 8.3 | 7.9 |
| Engineering and Engineering Trades | 33 | 5.8 | 18.3 |
| Architecture and Building | 2.3 | 1.9 | 2.1 |

| | | | |
|--|-----|------|-----|
| Agriculture, Forestry and Fishery | 1.7 | 1.5 | 1.6 |
| Personal Services | 0 | 0.5 | 0.3 |
| Environmental Protection | 1.1 | 2.9 | 2.1 |
| Medical Services | 4 | 12.1 | 8.4 |
| Total | 100 | 100 | 100 |

Source: (Chaaban et al., 2009)

Table 3: Graduates of the Years 1995 until 2005 by Degree of Relation of their Current Job to their Field of Study by Major

| Degree | Very Related | Somehow Related | Not at all Related |
|--|---------------------|------------------------|---------------------------|
| Education | 100% | 0% | 0% |
| Humanities and the Arts | 59% | 24% | 18% |
| Social Sciences, Business, and Law | 42% | 41% | 18% |
| Science | 70% | 18% | 12% |
| Engineering, Construction and Manufacturing | 52% | 38% | 10% |
| Agriculture | 0% | 100% | 0% |
| Services | 43% | 43% | 14% |
| Health and Welfare | 50% | 29% | 21% |
| All Majors | 51% | 34% | 15% |

Source: (Chaaban et al., 2009)

With regard to the relation between current positions occupied in comparison to graduates' field of study, 51% of respondents felt their university degree was related to their current job (Table 3). All graduates in education and 70% of the science graduates found that their jobs very related to their degrees. Of the respondents, 34% felt that their current job and field of study were somewhat related (all agriculture graduates, 43% of the services graduates, 41% of the social sciences graduates, business and law graduates, and 38% of the Engineering, Manufacturing and Construction graduates). Of the respondents, 15% felt that their current job and field of study were not related at all (21% of the healthcare and welfare graduates, 18% of the social sciences, business and law graduates, 18% of the humanities and arts graduates, 14% of the services graduates, 12% of the

science graduates, and 10% of the engineering, and manufacturing and construction graduates) (Chaaban et al., 2009).

The results of this study show that the education degree is the only degree that allows all its graduates to work in their fields of study. In addition, the results reveal that the engineering degree secures the highest salaries for its graduates and that working abroad is a major opportunity for graduates as it allows them to secure their living and pursue their career ambitions.

The fourth tracer study was conducted on the determinants of migration of the highly skilled employees from Lebanon (Badre, 2015). The main purpose of the study was to compare and contrast between migrant and non-migrant graduates to understand their diverse behaviors in regard to migration. For the data collection process, email surveys were sent to graduates from the year 2000 to the year 2012 from the Lebanese American University (LAU) and the Holy Spirit University of Kaslik (USEK). The collected sample was formed of a group of graduates with diverse cultural, linguistic and socioeconomic backgrounds. The total number of responses received were 834, of which 385 graduates were migrants and the remaining 449 graduates were non-migrants. Table 4 shows that around half of the respondents from LAU (53.5%) migrated after graduation, while the majority of respondents from USEK (80.2%) did not migrate. As for the reasons behind migration, 35.5% of the graduates migrated for employment, 17.5% because of political instability in Lebanon and 17.1% for the pursuit of higher education. Badre's (2015) study confirms Lebanese graduates' reliance on emigration for obtaining jobs.

Table 4: Migration Status of Graduates of the Years 2000 until 2012 according to University

| | N | Migrants | Non-migrants | Total |
|--------------|----------|-----------------|---------------------|--------------|
| LAU | 652 | 53.5% | 46.5% | 100% |
| USEK | 182 | 19.8% | 80.2% | 100% |
| Total | 834 | 46.2% | 53.8% | 100% |

Source: (Badre, 2015)

AUB continuously works on evaluating its educational services to maintain progress and to sustain its high ranking among all universities in Lebanon and the region. For this aim, AUB's Office of Institutional Research and Assessment (OIRA) conducts different kinds of surveys among AUB students and graduates. Of these surveys, an exit survey is conducted yearly to investigate the expectations and plans of AUB graduates right after graduation.

The results of the exit surveys conducted by OIRA are the starting point of this research. These surveys show the standing of students at the moment of graduation. According to Table 5, one-fifth of the graduates accepted jobs before graduation. Of these graduates, 31.5% considered their jobs to be directly related to their majors. Also, one-fifth of the graduates planned to pursue their graduate studies after graduation. Almost half of the graduates planned to leave the country after graduation.

These results show that AUB graduates of the years 2006 until 2010 were mainly in good standing at the time of graduation. Our present study traces the current career status of graduates of these years from six different theoretical and applied sciences, architecture, business, economics, engineering, political science and sociology/anthropology. It

evaluates the graduates' standing in the labor market after seven to eleven years from graduation and assesses the impact of their degrees on their current career statuses.

Table 5: Results of the Exit Surveys conducted by OIRA from 2006 until 2010

| | | 2006-2007 | 2007-2008 | 2008-2009 | 2009-2010 |
|---|--------------------------|-----------|-----------|-----------|-----------|
| Most of the respondents were graduates from: | FAS | 33.1% | 37.1% | 32.9% | 38.2% |
| | OSB | 24.5% | 20.5% | 26.4% | 22.1% |
| | Engin./Archit. | 22.2% | 25.6% | 24.3% | 24.3% |
| Main Activity after graduation: | Still seeking employment | 30.9% | 32.2% | 35.7% | 34.3% |
| | Going to graduate school | 21.5% | 27.7% | 22.9% | 25.9% |
| | Have accepted a job | 20.7% | 16.1% | 16.2% | 14.9% |
| Location of the above main activity after graduation: | Lebanon | 55.5% | 51.2% | 59.6% | 60.8% |
| | Arab Gulf States | 20.7% | 21.5% | 17% | 16.3% |
| | Europe | 10.2% | 12.3% | 10.2% | 10.8% |
| | North America | 8.4% | 8.1% | 7.1% | 6.4% |
| For those who have accepted jobs, to what extent were these jobs related to their majors at AUB? | Null | 48.9% | 57.1% | 53.7% | 56.2% |
| | Directly related | 35.9% | 29.8% | 31.8% | 28.5% |
| | Somewhat related | 12.4% | 9.8% | 12% | 12.3% |
| | Not related | 2.8% | 3.3% | 2.4% | 3.1% |

Source: ("Exit Survey Reports", 2017)

The above-mentioned studies covered graduates from the years 1964 until 1992, 1992-1993, 1995 until 2005, 2000 until 2012 and 2006 until 2010. Moussawi's (2015) study focused on social science graduates from the Lebanese University. Chaaban's (2009) study focused on graduates from AUB, BAU, LU and USJ. Both these studies focused on the aspect of relatedness of graduates' jobs to their degrees. Abdul-Reda's (2003) study focused on graduates from all majors from all universities in Lebanon with respect to their satisfaction with their current jobs. Badre's (2015) study focused on graduates of LAU and USEK with respect to their emigration status. In some way or another, all these studies

tackled the relationship between higher education and the labor market amongst university graduates.

Abdul-Reda's (2003) study showed that the majors demanded in the labor market allow graduates to be more satisfied with their occupations. Chaaban's (2009) study showed that around half of the engineering, business and social sciences graduates of the studied sample found their occupations very related to their university degrees. Moussawi's (2015) study, which dealt only with social sciences graduates, showed that around half of the employed social sciences graduates in the sample worked in fields that are not related to their majors at all. Badre's (2015) study and the OIRA exit surveys pointed out to the emigration phenomenon that prevailed among around half of the graduates under study.

These studies point to the difficulties graduates in Lebanon face in attaining jobs in general and jobs related to their fields of study in specific. They also showed that graduates from elite universities succeed in attaining jobs abroad more than graduates from other universities.

Our study supplements these results by tracing a set of AUB graduates from theoretical and applied sciences to find out the effect of the type of major on obtaining jobs related to the graduates' fields of study, to find out if graduates working abroad work in their fields of study more than those working locally, and to investigate whether jobs related to the graduates' fields of study serve the graduates' career aspirations more than less related jobs.

CHAPTER III

THEORETICAL FRAMEWORK

This study aims to explore the current career status of university graduates, with respect to employment, salary, location of current job, and relatedness of job to the bachelor degree earned, and the effectiveness of the bachelor degree earned in reaching this status. For this purpose, different variables are explored and the relation between them is statistically tested. For these variables to explain the wider socio-economic context, they have to be approached from a theoretical perspective.

A. Theories on the Role of Education

First, we begin by exploring the role of education in society and how sociologists defined it.

In describing the role of education, sociologists made use of the functionalist theory. The functionalist theory applies the analogy of the human body which different organs serve specific functions in solidarity to maintain the whole, which is the body. Similarly, Emile Durkheim approached education as a social institution that serves certain functions by being part of the whole social system (Sever, 2012). He described the major functions of education as to provide the needed technological knowledge and skills in the

workplace and to socialize and humanize people to maintain solidarity of the wider society (Sever, 2012).

Talcott Parsons also used the functionalist approach to describe the main functions of education as to “allocate human resources within the role-structure of the adult society” (Parsons 1959, p.130).

Indeed, the role of education in society is an integral one that works in favor of society. Education enlightens individuals’ minds and directs them towards occupying productive and successful lives. Education also paves the way for society’s advancement and ensures continuous development with the transfer of previous knowledge and building upon it. In this manner, the functionalist approach can be considered a convincing definition for the role of education in society.

Moreover, Aaron M. Pallas (2006) posited three assumptions on the effect of education on individual lives. The first is the socialization theory. This theory suggests that education provides individuals with knowledge about the world and with cognitive tools to manipulate this knowledge to enhance their well-being, help solve problems, adapt to new situations and ultimately and continuously develop. According to this theory, the role of the individual or the social agent is emphasized, while the social structure within which he/she is situated is moved to the back.

The second perspective is the allocation theory posited by Kerckhoff (1976). Contrary to the first theory, it emphasizes the role of the social structure, places it in the forefront and places the role of the social agent in the background. According to this theory,

the educational credentials attained by the individuals are used by social institutions to select and allocate individuals to positions of social and political power that are not available to the less educated.

The third perspective is the institutional theory which is associated with the work of John Meyer (1977; 1985). This theory argues that the relationship between education and individual outcomes exists not because education has generated these effects through either a socialization or an allocation process, but because of the way society has organized itself in such a way that it has shared beliefs rooted in its institutions. These beliefs are that university graduates have better and more desirable qualities than high school graduates and thus have to be rewarded in the bureaucracies of modern society (Pallas, 2006).

Durkheim and Pallas' points of view on the role of education show that education is an essential part of society that is needed to serve the whole by providing individuals with the knowledge and skills to serve their society adequately. Pallas' (2006) allocation and institutional theories show how education gained by individuals serves them in society by signaling them to higher positions in institutional bureaucracies.

Pallas' first perspective goes hand in hand with Durkheim's definition on the role of education. His second and third perspectives relate directly to Parsons' definition. However, the socialization theory, with its emphasis on the individual as an agent, can be used to best explain the role of education. Since individuals are the ones who form institutions and the ones allocated in these institutions. With education having a major effect on individuals, it would affect society as a whole. The second and third perspectives reduce the role of education to a simple indicator that helps institutions employ better

workers. Although this role can be used to save time for employers, it diminishes the main role education has in preparing these individuals. For this reason, this study tackled graduates and not employers because graduates are the ones who accept job offers to work in certain institutions or not.

In this research Pallas' first perspective is tackled by assessing the higher education preparation of the graduates and his second perspective is tackled by assessing the allocation of these graduates in the role-structure of society.

B. Motives behind the Choice of Major

Second, this research by being a study that targets university graduates to explore their current status in the labor market and their evaluation of their bachelor degrees in helping them reach this status, leads us to explore the motives behind the students' choice of major.

Choosing a certain major at university to complete and earn its degree is a decision an individual makes for different motives, either to fulfill his/her interest in the content of study or in anticipation to reach a prospective profession (Mikkonen et al., 2009). In defining these two motives, Mikkonen et al. (2009) point out that the choice based on interest in the content of study can be defined as an intrinsic motive (Ryan & Deci, 2000) where an individual performs a task because it is rewarding by itself and not because of the outcome he/she expects from it. While choosing a major to reach a prospective profession, Mikkonen et al. (2009) point out that it can be defined as an extrinsic motive (Ryan & Deci,

2000) where an individual performs a task because it allows him/her to attain a certain outcome.

The two motives identified by Mikkonen et al. (2009) discuss the main aims for why a person might choose a certain major to study at university. However, these two motives are not exhaustive as they do not include all the reasons that might be behind a student's choice of major. For instance, this research asked graduates to indicate, in a multiple choice question, the main reasons for choosing their majors. In addition, this study provided respondents with an open ended question to allow them to forward motives that were not provided. The reasons we mentioned were: "I like studying it", "I like working in it", "My parents suggested it for me" and "It is highly demanded in the labor market". The first two reasons go hand in hand with Mikkonen et al.'s (2009) suggested motives. The third and fourth reasons suggest external factors that might influence the student's choice of major. In the open-ended component of the survey question, other reasons were mentioned by the graduates, indicating that choosing a certain major is not necessarily a straightforward process. In the results section of this thesis, the main reasons of our sample of graduates for choosing their undergraduate majors are presented.

C. Theories on Career Decision-Making

Third we explore the different theories that try to explain according to which aspects students choose their careers.

McNeill (1990) and Osipow (1990) point out that there are three dominant theories on career decision-making. The first theory is the "Trait Theory" (Hodkinson & Sparkes, 1997). This theory perceives the role of career decision-making as to match the individual

to the placement by figuring out the personality traits, concerns and skills required in specific jobs and finding out to what extent the individual has these qualities (Hodkinson & Sparkes, 1997). Just as Kidd (1984) described it as “a process involving a matching of self and occupation” (p. 25).

The second theory is the “Developmental Model” of Ginsberg et al. (1951) and Super (1953). This theory claims that career decision-making has developmental stages and that a good career decision cannot be reached until the potentials of the individual are developed and he/she has reached enough personal maturity (Hodkinson & Sparkes, 1997).

The third theory is the “Social Learning Theory”, which points out to the effect of the interaction of social and cultural factors on decision-making by influencing the person’s identity with the accumulation of life experiences. However, this theory perceives these factors as external influences on career decision-making (Hodkinson & Sparkes, 1997). On the other hand, Roberts (1968) through his “Opportunity Structure Theory” argues that career decision-making is defined by the opportunity structures in the labor market and not by the person.

The first theory shows career decision making as a process where the individual tries to situate his/her potentials in a job that matches with them. The second theory suggests that career decision making is a process that takes time for the individual’s capabilities to advance and to reach personal development. The third theory points out to the effect social and cultural experiences have in forming the individual’s character and consequently influencing his/her career choice. While these three theories emphasize that career decision-making is an individual choice affected by individual’s characteristics and life experiences, the fourth theory with its denial of individual choice and its restriction of

career choice to external factors is overly strict. When career decision-making can be influenced by the available opportunities in the labor market, it is up to the person to choose which opportunity to pursue.

In this study we chose our sample to be graduates who have finished university seven to eleven years ago, which is considerably enough time to have reached a certain stability in their career paths. In a multiple choice question, this research asked graduates to indicate their reasons for occupying their current jobs. These reasons include both internal and external factors for choosing a job. In addition, the study provided respondents with the opportunity to mention “other reasons” in an open-ended component of the multiple choice question. The reasons mentioned were: “It pays well”, “It serves my career aspirations”, “It is close to my residence” and “Other opportunities are not available”. These reasons include both internal and external factors to choosing a job. In the results section of this thesis, the main reasons of our sample of graduates for choosing their current jobs are presented.

D. Theories on the Relationship between Education and Work

Fourth we discuss how different theories try to explain the relationship between education and work.

Several theories try explain this relationship, such as the human capital theory, the job-matching theory, the job-competition theory, and the credentialism theory. In this study, certain aspects of these theories are tested to figure out which theory best explains the case of our sample of graduates from the American University of Beirut.

1. Human Capital Theory

The human capital theory assumes that individuals have potentials that they can improve and refine by investing in themselves through the acquisition of education (Schultz, 1961). By attaining more education, the person gains additional knowledge and skills and can therefore be more productive in the labor market. This productivity is consequently rewarded by higher wages. The more education a person attains, the higher he/she can reach in the labor market. This theory belongs to the neo-classical economic school, which assumes that the markets function perfectly, that the labor market (supply and demand) is in equilibrium, that the wage mechanism is flexible and that cases of unemployment are freely chosen (Heijke, 1996). According to this theory, education-job mismatch is considered as a part of an inefficient labor market and is considered a temporary phenomenon where one form of human capital is gained while replacing another. However, in the real labor market where equilibrium does not actually exist, investment in human capital does not always lead to higher wages or better opportunities; although, it is an advantage for the individual in any case.

The human capital theory expects that with the graduate attaining more education, he/she would definitely reach higher positions and earn higher salaries in the labor market. However, this is an idealistic expectation because the job market is complex and many factors may affect reaching such results, like in the case of the Lebanese economy which suffers from poor governance and the lack of an efficient use of human and natural resources. But maybe it can apply on the international markets which have better economies and where graduates from Lebanon emigrate for better work opportunities.

2. Job-Competition Theory

The labor queue theory or job-competition theory (Thurow, 1975) converges with the human capital theory in that with individuals increasing their level of education their employment opportunities would increase. It assumes that education does not prepare for the job. In fact, according to this theory, it is on-the-job training that provides the required skills. Since on-the-job training entails costs on employers, employers make use of employees' educational credentials in their screening process to make sure to hire better trainable individuals (Heijke, 1996).

Contrarily to the human capital theory and according to the job-competition theory, wages are not determined by the individual's level of education but by the characteristics of the job. Thus, in this case, education can serve the individuals to be signaled to higher positions with characteristics that require higher wages (Heijke, 1996).

If this theory applies, individuals will keep on attaining higher and higher levels of education to take the lead in the labor queue. With this increase in the number of highly educated individuals and with priorities given to them in the recruitment process, according to this theory, higher positions would be filled, and lower positions will have to be filled by the highly educated individuals at the lower wages that are already defined for these positions.

The job-competition theory expects that an individual by attaining more education he/she would be signaled to higher level positions in the labor market. But it also expects that there is competition in the labor market, and this competition with the increasing

number of highly educated individuals might lead to the allocation of these individuals in low paid positions. This theory can apply to the case of graduates in Lebanon where there is high competition in the labor market and an inability to absorb the great number of graduates that are produced yearly with the expansion of the higher education sector.

3. Job-Matching Theory

Job-matching theory is based on the idea that the needs of the labor market and the skills and experiences of workers differ in their levels. The most educated persons should occupy the positions that require highest skills. Mismatch occurs when either the supply of educated workers or the demand for skilled labor exceeds the other (Sorenson & Kalleberg, 1981; Jovanovic, 1979). According to this theory (Sattinger, 1975; Jovanovic, 1979), the qualifications of the individual and the job characteristics determine the productivity of the individual theory. As such, the individual has to search for a job whose characteristics match his/her qualifications. However, since this theory assumes that there is not enough information about job characteristics in the labor market, a perfect match is difficult to reach instantly. An individual can only learn the characteristics of a specific job when he/she actually takes up the job. Then, the individual will make use of the skills that are relevant to this job specifically. In addition, if the individual figures out that this job does not match with his/her qualifications, he/she proceeds to search for other jobs that might match with them (Heijke, 1996).

In contrast to the human capital theory, the wages of the individual are not directly determined by the individual's educational attainment but by where he/she is placed in the labor market. This agrees with the job competition theory (Heijke, 1996). As such, a person

with high level of education who is able to find a job that matches his/her education can earn a higher wage than if he/she was on a mismatched job.

The job-matching theory expects that an individual by attaining more education he/she can reach higher level positions and consequently earn higher salaries in the labor market when situated in jobs that match with his/her qualifications. In the results section of this paper, this study reveals the extent AUB graduates are able to reach this education-job match in the labor market.

4. Credentialism Theory

This theory assumes that employers make use of individuals' educational credentials as an indicator in the hiring process, regardless of the actual skills that individuals have (Collins, 1979). According to Collins (1979), society with the advance of technology, has created a structure of easier jobs full of administrative work. In this way, most literate people can learn the requirements of the job while they are on the job and without prior education. Thus, with employers using workers' education as an indicator in the hiring process and with jobs becoming simpler, education-job mismatch takes place with individuals from various fields of study filling in the general vacancies available in the market.

Credentialism theory expects that the more education an individual attains, the higher level position he/she would reach in the labor market. However, this position would not necessarily be matching or related to the field of study of the individual. Since this theory assumes that with the advance of technology and knowledge economy, work

conditions have become simpler, and thus duties can be performed by any literate person. In the results section of this paper, this study will show if this is the case for AUB graduates, if they are performing duties that match their fields of study or if they are performing general duties required by the organizations.

After discussing the theories that explain the relationship between education and work, the applicability of these theories is tested in this study to investigate which theories better explain the case of AUB graduates from the selected majors.

CHAPTER IV

RESEARCH METHODOLOGY

The main aim of this research is to study the relationship between higher educational degree and work among AUB graduates from the theoretical and applied sciences majors. This relationship was tackled from the perspective of graduates through their evaluation of the effectiveness of higher education in preparing them for the labor market and for graduate studies. The relationship between higher education and job preparedness was also studied by evaluating the graduates' performance in the labor market by rating the extent to which their current jobs are related to their fields of study (undergraduate degrees), their level of satisfaction with their current jobs, and their current standing with respect to their career aspirations.

A. Selection Criteria

This study targeted bachelor degree graduates from the American University of Beirut from the year 2006 to the year 2010 from six disciplines within the university. These include architecture, business, economics, engineering, political science and sociology/anthropology.

The American University of Beirut was chosen as a target for this study for several reasons. First, AUB was chosen because of the ease with which this research can access the contact data of graduates, especially as this institution maintains an up-to-date database

pertaining to its alumni. Second, the American University of Beirut was chosen because it is one of the most prominent universities in Lebanon and the region, ranking in the top 41 worldwide on the Graduate Employability ranking of QS 2018 and number one in the Arab world and MENA region (“QS World University Ranking”, 2017). More importantly, AUB continuously gathers information about graduate performance in the labor market to show the impact of this performance in the Lebanese higher education sector.

Students’ performance in the labor market depends widely on the type of programs they study at universities. The majors which include architecture, business, economics, engineering, political science and sociology/anthropology, were chosen because they differ from one another with regards to the entry of their graduates into the labor market. In this study, architecture, engineering and business majors are considered as applied sciences, while economics, political science and sociology/anthropology are considered theoretical sciences.

According to Borden et al. (2000) theoretical sciences provide students with a broad range of knowledge that can be adapted in many places in the labor market in contrast with the applied sciences, which provide specific technical skills that can be applied to only specific areas of the market. Moreover, several authors have found that graduates from occupation-specific fields tend to work in better matched jobs than those from the general programs (Wolbers, 2003; Grayson, 2004; Garcia-Espejo & Ibanez, 2006; Robst, 2007a; Krahn & Bowlby, 1999; Storen & Arnesen, 2006; Heijke, Meng & Ris, 2003). For example, the economics major, being mainly a theoretical major that focuses on general knowledge and economic theories, was categorized by Hansen (1986; 2001) as a liberal arts

degree, arguing that “most students end up doing work that is at most only loosely related to their undergraduate majors” (Hansen, 1986, p. 150). Borg et al. (2010) also found that earning an education in economics is associated with the development of critical thinking skills that are needed in several different careers.

The graduation years of 2006 to 2010, were chosen because the last tracer study was conducted on graduates of the years 1995 until 2005 (Chaaban et al., 2009). In this case, the range for this study would continue what other researchers have started. In addition, this range would tackle graduates that have graduated seven to eleven years ago. This time span can be considered as enough time for graduates to have reached certain stability in their career paths and can look back and evaluate how well their academic steps have led them to where they are today.

B. Research Questions

The main research question investigated through this study was the following:

- To what extent is there an education-job match among AUB graduates, what are the possible reasons behind this level of match, and the possible effects this level of match can have on the working graduates?

This main question was investigated through two major categories of sub-questions that were used to evaluate the effectiveness of the bachelor degrees earned by graduates and to assess the graduates’ performance in the labor market.

The below questions were used to evaluate the effectiveness of the bachelor degrees of the graduates:

- 1- How many have continued their graduate studies?
- 2- Did they pursue their graduate studies in the same fields of their bachelor degrees or in other fields?
- 3- For those who pursued their graduate studies in fields other than the fields of their bachelor degrees, in which fields are they working?
- 4- What are the reasons for choosing their undergraduate majors?
- 5- How effective was their bachelor degrees in helping them reach their current career statuses?
- 6- How satisfied are they with their undergraduate programs?
- 7- How well did their undergraduate programs prepare them for graduate studies?

The below questions were used to evaluate the performance of the graduates in the labor market:

- 1- To what extent are the current jobs of the graduates related to their majors (bachelor degrees)?
- 2- What are the graduates' reasons for taking up their current jobs?
- 3- How satisfied are they with their current jobs?
- 4- How satisfied are they with their daily duties?
- 5- To what extent do their current jobs serve their career aspirations?
- 6- What are they doing to reach their career aspirations?

C. Research Instrument

To answer these questions a questionnaire was designed. The questionnaire included basic questions on gender, civil status, nationality, highest educational attainment, undergraduate major, current job location, in addition to questions on rating the relatedness of current job to major, satisfaction with current job, whether the current job serves the career aspirations of the graduates, and questions on the satisfaction with the bachelor degrees earned. The validity of the questionnaire items was ensured through setting the questions and answers options in a clear and simple language to ensure that respondents understood the questions correctly and provided the suitable responses accordingly. Reliability of the answers was ensured through the “why” question that was posed after the main close-ended questions in the questionnaire. This provided respondents the chance to give reasons for their choices of answers in case respondents filled out the “why” questions. In case the respondents did not answer the “why” questions, the ratings they chose as answers were checked case by case to ensure that they fit logically with the rest of the answers. As such, the answers to the “why” questions in the survey were mainly used to verify the answers for the close-ended questions and to understand the wider context of the answers.

D. Data Gathering

The target population in this study was graduates of four academic years of graduation from six majors. This constituted a total population of 3148 graduates. To be able to send the questionnaire to such a large number of subjects who are located in

different areas of the world, an online survey was the most suitable tool. The main limitations of this tool was that it has potential sources of bias such as the non-response bias, where some subjects might refuse to participate in the study or refuse to answer certain questions, and the response bias where were some of the participants might give incorrect answers. The first bias led to a low response rate, but this was not a burden in this study because we were able to reach more than the minimum number of respondents needed for our study sample to be adequate (155 respondents).

The below formula was used to get the minimum sample size needed for our sample to be adequate:

$$n = \frac{z^2 \times \{(p(1 - p))\}^2}{ME^2}$$

for $p=0.5$ (p is the population proportion), a confidence level of 95% ($z=1.96$) and a $ME=8\%$ (ME is the margin of error), we get $n=150$ which is the minimum sample size that is needed for the sample to be adequate in size (Agresti & Finlay 2009).

The second bias was not of concern since respondents' answers were in harmony with one another. In other words, not one answer was found inconsistent with another answer.

After the questionnaire was designed, it was sent to the Institutional Review Board (IRB) for approval of its content. After less than a month, the IRB approved the questionnaire content and the attained email addresses of graduates from AUB's Alumni Office. The online survey, using LimeSurvey, started on August 14, 2017 and ended on October 1, 2017. In this way, the survey remained open for a month and a half. Email

invitations to fill out the questionnaires were sent to 3148 graduates and were followed by three reminder emails. The surveys were to be filled out anonymously without asking for any identifying information from the graduates.

E. Limitations of the Study

Usually, the AUB Alumni Office attempts to get the most recent contact information from graduates. However, in our list around half of the graduates had only their AUB email addresses that were created for them as students. Some of these graduates might use these email addresses but may do so rarely, and some others might have stopped using them. This factor has limited the possibility of reaching all targeted graduates. In addition, the low response rate that occurred because of online surveys, where many targeted subjects might simply choose not to fill out the survey, had an effect on the total number of completed questionnaires.

F. Data Analysis and Statistical Treatment

LimeSurvey allowed us to export the survey results to excel and SPSS for data analysis. The gathered data provided the study with descriptive statistics such as frequency counts, percentages and crosstabs that mainly described the sample received. This research made use of SPSS, the Statistical Package for Social Sciences Software, to check the relationship between the different variables in the study. The answers for the close-ended questions in the survey provided this thesis with descriptive quantitative data. In addition,

the open-ended questions provided descriptive qualitative data. The study made use of the quantitative data to perform the independent samples t-tests and Goodman and Kruskal's gamma tests.

The respondents were divided into two groups in accordance to bachelor degrees they earned from the American University of Beirut:

- Group 1: The Theoretical Sciences group that included graduates from economics, political science and sociology/anthropology
- Group 2: The Applied Sciences group that included graduates from architecture, business and engineering

The location of the current jobs of the respondents was divided into two groups:

- Group 1: Lebanon
- Group 2: Abroad

The independent samples t-test was performed to find out if the two groups (theoretical and applied sciences) differed from each other in their scores on the relatedness of current job to major. It was also performed to find out if the two groups (graduates working in Lebanon and graduates working abroad) differ from each other on their score on the satisfaction with current job, on the monthly salary and on the relatedness of current job to major.

Goodman and Kruskal's gamma test, which is a test of association between ordinal variables (Agresti & Finlay 2009), was performed to test if the level of relatedness of current job to major is related to the extent to which the current job serves the graduates'

career aspirations and monthly income. It was also done to test the relation between highest educational attainment and salary, salary and job location, and the relationship between satisfaction with current job and job location.

The descriptive qualitative data provided this study with a comprehensive understanding on the graduates' evaluation of their undergraduate degrees and their current career statuses. The answers to the open-ended questions were revised and summarized to answer the study questions.

Chapter V

RESULTS

A. Description of the Sample

After a month and a half, where an email invitation was sent with three email reminders to fill out the online survey, 155 graduates responded. The sample size obtained was $n=155$, which is considered an adequate sample size because it is greater than the minimum size ($n=150$) required for the sample to be adequate. However, the response rate for this survey turned out to be 4.9%, which made the sample vulnerable to non-response bias. This bias is discussed in the limitations section in the last chapter of this thesis.

The attained sample covered respondents from all the targeted majors, including 11 architecture graduates, 62 engineering graduates, 37 business graduates, 26 economics graduates, 13 political science graduates and 6 sociology graduates (Table 6). As per the division of the graduates in the previous chapter into two groups of theoretical and applied sciences, the response rate among the theoretical sciences group turned out to be 9.7% (45 responses out of the 466 population) and among the applied sciences group 4.1% (110 responses out of the 2682 population). Graduates from the four selected academic years of graduation responded with 18.8% of them from the academic year 2006-2007, 24% from the academic year 2007-2008, 23.4% from the academic year 2008-2009 and 33.8% from the academic year 2009-2010 (Table 7).

Table 6: Distribution of Respondents according to BA/BS major

| Major | Frequency | Percent |
|------------------------|-----------|---------|
| Architecture | 11 | 7.1 |
| Business | 37 | 23.9 |
| Economics | 26 | 16.8 |
| Engineering | 62 | 40 |
| Political Science | 13 | 8.4 |
| Sociology/Anthropology | 6 | 3.9 |
| Total | 155 | 100 |

Table 7: Distribution of Respondents according to Academic Year of Graduation for BA/BS Degree

| | Frequency | Valid Percent |
|-----------|-----------|---------------|
| 2006-2007 | 29 | 18.8 |
| 2007-2008 | 37 | 24.0 |
| 2008-2009 | 36 | 23.4 |
| 2009-2010 | 52 | 33.8 |
| Total | 154 | 100.0 |
| No Answer | 1 | |
| Total | 155 | |

Table 8: Distribution of Respondents according to Gender

| | Frequency | Valid Percent |
|-----------|-----------|---------------|
| Male | 81 | 52.6 |
| Female | 73 | 47.4 |
| Total | 154 | 100.0 |
| No Answer | 1 | |
| Total | 155 | |

Table 9: Distribution of Respondents according to Civil Status

| | Frequency | Valid Percent |
|-----------|-----------|---------------|
| Single | 89 | 57.8 |
| Married | 62 | 40.3 |
| Divorced | 3 | 1.9 |
| Total | 154 | 100.0 |
| No Answer | 1 | |
| Total | 155 | |

The sample is formed of 52.6% males and 47.4% females (Table 8). Most graduates of this sample are single 57.8%, 40.3% of them are married and 1.9% are divorced (Table 9). More than half of the graduates (60.4%) continued their studies and earned master's degrees and 5.8% earned a PhD (Table 10). According to Table 11, almost 90% of the graduates are employed either permanently, contractually, part-time or as freelancers. Only 8.3% are unemployed and 2.8% are not looking for a job. Of the employed graduates, 37.4% have their monthly salaries greater than 5000\$ (Table 12).

Table 10: Distribution of Respondents according to Highest Educational Attainment

| | Frequency | Valid Percent |
|-----------|-----------|---------------|
| BA/BS | 52 | 33.8 |
| MA/MS | 93 | 60.4 |
| PhD | 9 | 5.8 |
| Total | 154 | 100.0 |
| No Answer | 1 | |
| Total | 155 | |

Table 11: Distribution of Respondents according to Current Employment Status

| | Frequency | Valid Percent |
|--------------------------------------|-----------|---------------|
| Permanent Full-time Employed | 102 | 70.8 |
| Contractual Full-time Employed | 15 | 10.4 |
| Part-time Employed | 4 | 2.8 |
| Freelancer | 7 | 4.9 |
| Unemployed (but searching for a job) | 12 | 8.3 |
| Not looking for a Job | 4 | 2.8 |
| Total | 144 | 100.0 |
| No Answer | 11 | |
| Total | 155 | |

Table 12: Distribution of Respondents according to Monthly Salary

| | Frequency | Valid Percent |
|---------------------------|-----------|---------------|
| Less Than 1000\$ | 6 | 4.6 |
| Between 1000\$ and 2000\$ | 11 | 8.4 |
| Between 2000\$ and 3000\$ | 16 | 12.2 |
| Between 3000\$ and 4000\$ | 29 | 22.1 |
| Between 4000\$ and 5000\$ | 20 | 15.3 |
| Greater Than 5000\$ | 49 | 37.4 |
| Total | 131 | 100.0 |
| No Answer | 24 | |
| Total | 155 | |

Around three-quarters of the respondents are Lebanese (75.8%) and the remaining 24.4% are from Arab countries (11%), Bahrain, Jordan, Kuwait, Saudi Arabia, Syria,

United Arab Emirates, and Palestine, and other foreign countries (13.4%), Armenia, France, Russian Federation, Ukraine, United Kingdom, United States and Venezuela. Out of these 75.8% Lebanese graduates, only 32.8% are working in Lebanon with the remaining 43% are working in some of the Arab countries (20.3%), Kuwait, Qatar, Saudi Arabia and United Arab Emirates, or in other foreign countries (22.7%), Canada, France, Germany, Ireland Republic, Japan, Switzerland, United Kingdom and United States. This means that 56.73% of the Lebanese graduates are working abroad and 43.27% of them are working in Lebanon. Also, almost half of all the graduates in this sample (57%) are working outside Lebanon, and 43% are working in Lebanon.

B. Independent Samples T-Test

1. Independent Samples Test between ‘Group of Major’ & ‘Relatedness of Current Job to BA/BS Major’

To test if the theoretical and applied sciences groups varied on one numerical variable, which is the relatedness of current job to major, an independent samples t-test was performed. Before conducting the test, this study made sure that its first two assumptions are met, since the observations in this sample are independent (i.e. there are two different groups), and the dependent numerical variable (Relatedness of Current Job to Major) has a normal sampling distribution of the sampling mean since the sample size (n) is 126, which is greater than 30.

Table 13: Cross Tabulation for ‘Group of Major’ & ‘Relatedness of Current Job to Major’

| | | | Relatedness of Current Job to Major | | | Total |
|-------------------|-------------------------|------------|-------------------------------------|--------------------|-----------------|---------------|
| | | | Not Related At All | Somehow Related | Very Related | |
| Group of Major | Theoretical Sciences | Count % | 6 4.8% | 16 12.7% | 12 9.5% | 34 27.0% |
| | Applied Sciences | Count % | 6 4.8% | 44 34.9% | 42 33.3% | 92 73.0% |
| Total | | Count % | 12 9.5% | 60 47.6% | 54 42.9% | 126 100.0% |

Table 14: Group Statistics for Independent Samples Test Between ‘Group of Major’ & ‘Relatedness of Current Job to BA/BS Major’

| Group of Major | | N | Mean | Std. Deviation | Std. Error Mean |
|---|-------------------------------|----|------|-------------------|--------------------|
| Relatedness of Current Job to Major | Theoretical Sciences Group | 34 | 2.18 | .716 | .123 |
| | Applied Sciences Group | 92 | 2.39 | .610 | .064 |

There is only a small difference between the sample means of the two groups. Table 14 shows the sample mean=2.18 for the theoretical sciences group and the sample mean=2.39 for the applied sciences group. The sample size n=34 for the theoretical sciences group and n=92 for the applied sciences group. The size of each of the two samples is greater than 30. As such, the normality assumption is not a concern anymore by

the Central Limit Theorem that states that for large random samples the sampling distribution of the sample mean is almost normal (Agresti & Finlay 2009).

For the third assumption of homogeneity of variances (Table 15), the Levene's Test for Equality of variances shows Sig.=0.669, which is greater than 0.05. So the results of the Levene's Test are not significant. Thus, we can assume equal variances.

The null hypothesis H_0 states that there is no significant difference between the two groups.

The alternative hypothesis H_1 states that there is a significant difference between the two groups.

Table 15: Independent Samples Test Between 'Group of Major' & 'Relatedness of Current Job to BA/BS Major'

| | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | |
|-------------------------------------|-----------------------------|---|------|------------------------------|--------|-----------------|-----------------|-----------------------|---|-------|
| | | F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference | |
| | | | | | | | | | Lower | Upper |
| Relatedness of Current Job to Major | Equal variances assumed | .184 | .669 | -1.671 | 124 | .097 | -.215 | .129 | -.469 | .040 |
| | Equal variances not assumed | | | -1.552 | 51.731 | .127 | -.215 | .138 | -.493 | .063 |

The results of the t-test for Equality of Means (Table 15) are ($t = -1.671$, $df = 124$, $p = 0.097 > 0.05$). In this case we cannot reject the null hypothesis H_0 . This study can conclude that the mean score of the relatedness of current job to major did not differ between the two groups, the theoretical ($M=2.18$, $SD=0.72$) and applied sciences ($M=2.39$, $SD=0.61$). This indicates that there are no significant differences between the two groups in relation to the relatedness of the current job to major (see Table 13).

2. Independent Samples Test Between ‘Location of Current Job’ & ‘Relatedness of Current Job to BA/BS Major’

To test if the graduates working locally and graduates working abroad vary on one numerical variable, which is the relatedness of current job to major, an independent samples t-test was performed. Before conducting the test, the study ensured that its first two assumptions are met, since the observations in this sample are independent (i.e. there are two different groups), and the dependent numerical variable (Relatedness of Current Job to Major) has a normal sampling distribution of the sampling mean since the sample size (n) is 120 which is greater than 30.

Table 16: Cross Tabulation for ‘Location of Current Job’ & ‘Relatedness of Current Job to BA/BS Major’

| | | | Relatedness of Current Job to Major | | | Total |
|-------------------------|---------|-------|-------------------------------------|--------------------|-----------------|--------|
| | | | Not Related At All | Somehow Related | Very Related | |
| Location of Current Job | Lebanon | Count | 6 | 25 | 22 | 53 |
| | | % | 5.0% | 20.8% | 18.3% | 44.2% |
| | Abroad | Count | 6 | 31 | 30 | 67 |
| | | % | 5.0% | 25.8% | 25.0% | 55.8% |
| Total | | Count | 12 | 56 | 52 | 120 |
| | | % | 10.0% | 46.7% | 43.3% | 100.0% |

Table 17: Group Statistics for Independent Samples Test Between ‘Location of Current Job’ & ‘Relatedness of Current Job to BA/BS Major’

| Location of Current Job | | N | Mean | Std. Deviation | Std. Error Mean |
|-------------------------------------|---------|----|------|----------------|-----------------|
| Relatedness of Current Job to Major | Lebanon | 53 | 2.30 | .668 | .092 |
| | Abroad | 67 | 2.36 | .644 | .079 |

There is only a small difference between the sample means of the two groups. Table 17 shows the sample mean=2.30 for the group of graduates working locally and the sample mean=2.36 for the group of graduates working abroad. The sample size n=53 for the group of graduates working locally and n=67 for the group of graduates working abroad. The size of each of the two samples is greater than 30. Thus, the normality assumption is not a concern anymore by the Central Limit Theorem (Agresti & Finlay 2009).

For the third assumption of homogeneity of variances (Table 18), the Levene’s Test for Equality of variances shows Sig.=0.93, which is greater than 0.05. Hence, the results of the Levene’s Test are not significant. Thus, this study can assume equal variances. The null hypothesis H_0 states that there is no significant difference between the two groups. The alternative hypothesis H_1 states that there is a significant difference between the two groups.

Table 18: Independent Samples Test Between ‘Location of Current Job’ & ‘Relatedness of Current Job to BA/BS Major’

| | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | |
|-------------------------------------|-----------------------------|---|------|------------------------------|---------|-----------------|-----------------|-----------------------|---|-------|
| | | F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference | |
| | | | | | | | | | Lower | Upper |
| Relatedness of Current Job to Major | Equal variances assumed | .008 | .930 | -.468 | 118 | .641 | -.056 | .120 | -.295 | .182 |
| | Equal variances not assumed | | | -.466 | 109.877 | .642 | -.056 | .121 | -.296 | .183 |

The results of the t-test for Equality of Means (Table 18) are ($t = -0.468$, $df = 118$, $p = 0.641 > 0.05$). In this case, this research cannot reject the null hypothesis H_0 . This study can conclude that the mean score of the relatedness of current job to major did not differ between the two groups, the group of graduates working locally ($M=2.30$, $SD=0.668$) and

the group of graduates working abroad ($M=2.36$, $SD=0.644$). This indicates that there is no significant difference between the two groups in relation to the relatedness of the current job to major (see Table 16).

3. Independent Samples Test between ‘Location of Current Job’ & ‘Monthly Salary’

To test if the graduates working locally and graduates working abroad vary on one numerical variable, which is monthly salary, an independent samples t-test was performed. Before conducting the test, this study made sure that its first two assumptions are met, since the observations in this sample are independent (i.e. there are two different groups), and the dependent numerical variable (monthly salary) has a normal sampling distribution of the sampling mean since the sample size (n) is 127, which is greater than 30.

Table 19: Cross Tabulation for ‘Location of Current Job’ & ‘Monthly Salary’

| | | | Location of Current Job | | Total |
|---------------------------|---------------------------|-------|-------------------------|--------|-------|
| | | | Lebanon | Abroad | |
| Monthly Salary | Less Than 1000\$ | Count | 3 | 3 | 6 |
| | | % | 2.4% | 2.4% | 4.7% |
| | Between 1000\$ and 2000\$ | Count | 10 | 1 | 11 |
| | | % | 7.9% | .8% | 8.7% |
| | Between 2000\$ and 3000\$ | Count | 13 | 3 | 16 |
| | | % | 10.2% | 2.4% | 12.6% |
| | Between 3000\$ and 4000\$ | Count | 16 | 10 | 26 |
| % | | 12.6% | 7.9% | 20.5% | |
| Between 4000\$ and 5000\$ | Count | 7 | 13 | 20 | |
| | % | 5.5% | 10.2% | 15.7% | |
| Greater than 5000\$ | Count | 6 | 42 | 48 | |
| | % | 4.7% | 33.1% | 37.8% | |
| Total | Count | 55 | 72 | 127 | |
| | % | 43.3% | 56.7% | 100.0% | |

Table 20: Group Statistics for Independent Samples Test Between ‘Location of Current Job’ & ‘Monthly Salary’

| Location of Current Job | | N | Mean | Std. Deviation | Std. Error Mean |
|-------------------------|---------|----|------|----------------|-----------------|
| Monthly Salary | Lebanon | 55 | 3.58 | 1.370 | .185 |
| | Abroad | 72 | 5.15 | 1.296 | .153 |

There is a small difference between the sample means of the two groups. Table 20 shows the sample mean=3.58 for the group of graduates working locally and the sample

mean=5.15 for the group of graduates working abroad. The sample size n=55 for the group of graduates working locally and n=72 for the group of graduates working abroad. The size of each of the two samples is greater than 30. So the normality assumption is not a concern anymore by the Central Limit Theorem (Agresti & Finlay 2009).

For the third assumption of homogeneity of variances (Table 21), the Levene’s Test for Equality of variances shows Sig.=0.318, which is greater than 0.05. So the results of the Levene’s Test are not significant. Thus this study can assume equal variances. The null hypothesis H_0 states that there is no significant difference between the two groups. The alternative hypothesis H_1 states that there is a significant difference between the two groups.

Table 21: Independent Samples Test Between ‘Location of Current Job’ & ‘Monthly Salary’

| | | Levene's Test for | | t-test for Equality of Means | | | | | | |
|----------------|-----------------------------|-----------------------|------|------------------------------|---------|-----------------|-----------------|-----------------------|---|--------|
| | | Equality of Variances | | t | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference | |
| | | F | Sig. | | | | | | Lower | Upper |
| Monthly Salary | Equal variances assumed | 1.004 | .318 | -6.602 | 125 | .000 | -1.571 | .238 | -2.042 | -1.100 |
| | Equal variances not assumed | | | -6.553 | 112.936 | .000 | -1.571 | .240 | -2.046 | -1.096 |

The results of the t-test for Equality of Means (Table 21) are ($t = -6.602$, $df = 125$, $p = 0.000 < 0.05$). In this case, this research can reject the null hypothesis H_0 . We can conclude that the mean score of the monthly salary did differ between the two groups, the group of graduates working locally ($M=3.58$, $SD=1.370$) and the group of graduates working abroad ($M=5.15$, $SD=1.296$). This indicates that there is a significant difference between the two groups in relation to the monthly salary (see Table 19).

4. Independent Samples Test between ‘Location of Current Job’ & ‘Satisfaction with Current Job’

To test if the graduates working locally and graduates working abroad vary on one numerical variable, which is satisfaction with current job, an independent samples t-test was performed. Before conducting the test, this study made sure that its first two assumptions are met, since the observations in this sample are independent (i.e. there are two different groups), and the dependent numerical variable (satisfaction with current job) has a normal sampling distribution of the sampling mean since the sample size (n) is 120 which is greater than 30.

Table 22: Cross Tabulation for ‘Location of Current Job’ & ‘Satisfaction with Current Job’

| | | Satisfaction with Current Job | | | Total | |
|-------------------------|---------|-------------------------------|-------------------|----------------|-------|--------|
| | | Not Satisfied At All | Somehow Satisfied | Very Satisfied | | |
| Location of Current Job | Lebanon | Count | 2 | 35 | 16 | 53 |
| | | % | 1.7% | 29.2% | 13.3% | 44.2% |
| | Abroad | Count | 3 | 29 | 35 | 67 |
| | | % | 2.5% | 24.2% | 29.2% | 55.8% |
| Total | | Count | 5 | 64 | 51 | 120 |
| | | % | 4.2% | 53.3% | 42.5% | 100.0% |

Table 23: Group Statistics for Independent Samples Test Between ‘Location of Current Job’ & ‘Satisfaction with Current Job’

| Location of Current Job | | N | Mean | Std. Deviation | Std. Error Mean |
|-------------------------------|---------|----|------|----------------|-----------------|
| Satisfaction with Current Job | Lebanon | 53 | 2.26 | .524 | .072 |
| | Abroad | 67 | 2.48 | .587 | .072 |

There is only a small difference between the sample means of the two groups. Table 23 shows the sample mean=2.26 for the group of graduates working locally and the sample mean=2.48 for the group of graduates working abroad. The sample size n=53 for the group of graduates working locally and n=67 for the group of graduates working abroad. The size

of each of the two samples is greater than 30. Thus, the normality assumption is not a concern anymore by the Central Limit Theorem (Agresti & Finlay 2009).

For the third assumption of homogeneity of variances (Table 24), the Levene’s Test for Equality of variances shows Sig.=0.021, which is less than 0.05. As such, the results of the Levene’s Test are significant. Thus, this study cannot assume equal variances. The null hypothesis H_0 states that there is no significant difference between the two groups. The alternative hypothesis H_1 states that there is a significant difference between the two groups.

Table 24: Independent Samples Test Between ‘Location of Current Job’ & ‘Satisfaction with Current Job’

| | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | |
|-------------------------------|-----------------------------|---|------|------------------------------|---------|-----------------|-----------------|-----------------------|---|-------|
| | | F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference | |
| | | | | | | | | | Lower | Upper |
| Satisfaction with Current Job | Equal variances assumed | 5.451 | .021 | -2.073 | 118 | .040 | -.213 | .103 | -.417 | -.010 |
| | Equal variances not assumed | | | -2.101 | 116.197 | .038 | -.213 | .102 | -.415 | -.012 |

The results of the t-test for Equality of Means (Table 24) are ($t = -2.101$, $df = 116.197$, $p = 0.038 < 0.05$). In this case, we can reject the null hypothesis H_0 and can conclude that the mean score of satisfaction with current job did differ between the two

groups, the group of graduates working locally ($M=2.26$, $SD=0.524$) and the group of graduates working abroad ($M=2.48$, $SD=0.587$). This indicates that there is a significant difference between the two groups in relation to the satisfaction with current job (see Table 22).

C. Goodman & Kruskal's Gamma Test

1. 'Relatedness of Current Job to BA/BS Major' & 'the Extent the Current Job Serves Graduates' Career Aspirations'

To test the association between the extent of education-job match and the extent to which the current job serves the graduates' career aspirations, a Goodman & Kruskal's gamma test was performed (Table 26). The test showed a significant moderate positive correlation between the two variables ($G=0.3$, $p=0.043$). In this case, the null hypothesis can be rejected. This means that in our sample the more the current job is related to the graduate's major the more it would be serving his/her career aspirations (see Table 25).

Table 25: Cross Tabulation for ‘Relatedness of Current Job to BA/BS Major’ & ‘the Extent the Current Job Serves Graduates’ Career Aspirations’

| | | | Relatedness of Current Job to Major | | | Total |
|---|------------|-------|-------------------------------------|-----------------|--------------|--------|
| | | | Not Related At All | Somehow Related | Very Related | |
| The Extent the Current Job Serves the Graduate's Career Aspirations | not at all | Count | 1 | 3 | 2 | 6 |
| | | % | .8% | 2.4% | 1.6% | 4.9% |
| | somehow | Count | 5 | 30 | 18 | 53 |
| | | % | 4.1% | 24.4% | 14.6% | 43.1% |
| | yes | Count | 5 | 25 | 34 | 64 |
| | absolutely | % | 4.1% | 20.3% | 27.6% | 52.0% |
| Total | | Count | 11 | 58 | 54 | 123 |
| | | % | 8.9% | 47.2% | 43.9% | 100.0% |

Table 26: Goodman & Kruskal’s Gamma Test for ‘Relatedness of Current Job to BA/BS Major’ & ‘The Extent the Current Job Serves Graduates’ Career Aspirations’

| | | Value | Asymp. Std. Error ^a | Approx. T ^b | Approx. Sig. |
|--------------------|-------|-------|--------------------------------|------------------------|--------------|
| Ordinal by Ordinal | Gamma | .300 | .142 | 2.028 | .043 |
| N of Valid Cases | | 123 | | | |

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

2. 'Relatedness of Current Job to BA/BS Major' & 'Monthly Salary'

To test the association between the extent of education-job match and monthly salary, a Goodman & Kruskal's gamma test was performed (Table 28). The test showed an insignificant correlation between the two variables ($G=0.041$, $p=0.735$). In this case, the null hypothesis cannot be rejected. This means that in our sample relatedness of the current job to major is not associated with salary. Thus, by occupying more matched job, the graduates' salary does not necessarily increase (see Table 27).

Table 27: Cross Tabulation for 'Relatedness of Current Job to BA/BS Major' & 'Monthly Salary'

| | | | Relatedness of Current Job to Major | | | Total |
|----------------|---------------------------|-------|-------------------------------------|-----------------|--------------|--------|
| | | | Not Related At All | Somehow Related | Very Related | |
| Monthly Salary | Less Than 1000\$ | Count | 1 | 4 | 1 | 6 |
| | | % | .8% | 3.4% | .8% | 5.0% |
| | Between 1000\$ and 2000\$ | Count | 2 | 5 | 4 | 11 |
| | | % | 1.7% | 4.2% | 3.4% | 9.2% |
| | Between 2000\$ and 3000\$ | Count | 2 | 3 | 9 | 14 |
| | | % | 1.7% | 2.5% | 7.6% | 11.8% |
| | Between 3000\$ and 4000\$ | Count | 1 | 12 | 11 | 24 |
| | | % | .8% | 10.1% | 9.2% | 20.2% |
| | Between 4000\$ and 5000\$ | Count | 2 | 10 | 7 | 19 |
| | | % | 1.7% | 8.4% | 5.9% | 16.0% |
| | Greater Than 5000\$ | Count | 4 | 21 | 20 | 45 |
| | | % | 3.4% | 17.6% | 16.8% | 37.8% |
| Total | | Count | 12 | 55 | 52 | 119 |
| | | % | 10.1% | 46.2% | 43.7% | 100.0% |

Table 28: Goodman & Kruskal's Gamma Test for 'Relatedness of Current Job to BA/BS Major' & 'Monthly Salary'

| | Value | Asymp. Std. Error ^a | Approx. T ^b | Approx. Sig. |
|-----------------------------|-------|--------------------------------|------------------------|--------------|
| Ordinal by Ordinal Gamma | .041 | .120 | .339 | .735 |
| N of Valid Cases | 119 | | | |

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

3. 'Highest Educational Attainment' & 'Monthly Salary'

To test the association between the extent of education-job match and monthly salary, a Goodman & Kruskal's gamma test was performed (Table 30). The test showed an insignificant correlation between the two variables ($G=-0.053$, $p=0.664$). In this case, the null hypothesis cannot be rejected. This means that in our sample salary is not related to highest educational attainment. As such, by attaining more education, the graduates' salary does not necessarily increase (see Table 29).

Table 29: Cross Tabulation for ‘Highest Educational Attainment’ & ‘Monthly Salary’

| | | | Highest Educational Attainment | | | Total |
|---------------------------|---------------------------|-------|--------------------------------|-------|--------|-------|
| | | | BA/BS | MA/MS | PhD | |
| Monthly Salary | Less Than 1000\$ | Count | 2 | 4 | 0 | 6 |
| | | % | 1.5% | 3.1% | .0% | 4.6% |
| | Between 1000\$ and 2000\$ | Count | 2 | 7 | 2 | 11 |
| | | % | 1.5% | 5.4% | 1.5% | 8.5% |
| | Between 2000\$ and 3000\$ | Count | 4 | 11 | 1 | 16 |
| | | % | 3.1% | 8.5% | .8% | 12.3% |
| | Between 3000\$ and 4000\$ | Count | 12 | 16 | 0 | 28 |
| % | | 9.2% | 12.3% | .0% | 21.5% | |
| Between 4000\$ and 5000\$ | Count | 7 | 11 | 2 | 20 | |
| | % | 5.4% | 8.5% | 1.5% | 15.4% | |
| Greater Than 5000\$ | Count | 16 | 30 | 3 | 49 | |
| | % | 12.3% | 23.1% | 2.3% | 37.7% | |
| Total | Count | 43 | 79 | 8 | 130 | |
| | % | 33.1% | 60.8% | 6.2% | 100.0% | |

Table 30: Goodman & Kruskal’s Gamma Test for ‘Highest Educational Attainment’ & ‘Monthly Salary’

| | | Value | Asymp. Std. Error ^a | Approx. T ^b | Approx. Sig. |
|--------------------|-------|-------|--------------------------------|------------------------|--------------|
| Ordinal by Ordinal | Gamma | -.053 | .121 | -.435 | .664 |
| N of Valid Cases | | 130 | | | |

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

The cross tabulation in Table 29 shows that graduates from all levels have salaries that are spread on all the salary categories (from less than 1000\$ to greater than 5000\$) regardless of their highest educational attainment, except for PhD graduates who do not get paid less than 1000\$.

4. 'Location of Current Job' & 'Monthly Salary'

To test the association between location of current job and monthly salary, a Goodman & Kruskal's gamma test was performed (Table 32). The test showed a significant strong positive correlation between the two variables ($G=0.71$, $p=0.000$). In this case the null hypothesis can be rejected. This means that in our sample, the more the graduate works abroad the higher the salary he/she earns (see Table 31).

Table 31: Cross Tabulation for ‘Location of Current Job’ & ‘Monthly Salary’

| | | | Location of Current Job | | Total |
|---------------------------|---------------------------|-------|-------------------------|--------|-------|
| | | | Lebanon | Abroad | |
| Monthly Salary | Less Than 1000\$ | Count | 3 | 3 | 6 |
| | | % | 2.4% | 2.4% | 4.7% |
| | Between 1000\$ and 2000\$ | Count | 10 | 1 | 11 |
| | | % | 7.9% | .8% | 8.7% |
| | Between 2000\$ and 3000\$ | Count | 13 | 3 | 16 |
| | | % | 10.2% | 2.4% | 12.6% |
| | Between 3000\$ and 4000\$ | Count | 16 | 10 | 26 |
| % | | 12.6% | 7.9% | 20.5% | |
| Between 4000\$ and 5000\$ | Count | 7 | 13 | 20 | |
| | % | 5.5% | 10.2% | 15.7% | |
| Greater Than 5000\$ | Count | 6 | 42 | 48 | |
| | % | 4.7% | 33.1% | 37.8% | |
| Total | Count | 55 | 72 | 127 | |
| | % | 43.3% | 56.7% | 100.0% | |

Table 32: Goodman & Kruskal’s Gamma Test for ‘Location of Current Job’ & ‘Monthly Salary’

| | | Value | Asymp. Std. Error ^a | Approx. T ^b | Approx. Sig. |
|--------------------|-------|-------|--------------------------------|------------------------|--------------|
| Ordinal by Ordinal | Gamma | .710 | .077 | 7.710 | .000 |
| N of Valid Cases | | 127 | | | |

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

5. ‘Satisfaction with Current Job’ and ‘Location of Current Job’

To test the association between location of the current job and satisfaction with current job, a Goodman & Kruskal’s gamma test was performed (Table 34). The test showed a significant moderate positive correlation between the two variables ($G=0.374$, $p=0.022$). In this case, the null hypothesis can be rejected. This means, that in our sample, the more the graduate works abroad, the more he/she is satisfied with the job (see Table 33).

Table 33: Cross Tabulation for ‘Satisfaction with Current Job’ & ‘Location of Current Job’

| | | | Location of Current Job | | Total |
|-------------------------------|----------------------|------------|-------------------------|-------------|---------------|
| | | | Lebanon | Abroad | |
| Satisfaction with Current Job | Not Satisfied At All | Count % | 2 1.7% | 3 2.5% | 5 4.2% |
| | Somehow Satisfied | Count % | 35 29.2% | 29 24.2% | 64 53.3% |
| | Very Satisfied | Count % | 16 13.3% | 35 29.2% | 51 42.5% |
| Total | | Count % | 53 44.2% | 67 55.8% | 120 100.0% |

Table 34: Goodman & Kruskal's Gamma Test for 'Satisfaction with Current Job' & 'Location of Current Job'

| | | Value | Asymp. Std. Error ^a | Approx. T ^b | Approx. Sig. |
|--------------------|-------|-------|--------------------------------|------------------------|--------------|
| Ordinal by Ordinal | Gamma | .374 | .153 | 2.285 | .022 |
| N of Valid Cases | | 120 | | | |

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

D. Current Career Status of the Graduates

To analyze the current career status of the graduates, the following research questions were answered:

1. What are the graduates' reasons for taking up their current jobs?

According to Table 35, the main reason behind graduates occupying their current jobs lies in their desire to serve their career aspirations (57.42% of the graduates). The other reasons include high salaries (34.84% of the graduates), the absence of other opportunities (10.32% of the graduates), and closeness to their residences (9.68% of the graduates).

- For architecture graduates, the main reason for taking up their current jobs is that these jobs serve their career aspirations.
- For the business, economics and engineering graduates, the main reasons for taking up their jobs are that their jobs serve their career aspirations and pay high salaries.
- For political science graduates, the main reason for occupying their current jobs is that they serve their career aspirations. The other reasons are that these occupations

pay well, the jobs are close to their residences and the absence of other opportunities.

- For the sociology/anthropology graduates the only reason for taking up their current jobs is that they serve their career aspirations.
- For the respondents who mentioned other reasons for choosing their current jobs, these reasons included that these jobs are family businesses, are safe, or are opportunities to change previous career tracks.

Table 35: Reasons for Taking up Current Job (Up to two Reasons Possible)

| Major | It pays well (high salary) | It serves my career aspirations | It is close to my residence | Other opportunities aren't available |
|--------------------|-----------------------------------|--|------------------------------------|---|
| Architecture | 2 | 7 | 1 | 1 |
| Business | 17 | 22 | 6 | 4 |
| Economics | 10 | 15 | 1 | 3 |
| Engineering | 22 | 35 | 4 | 6 |
| Political Science | 3 | 5 | 3 | 2 |
| Sociology/Anthrop. | | 5 | | |
| Total | 54 | 89 | 15 | 16 |
| | 34.84% | 57.42% | 9.68% | 10.32% |

Table 36: Cross Tabulation for ‘Relatedness of Current Job to BA/BS Major’ & ‘Major’

| | | Relatedness of Current Job to Major | | | Total |
|--------------------|-------|-------------------------------------|-----------------|--------------|--------|
| | | Not Related At All | Somehow Related | Very Related | |
| Major Architecture | Count | 0 | 3 | 6 | 9 |
| | % | .0% | 2.4% | 4.8% | 7.1% |
| Business | Count | 2 | 12 | 17 | 31 |
| | % | 1.6% | 9.5% | 13.5% | 24.6% |
| Economics | Count | 3 | 10 | 6 | 19 |
| | % | 2.4% | 7.9% | 4.8% | 15.1% |
| Engineering | Count | 4 | 29 | 19 | 52 |
| | % | 3.2% | 23.0% | 15.1% | 41.3% |
| Political Science | Count | 3 | 4 | 3 | 10 |
| | % | 2.4% | 3.2% | 2.4% | 7.9% |
| Sociology/Anthrop. | Count | 0 | 2 | 3 | 5 |
| | % | .0% | 1.6% | 2.4% | 4.0% |
| Total | Count | 12 | 60 | 54 | 126 |
| | % | 9.5% | 47.6% | 42.9% | 100.0% |

2. How do the graduates rate the extent of relatedness of their current jobs to their majors?

According to Table 36, 47.6% of the graduates find their current jobs somehow related to their majors, 42.9% find them very related and 9.5% find them not related at all.

For those who consider themselves in jobs that are not related at all to their majors (12 graduates), their main reasons for taking these jobs are the following: that they pay high

salaries (6 graduates), they serve their career aspirations (4 graduates), an absence of other opportunities (3 graduates) and being close to their residence (1 graduate).

A note here is that the four graduates who work in jobs not related to their majors took their current jobs because these occupations do serve their career aspirations. As such, their career aspirations are different than their undergraduate fields of study.

3. How do the graduates rate the extent of satisfaction with their current jobs?

According to Table 37, 53.2% of the graduates are somehow satisfied with their current jobs, 41.9% are very satisfied and 4.8% are not satisfied at all (the respondents for this last category pursued majors in architecture, business and engineering majors only). Business and political science graduates seemed to be more somehow satisfied than very satisfied. Those who are very satisfied with their jobs mentioned the main reasons for their satisfaction as the following: that they consider themselves performing challenging work that is helping their growth, they are able to see the impact of their work, they are getting paid well or they simply are doing what they love.

For those who are not satisfied at all or somehow satisfied with their jobs and daily duties, the reasons they mentioned are summarized in table 38.

Table 37: Cross Tabulation for ‘Satisfaction with Current Job’ & ‘Major’

| | | | Satisfaction with Current Job | | | Total |
|-------|--------------------|-------|-------------------------------|-------------------|----------------|--------|
| | | | Not Satisfied At All | Somehow Satisfied | Very Satisfied | |
| Major | Architecture | Count | 1 | 4 | 4 | 9 |
| | | % | .8% | 3.2% | 3.2% | 7.3% |
| | Business | Count | 1 | 24 | 6 | 31 |
| | | % | .8% | 19.4% | 4.8% | 25.0% |
| | Economics | Count | 0 | 9 | 10 | 19 |
| | | % | .0% | 7.3% | 8.1% | 15.3% |
| | Engineering | Count | 4 | 20 | 26 | 50 |
| | | % | 3.2% | 16.1% | 21.0% | 40.3% |
| | Political Science | Count | 0 | 7 | 3 | 10 |
| | | % | .0% | 5.6% | 2.4% | 8.1% |
| | Sociology/Anthrop. | Count | 0 | 2 | 3 | 5 |
| | | % | .0% | 1.6% | 2.4% | 4.0% |
| Total | | Count | 6 | 66 | 52 | 124 |
| | | % | 4.8% | 53.2% | 41.9% | 100.0% |

Table 38: Graduates’ Reasons for Being “Somehow Satisfied” to “Not Satisfied At All” With Their Jobs and Daily Job Duties

| Major | Reasons for Dissatisfaction with the Job | Reasons for Dissatisfaction with Daily Job Duties |
|--------------------|--|---|
| Architecture | <ul style="list-style-type: none"> ▪ Working in Lebanon with political insecurity, weak economy and lack of opportunities | <ul style="list-style-type: none"> ▪ Producing more than getting paid (underpayment) ▪ A considerable load of administrative work that takes time away from the main work |
| Business | <ul style="list-style-type: none"> ▪ The work is not challenging enough ▪ No chance of career advancement ▪ Life-work balance is hard to achieve due to a lot of traveling ▪ Low payment | <ul style="list-style-type: none"> ▪ Very tactical jobs. There is a need for higher level tasks ▪ Routine work ▪ Very demanding |
| Economics | <ul style="list-style-type: none"> ▪ Ability to make an impact is limited. There is a need to be doing something more meaningful. | <ul style="list-style-type: none"> ▪ Repetitive work that lacks meaning |
| Engineering | <ul style="list-style-type: none"> ▪ Lebanese and Arab market being immature and very difficult. The work being too technical. ▪ Low payment ▪ Some tasks can be easily performed by less experienced individuals ▪ Work-life balance being hard to achieve with a lot of responsibilities | <ul style="list-style-type: none"> ▪ Routine work and learning decreases overtime ▪ Non-innovative work and absence of progress ▪ Not challenging enough ▪ A lot of administrative work that deters from the big picture ▪ A lot of bureaucracy in large international companies that slows down the pace of work and growth of the business |
| Political science | <ul style="list-style-type: none"> ▪ Because it’s a part-time job ▪ Payment is low. | <ul style="list-style-type: none"> ▪ Daily routine leads to burnout sometimes ▪ Sometimes the work produced is not used by anyone to benefit from it |
| Sociology/Anthrop. | <ul style="list-style-type: none"> ▪ No other opportunities are available | <ul style="list-style-type: none"> ▪ Tedious tasks sometimes diverge from the main tasks |

Table 39: Respondents' Ratings of their Satisfaction with Daily Job Duties

| | Frequency | Valid Percent |
|----------------------|-----------|---------------|
| Not Satisfied At All | 6 | 4.8 |
| Somehow Satisfied | 69 | 55.6 |
| Very Satisfied | 49 | 39.5 |
| Total | 124 | 100.0 |
| No Answer | 31 | |
| Total | 155 | |

4. How do the graduates rate the extent of satisfaction with their daily job duties?

According to Table 39, 55.6% of the graduates are somehow satisfied, 39.5% are very satisfied and 4.8% are not satisfied at all. Expectedly, those who are not satisfied with their daily duties tend to be not satisfied with their current jobs.

5. Do the current jobs of the graduates serve their career aspirations?

According to Table 40, 52% of the graduates consider their current jobs to absolutely serve their career aspirations, 43.1% of the graduates consider them to somehow serve their career aspirations and 4.9% of the graduates consider them as not serving their career aspirations at all. Also according to this table, all sociology/anthropology graduates in this sample are working in jobs that absolutely serve their career aspirations.

Table 40: Cross Tabulation for ‘The Extent the Current Job Serves Graduates’ Career Aspirations’& ‘Major’

| | | | The Extent the Current Job Serves the Graduates' Career Aspirations | | | Total |
|-------|--------------------|-------|---|---------|----------------|--------|
| | | | Not At All | Somehow | Yes Absolutely | |
| Major | Architecture | Count | 2 | 2 | 5 | 9 |
| | | % | 1.6% | 1.6% | 4.1% | 7.3% |
| | Business | Count | 2 | 16 | 13 | 31 |
| | | % | 1.6% | 13.0% | 10.6% | 25.2% |
| | Economics | Count | 0 | 7 | 12 | 19 |
| | | % | .0% | 5.7% | 9.8% | 15.4% |
| | Engineering | Count | 2 | 22 | 25 | 49 |
| | | % | 1.6% | 17.9% | 20.3% | 39.8% |
| | Political Science | Count | 0 | 6 | 4 | 10 |
| | | % | .0% | 4.9% | 3.3% | 8.1% |
| | Sociology/Anthrop. | Count | 0 | 0 | 5 | 5 |
| | | % | .0% | .0% | 4.1% | 4.1% |
| Total | | Count | 6 | 53 | 64 | 123 |
| | | % | 4.9% | 43.1% | 52.0% | 100.0% |

6. What are the graduates doing to reach their career aspirations?

According to the analysis of the answers to the open-ended questions, graduates mentioned the following strategies that they engage in to reach their career aspirations. These strategies include pursuing their graduate studies, maintaining continuous development and learning, attaining more certifications, networking, seeking other opportunities abroad and in multinational companies, working hard, starting their own businesses, and accumulating experience in their fields and in other fields.

E. Academic Status of the Graduates

For analyzing the academic status of the graduates the following research questions were answered:

1. How many graduates have continued their studies and earned a master's degree or PhD?

According to Table 41, 60.4% of the graduates earned a master's degree and 5.8% earned a PhD. Mainly engineering (23.4%), economics (13%) and business (11%) graduates had the highest percentages in pursuing their master's degrees. One graduate (0.6%) from each of the following majors, architecture, economics and political science, earned a PhD and 6 graduates (3.9%) from within the field of engineering.

Table 41: Cross Tabulation for ‘Highest Educational Attainment’ & ‘Major’

| | | | Highest Educational Attainment | | | Total |
|-------|------------------------|-------|--------------------------------|-------|------|--------|
| | | | BA/BS | MA/MS | PhD | |
| Major | Architecture | Count | 4 | 6 | 1 | 11 |
| | | % | 2.6% | 3.9% | .6% | 7.1% |
| | Business | Count | 20 | 17 | 0 | 37 |
| | | % | 13.0% | 11.0% | .0% | 24.0% |
| | Economics | Count | 4 | 20 | 1 | 25 |
| | | % | 2.6% | 13.0% | .6% | 16.2% |
| | Engineering | Count | 20 | 36 | 6 | 62 |
| | | % | 13.0% | 23.4% | 3.9% | 40.3% |
| | Political Science | Count | 2 | 10 | 1 | 13 |
| | | % | 1.3% | 6.5% | .6% | 8.4% |
| | Sociology/Anthropology | Count | 2 | 4 | 0 | 6 |
| | | % | 1.3% | 2.6% | .0% | 3.9% |
| Total | | Count | 52 | 93 | 9 | 154 |
| | | % | 33.8% | 60.4% | 5.8% | 100.0% |

2. Did the graduates pursue their graduate studies in the same fields of their bachelor degrees or in some other fields?

Architecture graduates who pursued their graduate studies specialized in either architecture, engineering, economics or political science. Business graduates who pursued their graduate studies mainly specialized in business. While one business graduate earned her MA in political science. Most economics graduates continued their graduate studies in economics or business, while most engineering graduates pursued their graduate studies in engineering or business. Only one engineering graduate pursued graduate studies in

economics. Political science graduates continued their graduate studies in political science only. Similarly, sociology/anthropology graduates continued their graduate studies in either sociology/anthropology, political science or architecture.

3. For those graduates who pursued their graduate studies in fields different than their bachelor degrees' fields, in which fields are they currently working?

According to the analysis of the answers to the open-ended questions of the survey, graduates who pursued their graduate studies in fields different than their bachelor degrees' fields mainly work in positions that join both their undergraduate and graduate fields. For instance, a business graduate who attained an MA in political science now works as a senior human security officer, and a sociology/anthropology graduate with an MA in architecture works as an urban researcher.

Table 42: Reasons for Choosing BA/BS Major (Up to two Reasons Possible)

| Major | I liked studying it | I liked working in it | My parents suggested it for me | It was highly demanded in the labor market |
|--------------------|----------------------------|------------------------------|---------------------------------------|---|
| Architecture | 7 | 5 | 4 | 1 |
| Business | 11 | 19 | 9 | 22 |
| Economics | 17 | 10 | 8 | 3 |
| Engineering | 32 | 21 | 10 | 28 |
| Political Science | 12 | 8 | 1 | |
| Sociology/Anthrop. | 6 | 3 | | |
| Total | 85 | 66 | 32 | 54 |
| | 54.83% | 42.58% | 20.65% | 34.84% |

4. What are the graduates' reasons for choosing BA/BS majors?

According to Table 42, the graduates selected the below reasons for choosing their undergraduate majors:

- They like studying it (54.83% of the graduates).
- They like working in it (42.58% of the graduates).
- The major is highly demanded in the labor market (34.84% of the graduates).
- Their parents suggested it for them (20.65% of the graduates).

For the architecture graduates, the main two reasons for choosing their major are that they like studying it and working in it. For the engineering graduates, the main two reasons are that they like studying it and that it is highly demanded in the labor market. For the business graduates, the main two reasons are that it is highly demanded in the labor market, and they like studying it. For the sociology/anthropology, political science and economics graduates the only two reasons are that they like studying these majors and like working in them.

Respondents also mentioned reasons other than those specified in the multiple choice answers. Their reasons included mainly that they chose their majors because they did not know any better, thought it was interesting, or because they were not accepted in their first choice majors.

Table 43: Cross Tabulation for ‘Helpfulness of Bachelor Degree in Reaching Current Career Status’& ‘Major’

| | | | Helpfulness of Bachelor Degree in Reaching Current Career Status | | | Total |
|-------|--------------------|-------|--|------------------|--------------|--------|
| | | | Not Helpful At All | Somewhat Helpful | Very Helpful | |
| Major | Architecture | Count | 0 | 2 | 7 | 9 |
| | | % | .0% | 1.6% | 5.6% | 7.3% |
| | Business | Count | 1 | 13 | 15 | 29 |
| | | % | .8% | 10.5% | 12.1% | 23.4% |
| | Economics | Count | 4 | 12 | 4 | 20 |
| | | % | 3.2% | 9.7% | 3.2% | 16.1% |
| | Engineering | Count | 1 | 26 | 25 | 52 |
| | | % | .8% | 21.0% | 20.2% | 41.9% |
| | Political Science | Count | 3 | 4 | 2 | 9 |
| | | % | 2.4% | 3.2% | 1.6% | 7.3% |
| | Sociology/Anthrop. | Count | 0 | 3 | 2 | 5 |
| | | % | .0% | 2.4% | 1.6% | 4.0% |
| Total | | Count | 9 | 60 | 55 | 124 |
| | | % | 7.3% | 48.4% | 44.4% | 100.0% |

5. How effective were the bachelor degrees in helping the graduates reach their current career statuses?

According to Table 43, 44.4% of the graduates found their bachelor degrees to be very helpful in reaching their current career statuses, 48.4% found them somewhat helpful and only 7.3% found them not helpful at all.

Mainly only a few graduates from the economics and political science majors did not find their degrees helpful in reaching their current career status. According to the analysis of the answers to the open-ended questions, economics graduates explained that the economics department at AUB during their undergraduate years was still weak in the content of its courses, professors and exams. To be more specific, problems included the absence of core courses like Finance 210, unqualified professors that were not interested in the material they taught, courses and exam methods that were outdated, and the absence of support for graduates to understand the job market after graduation. Political science graduates mentioned that their degrees have taught them general knowledge that they do not use in their current jobs.

For the graduates who found their degrees somewhat helpful in reaching their current career status:

- Two architecture graduates found their degrees somewhat helpful in reaching their current career status. Only one of these graduates mentioned the reason for his evaluation. This reason was that the degree was “good as a generalist degree”.
- Thirteen business graduates found their degrees somewhat helpful in reaching their current career status. Four of these 13 graduates mentioned the reasons for their evaluation. These reasons included mainly that their degrees served them to get their first jobs in the market. They provided minimum knowledge to what really is out there in the labor market. And that their bachelor degrees were the basis for their master’s degrees.

- Twelve economics graduates found their degrees somewhat helpful in reaching their current career status. Seven out of these 12 graduates mentioned the reasons for their evaluation. These reasons included mainly that the degree was the basis for graduate studies. It opened the way for good opportunities. It helped create social networks and provided good understanding of the global markets. One graduate said that it didn't strengthen his writing skills but provided good work opportunities. One graduate mentioned that a master's degree was a necessity to start a career in economics. And two graduates said that it provided them with useful theoretical knowledge.
- Twenty-six engineering graduates found their degrees somewhat helpful in reaching their current career status. Thirteen of these 26 graduates mentioned the reasons for their evaluation. These reasons included mainly that the degree taught them the way of thinking strategically and systematically. They said that an engineering degree from AUB opens the way to job opportunities in the market locally and internationally. They suggested that AUB should work more on accreditation to be recognized more in the international market so that not to remain perceived as just any other university abroad. They also said it prepared them for graduate studies not for work because the program included more theories and outdated information when it should have included data on tools.
- Four political science graduates found their degrees somewhat helpful in reaching their current career status. Three of these four graduates mentioned the reasons for their evaluation. These reasons included mainly that their degrees served as a

requirement for graduate school. However, they weren't effective in teaching research methods and writing papers.

- Three sociology/anthropology graduates found their degrees somewhat helpful in reaching their current career status. Two out of these three graduates mentioned the reasons for their evaluation. These reasons included mainly that the degree was not specialized nor specific which affected credibility in the eyes of their colleagues and employers but encouraged thinking outside the box.

For those who found their degrees very helpful in reaching their current career status:

- Seven architecture graduates found their degrees very helpful in reaching their current career status. Five of these seven graduates mentioned the reasons for their evaluations. These reasons included that this major taught important tools, and AUB's name helped them attain the job.
- Fifteen business graduates found their degrees very helpful in reaching their current career status. Eight out of these 15 graduates mentioned the reasons for their evaluation. These reasons included the fact that AUB's reputation helped them attain the jobs and receive acceptance into graduate schools.
- Four economics graduates found their degrees very helpful in reaching their current career status. Two of these four graduates mentioned the reasons for their evaluation. These reasons included that the program was built well theoretically and that the professors were adequate.
- Twenty-five engineering graduates found their degrees very helpful in reaching their current career status. Eighteen of these 25 graduates mentioned the reasons for

their evaluation. These reasons included that AUB's reputation helped them attain jobs locally and internationally and to pursue graduate studies, especially that the degree provided them with a solid analytical and technical basis for a career. They praised AUB's culture and spirit for finding solutions for problems, the connections among AUB students and the correct mindset AUB provides.

- Two political science graduates found their degrees very helpful in reaching their current career status. They both mentioned the reasons for their evaluation. One graduate said that the degree strengthened her research, writing and analytical skills. The other graduate said that his degree was the first step towards reaching his career aspirations.
- Two sociology/anthropology graduates found their degrees very helpful in reaching their current career status. Only one of these graduates mentioned the reason for her evaluation. This reason was that the degree provided all the necessary skills for a career in academia, including research methods, critical thinking, writing and theories.

In general, most of the graduates found their undergraduate degrees to be somewhat to very helpful in reaching their current career statuses. They specified the main reason they found their degrees were helpful because they provided them with good push to get into the labor market.

Table 44: Cross Tabulation for ‘Satisfaction with Undergraduate Program’ & ‘Major’

| | | | Satisfaction with Undergraduate Program | | | Total |
|-------|--------------------|-------|---|-------------------|----------------|--------|
| | | | Not Satisfied At All | Somehow Satisfied | Very Satisfied | |
| Major | Architecture | Count | 0 | 3 | 5 | 8 |
| | | % | .0% | 2.4% | 4.1% | 6.5% |
| | Business | Count | 0 | 15 | 14 | 29 |
| | | % | .0% | 12.2% | 11.4% | 23.6% |
| | Economics | Count | 3 | 10 | 7 | 20 |
| | | % | 2.4% | 8.1% | 5.7% | 16.3% |
| | Engineering | Count | 8 | 14 | 31 | 53 |
| | | % | 6.5% | 11.4% | 25.2% | 43.1% |
| | Political Science | Count | 1 | 6 | 2 | 9 |
| | | % | .8% | 4.9% | 1.6% | 7.3% |
| | Sociology/Anthrop. | Count | 0 | 2 | 2 | 4 |
| | | % | .0% | 1.6% | 1.6% | 3.3% |
| Total | | Count | 12 | 50 | 61 | 123 |
| | | % | 9.8% | 40.7% | 49.6% | 100.0% |

6. How satisfied are the graduates with the undergraduate programs they pursued at AUB?

Table 44 shows that most of the respondents (49.6%) are very satisfied with the BA programs, while 40.7% are somehow satisfied. Only 9.8% are not satisfied at all. None of the graduates of architecture, business and sociology/anthropology majors reported dissatisfaction with their programs. Those within the economics, engineering and political

science programs who reported dissatisfaction were only a few among the others who reported being somehow to very satisfied with the undergraduate programs they studied at AUB.

In general and according to the analysis of the answers to the open-ended questions, out of the 86 graduates who offered suggestions to improve the undergraduate programs based on their work experience, 54 graduates from both theoretical and applied sciences insisted on the need for a more practical orientation to the programs to match the needs of the labor market.

Table 45: Cross Tabulation for ‘Effectiveness of the Undergraduate Program in Preparing for Graduate Studies’ & ‘Major’

| | | | Effectiveness of the Undergraduate Program in Preparing for Graduate Studies | | | Total |
|-------|--------------------|-------|--|--------------|-----------|--------|
| | | | Not Well At All | Somehow Well | Very Well | |
| Major | Architecture | Count | 0 | 2 | 5 | 7 |
| | | % | .0% | 2.0% | 4.9% | 6.9% |
| | Business | Count | 1 | 10 | 11 | 22 |
| | | % | 1.0% | 9.8% | 10.8% | 21.6% |
| | Economics | Count | 2 | 6 | 11 | 19 |
| | | % | 2.0% | 5.9% | 10.8% | 18.6% |
| | Engineering | Count | 6 | 12 | 24 | 42 |
| | | % | 5.9% | 11.8% | 23.5% | 41.2% |
| | Political Science | Count | 1 | 4 | 3 | 8 |
| | | % | 1.0% | 3.9% | 2.9% | 7.8% |
| | Sociology/Anthrop. | Count | 0 | 2 | 2 | 4 |
| | | % | .0% | 2.0% | 2.0% | 3.9% |
| Total | | Count | 10 | 36 | 56 | 102 |
| | | % | 9.8% | 35.3% | 54.9% | 100.0% |

7. How well did the undergraduate programs prepare the graduates for graduate studies?

Table 45 shows that most of the graduates (54.9%) consider their bachelor degrees to have prepared them very well for graduate studies, 35.3% consider them to have prepared them somehow well, and only 9.8% consider that they did not prepare them well at all. This last category does not include any architecture or sociology/anthropology graduates.

Chapter VI

DISCUSSION

This chapter discusses the results of the present study in light of this study's hypotheses and in light of the theories that dealt with this relationship and in light of the previous tracer studies conducted on the relationship between education and work.

A. Comparison of the Results to the Study's Hypotheses

This study's first claim suggested that theoretical sciences' graduates tend to work more in jobs not directly related to their fields of study than applied sciences' graduates. This claim was tested by means of the independent samples t-test, using the two groups in this sample (the theoretical and applied sciences groups) and the scoring of these groups on the extent to which they considered their current jobs to be related to their undergraduate degrees.

The results of this test showed that these two groups do not differ from each other with respect to the relatedness of their current jobs to their undergraduate degrees. This shows that our first claim was not supported by the results of our sample. Both theoretical and applied sciences graduates perform similarly in the labor market in this aspect. This might be the case because AUB prepares all its graduates well for the local labor market, as well as the international market, which provides more opportunities for all the majors within theoretical and applied sciences.

The second claim of this study was that finding employment within jobs that are related to graduates' degrees tend to take place more frequently among graduates working abroad than among graduates working in Lebanon. An independent samples t-test was performed to test if the two groups (graduates working in Lebanon and graduates working abroad) differ from each other on their scoring on the relatedness of current job to major. The results of the test showed that there are no significant difference between graduates working in Lebanon and graduates working abroad with respect to the relatedness of their current jobs to their majors. Thus, the results of this study's sample refuted our second claim. These results reveal that the labor market, whether local or abroad, does not have an effect on AUB graduates' ability to attain jobs that match with their degrees.

The third claim of this study suggested that the more the individual works in a job related to his/her field of study the more the job would serve his/her career aspirations. This claim was tested on this sample by conducting an association test between the graduates' rating on the extent of relatedness of their current jobs to their undergraduate degrees with their rating on the level they consider their jobs to be serving their career aspirations. The results of this test showed that the more the current job is related to the graduate's degree, the more it will serve the graduate's career aspirations. The third claim was supported by the results of our sample. This claim can be justified by the fact that when the graduates are on jobs that match their qualifications, their work would be a process that includes building up of skills and knowledge that ensures a life-long career for them.

B. Application of Theories on the Collected Data

This section discusses how theories that deal with the relationship of education and work can apply on our sample of graduates.

The Human Capital Theory expects salaries to increase with the attainment of more educational credentials. The association test that was implemented on highest educational attainment and salary showed an absence of a relationship between the two variables. In our sample, the salary ranges were spread over all graduates regardless of their highest educational attainment. In this case, the Human Capital Theory cannot be considered to apply to graduates in our sample. The salary not getting affected by the level of education can be interpreted by the fact that all graduates in our sample have the minimum requirements for working in the labor market. These requirements were enough for them to secure decent salaries. Any additional education attained did not have much effect on their salaries.

The Matching Theory assumes that graduates who are able to find jobs that match their qualifications get paid higher than graduates who are on mismatched jobs. This assumption is based on the fact that individuals on matched jobs tend to be more efficient in performing their job duties and accordingly deserve good payment. Using our sample of graduates, a lack of association was found between the relatedness of graduates' current jobs to their majors and their monthly incomes. This can be attributed to the rigidities of the labor market and according to where the graduates are placed in the labor market.

Job-Competition Theory expects that with the present competition in the Lebanese labor market, the more highly educated might end up working at low paid jobs as highly

paid jobs would already be occupied. In our sample, this is the case of graduates who work in Lebanon. Graduates who work in Lebanon face limitations of the local labor market, while graduates who work abroad are able to free themselves from these constraints. Among our sample of graduates, a strong positive association was found between salary and graduates' location of work (local or abroad). This indicates that graduates working locally get paid much lower than graduates working abroad. In this case, the Job-Competition Theory can be said to apply on graduates who work in the Lebanese labor market. However, it is worth mentioning that although salaries might be higher abroad than in Lebanon, the living standards might be also higher, which could compromise the high range of salary earned there.

Credentialism Theory assumes that with more education a person can attain higher position in the labor market but not necessarily a complicated one because job duties have become easier with the advance of technology. In our sample, the graduates who considered themselves 'somehow' to 'not at all satisfied' with their jobs indicated that the main reasons behind their dissatisfaction included the following: that their jobs had duties that were not challenging enough, that were repetitive and that required a lot of administrative work, although many of these graduates occupied high positions and were paid high salaries. In this case, Credentialism Theory can be considered to apply on our sample of graduates who are 'somehow' to 'not at all' satisfied with their current jobs and who complained about their job duties.

C. Comparison of the Results with Earlier Tracer Studies

This thesis aimed to study the relationship between higher educational degree and work amongst university graduates with the belief that universities are the main producers of qualified graduates for the labor market and with the belief that the more these graduates work in their fields of study, the more they would achieve their career aspirations and the more universities would perform their roles effectively. For this purpose, this study targeted, through an online survey, graduates from the American University of Beirut from the architecture, business, economics, engineering, political science and sociology/anthropology majors and who have graduated between the years 2006 and 2010, inclusively.

The survey collected an adequate sample of 155 respondents. The sample included both male and female respondents, almost equal in numbers. More than half of the graduates in the sample continued their graduate studies, except for 33.8% of them. Most of the graduates were employed during the time of the survey. The sample included graduates from different nationalities, but the majority (75.8%) were Lebanese. More than half of these Lebanese graduates worked abroad. Also, most of the non-Lebanese graduates worked abroad, except for a small portion who worked in Lebanon (mainly Americans).

Of the graduates, 88.9% were employed and 2.8% of them were not looking for a job. The unemployment rate reached 8.6% among the graduates of this sample. This rate is higher than the unemployment rate (6%) in the last tracer study that was done on graduates from AUB, USJ, BAU and LU from 1995 until 2005 (Chaaban et al., 2009). The increase in the unemployment rate among AUB graduates can be attributed to the slump in oil prices

that affected the budget of the Gulf countries. These countries, which used to rely heavily on migrant workers, had to minimize the number of these workers with the impact of the oil crises. In addition, with the Arab uprising and the sectarian tensions that became associated with it, recruitment of Lebanese workers to Arab countries was affected, where certain sects were welcome than others. Thus, the increase in unemployment rate among AUB graduates can be explained by the economic and political challenges that have hindered the surrounding Arab countries, which absorbed Lebanese migrant workers.

Abdul-Reda's study (2003) showed that graduates from upper-class universities, AUB, LAU and USJ, have better opportunities in the labor market. This study, through the analysis of the open-ended questions, showed that AUB graduates confirm that having graduated from AUB was a powerful push into the labor market. The respondents attributed this to AUB's academic reputation, one that is well-known locally and internationally.

On the other hand, Abdul-Reda's study (2003) showed that applied sciences majors served their graduates better in the labor market than theoretical sciences majors. Results of the present study showed that AUB graduates from both theoretical and applied sciences perform well in the labor market. This difference in results between the two studies can be attributed to the fact that graduates from elite universities of any major, whether theoretical or applied sciences, enjoy better opportunities in the labor market than graduates from other universities in Lebanon.

Moussawi's study (2015) that targeted graduates of the faculty of social sciences in the Lebanese University showed that these graduates had high rates of mismatch between the work they performed and the degrees they earned. However, results of the present study

showed that graduates of social sciences from AUB (political science and sociology/anthropology) work in jobs that match with their degrees, and cases of mismatch are very rare among them. This can be attributed to AUB's efforts to prepare graduates for the local and international labor markets, in addition to its large network within the labor market, which allows it to guide its graduates to the available work opportunities. While the Lebanese university prepares graduates mainly for the local market, and the local market is already saturated where hiring in governmental posts have been on decrease since 1996 (Nahas 2009).

The results of this study, with respect to emigration of the graduates, conform to the results of Badre's study (2015) on the determinants of emigration of the highly skilled from Lebanon. Badre's sample included graduates from the Lebanese American University (LAU), an elite university in Lebanon with an educational system similar to that of AUB. In Badre's study, half of the graduates from LAU emigrated after graduation. In our study, also half of the graduates emigrated. These results show that emigration is a recurrent trend among graduates from elite universities in Lebanon.

The results of our study are also similar to the results of the last tracer study done on AUB, USJ, BAU, and LU graduates, where the highest response rate was from AUB graduates. This study, as our current study, had half of its graduates working abroad with the engineering graduates being the highest paid graduates. However the level of relatedness of current job to major differs between the two samples. Our sample had a lower percentage of graduates being at a 'not related at all' jobs to major (9.5%) compared to (15%) in the previous study. This can be attributed to the fact that the previous sample

included graduates from universities other than AUB. The performance of these graduates in the labor market can be expected to be different from the performance of AUB graduates, which in turn affected the overall results of the sample.

Our present study complemented the results of the exit surveys that were implemented by OIRA. Our results showed how graduates performed in the labor market after seven to eleven years from graduation, whether they worked locally or abroad, the extent to which their current jobs are related to their fields of study, the extent of their satisfaction with their jobs and the extent their current jobs serve their career aspirations. The sample we collected showed that half the graduates worked abroad. Most of them work in jobs ‘somehow’ to ‘very related’ to their fields of study. Most of them are ‘somehow’ to ‘very satisfied’ with their current jobs. In addition, around half of them consider their current jobs to serve their career aspirations. This shows, that according to our sample, AUB is successful in preparing graduates to perform well in the labor market and to achieve their career ambitions.

Chapter VII

CONCLUSION

A. Summary of the Results

This research was an attempt to study the relationship between higher educational degree and work amongst graduates who received degrees in both theoretical and applied sciences. For this purpose, this study targeted AUB bachelor degree graduates from the years 2006 until 2010 from the architecture, business, economics, and engineering, political science and sociology/anthropology majors. An online survey was used to reach out to all these graduates. The response rate was 4.9% which was sufficient for the sample to be adequate.

The collected sample covered graduates from all the targeted majors and years of graduation. The sample was almost equally divided between male and female respondents. More than half of the respondents were single and the remaining were married. The majority of the respondents were Lebanese and the remaining included graduates from different Arab and Western nationalities. More than half of the graduates continued their graduate studies and obtained master's degrees. Almost half of the graduates worked in countries other than Lebanon. The majority of the respondents who worked locally were Lebanese. However, more than half of the Lebanese respondents worked abroad. Indeed, most graduates who worked abroad earned higher than 5000\$/month.

Among the sample of graduates, salary was not found to increase with the individual acquiring more education, as the Human Capital Theory might suggest. However, the salary increased when the individual worked abroad. In addition, working abroad was found to be positively associated with satisfaction with the job.

Both theoretical and applied sciences graduates in this sample performed similarly in the labor market with regard to the matching of their jobs to their degrees. The extent to which a job is matched to the degree earned was found to be positively correlated with being on a job that serves one's career aspirations.

Only a minority of graduates (9.5%) considered themselves to be on mismatched jobs. Their main reasons for taking up these mismatched jobs were that these jobs paid well, served their career aspirations and/or because of the absence of other opportunities. Those who chose to work on jobs that do not match their degrees but considered their jobs to be serving their career aspirations wanted to change their career tracks and were not convinced of the fields of their undergraduate degrees.

Also only a minority (4.8%) of graduates were not satisfied with their jobs and with their daily job duties, while the majority was somehow satisfied with their jobs (53.2%) and with their daily job duties (55.6%). Their main reasons for low satisfaction with the job were that the tasks were too tactical, repetitive, not challenging enough or too demanding preventing life-work balance.

A minority of the graduates considered their jobs not to serve their career aspirations (4.9%). However, they mentioned that they worked on maintaining continuous

development and networking to reach and preserve their career aspirations. Yet, the majority of graduates took up their current jobs because they considered them to serve their career aspirations. The second reason was because these jobs paid high salaries.

Most of the graduates considered their bachelor degrees to have prepared them well for graduate studies. Graduates pointed out to the main reasons behind their choice of undergraduate majors. These included the fact that they liked studying them, they liked working in them and because these majors are highly demanded in the labor market. Others pointed out that they chose them because they did not know any better or because they were not accepted into their first choice majors. Only a minority (7.3%), from economics and political science majors mainly, did not find their bachelor degrees to be helpful in reaching their current career statuses. They pinpointed the reasons behind this was the weak curricula at their departments at the time of their studies. In addition, graduates from both theoretical and applied sciences majors insisted on the need to add more applied skills to the curricula.

B. Limitation of the Study

The main limitation of this study was that a lot of the graduates did not respond to the online survey. The low response rate made the collected sample vulnerable to non-response bias. This non-response bias points out to the fact that certain categories of graduates were not represented in our study. The collected sample included a certain category of graduates who were interested in the topic and had the time to fill out the survey.

However, those who received our email invitations to fill out the survey but failed to fill it out, could be divided into three groups. The first group may include graduates who were not interested in the topic and did not find it to be of concern. This could be because this group did not struggle to find a good job after graduation. The second group may include graduates who were interested in the topic but had busy schedules that prevented them from taking the time to fill out the survey. The third group may include graduates who are still struggling in the labor market but who are unwilling to share their experiences. The experiences of these three groups might differ from the experiences of the graduates who participated in our survey. Thus, their participation could have highlighted certain aspects that were not discovered in our study.

C. Recommendations

For future research, conducting one-on-one interviews and focus groups with the graduates can provide a comprehensive understanding of the graduates' points of view on their undergraduate degrees and their experience in the labor market. In addition, reaching out for employers can be helpful in assessing the labor market from the supply side to understand the needs of the labor market and the measures companies are taking to satisfy those needs.

With the expansion of the higher education sector in Lebanon, there is a need for private universities and the Lebanese University to periodically conduct tracer studies on their graduates to assess the universities' educational services and work to improve them to ensure their preparation of employable graduates able to manage well in the labor market.

D. Final Word

This paper attempted to study the relationship between AUB graduates' bachelor degrees and their work experiences in the labor market. Previous studies showed that the type of major, whether theoretical or applied sciences, that the individual chooses affects his/her opportunities in the labor market. In this sense, this research tried to study the impact of the type of major on the matching of the job with the major. However, the results of this study showed that graduates of both theoretical and applied sciences have the same experience in the labor market in regards to the matching of the job to major. These results refuted the first study hypothesis that claimed that applied sciences' graduates have the opportunity to find more jobs that match with their degrees than theoretical sciences' graduates. Yet, as it was mentioned in the beginning of this study, the results of our sample cannot be generalized to the wider population of graduates in Lebanon. It can only represent a portion of graduates from an elite university in Lebanon. However, these results prove that graduates from AUB enjoy better opportunities in the labor market than other graduates.

The second hypothesis in this study claimed that graduates who are able to emigrate and work abroad manage to work more in jobs that match their degrees than graduates who are not able to emigrate. The origin of this claim was the condition of the Lebanese economy that is limited to certain sectors and suffers from corruption and political instability. With such an economy, the labor market would not be able to provide a sufficient variety of jobs for the graduates who are bumped yearly into the labor market in huge numbers. On the other hand, work opportunities available abroad can solve this

struggle and allow graduates to attain more matching jobs than the jobs available in Lebanon. The results of this study did not prove that graduates working abroad tended to work more in jobs that matched their degrees. It showed that most of the targeted AUB graduates worked in jobs that somehow to very much match with their undergraduate degrees, with around half of them working locally and the other half working abroad. In this sense, it can be deduced that the location of the job market is not a burden on AUB graduates in attaining jobs that match with their degrees.

The third hypothesis in this study suggested that the more the graduates occupy jobs that match with their degrees the more their jobs would serve their career aspirations. The results of our study supported this hypothesis. This shows that the bachelor degrees AUB graduates earn do give them the chance to attain matching jobs and build life-long careers.

Although in our AUB graduates' sample, graduates seemed to perform well in the labor market and are able to grasp good opportunities locally and abroad. However, according to the few tracer studies conducted earlier, many graduates working in Lebanon suffer from being in jobs that do not match with their degrees and that do not serve their career aspirations. If these many graduates feel that they are not attaining their career aspirations, a lot of potential is wasted in our country. When these potentials can accomplish great achievements if provided with appropriate matching work opportunities, they are kept bounded within the constraints of this country that is not able to make use of them to attain its growth and development.

APPENDIX A

QUESTIONNAIRE OF THE STUDY

Education-Job Nexus among AUB Graduates of the Years 2006 until 2010 from Six Different Disciplines (Architecture, Business, Economics, Engineering, Political Science and Sociology/Anthropology)

| Variable | Attributes |
|--|---|
| 1- Gender | 1-Male 2-Female |
| 2- Civil Status | 1-Single 2-Married 3-Divorced 4-Widowed |
| 3- Place of Birth (Nationality) | ----- |
| 4- Highest Educational Attainment | 1-BA/BS 2-MA/MS 3-PhD |
| 5- Academic Year of graduation for BA/BS | 1-(2006-2007) 2-(2007-2008) 3-(2008-2009) 4-(2009-2010) |
| 6- Specify BA/BS major: | 1-Architecture 2-Business 3-Economics 4-Engineering 5-Political Science 6-Sociology/Anthropology |
| 7- Academic Year of graduation for MA/MS (if applicable) | ----- |
| 8- Specify MA/MS major: | 1-Architecture 2-Business 3-Economics 4-Engineering 5-Political Science 6-Sociology/Anthropology |
| 9- Year of graduation for PhD (if applicable) | ----- |
| 10- Specify Phd major: | 1-Architecture |

| | |
|--|---|
| | 2-Business 3-Economics 4-Engineering 5-Political Science 6-Sociology/Anthropology 7-Other: ----- |
| 11- Select the reasons for choosing this major for your BA/BS degree (up to 2 reasons) | 1-I Like studying it 2-I like working in it 3-My parents suggested it for me 4-It is highly demanded in the labor market 5-If other reasons, please specify: ----- |
| 12- Current Employment Status | 1-Permanent Full-time Employed 2-Contractual Full-time Employed 3-Part-time Employed 4-Freelancer 5-Unemployed (but searching for a job) 6-Not looking for a job |
| 13- Current Job Title | ----- |
| 14- Describe your main duties in your current job | ----- |
| 15- Monthly salary of current job | 1-less than 1000\$ 2-between1000\$ and 2000\$ 3-between 2000\$ and 3000\$ 4- between 3000\$ and 4000\$ 5- between 4000\$ and 5000\$ 6-greater than 5000\$ |
| 16- Current Job Location (Country) | ----- |
| 17- Rate the extent your current job is related to your bachelor degree | 1-Very Related 2- Somehow Related 3-Not Related at all |
| 18- Why? | ----- |
| 19- Select the reasons for taking up your current job (up to two reasons) | 1-It pays well (high salary) 2-It serves my career aspirations 3-It is close to my residence 4-Other opportunities aren't available 5-Other reasons, specify: ----- |
| 20- Rate the extent of your satisfaction with your current job | 1-Very Satisfied 2-Somewhat Satisfied 3-Not Satisfied at all |
| 21- Why? | ----- |
| 22- Rate your satisfaction with your daily job duties | 1-very satisfied 2-somewhat satisfied 3-not satisfied at all |
| 23- Why? | ----- |

| | |
|---|---|
| 24- Rate your productivity in your current job | 1-very productive 2-somewhat productive 3-not productive at all |
| 25- Does your current job serve your career aspirations? | 1-Yes absolutely 2-Somewhat 3-Not at all |
| 26- What are your career aspirations, i.e. what is the job title that you aspire to have? | ----- |
| 27- What are you doing to reach your career goals? | ----- |
| 28- How much effective was your bachelor degree in helping you reach your current career status? | 1-very helpful 2-somewhat helpful 3-not helpful at all |
| 29- Why? | |
| 30- How much satisfied are you with the undergraduate program you have studied at university? | 1-Very Satisfied 2-Somewhat Satisfied 3-Not Satisfied at all |
| 31- Based on your work experience, list the things you suggest to be included in the university undergraduate curriculum? | ----- |
| 32- How well did your BA/BS program prepare you for graduate studies (in case you pursued one)? | 1-Very well 2-Somewhat well 3-Not well at all |
| 33- Give Reasons: | ----- |

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