

## THE ROLE OF SİİRT UNIVERSITY IN REGIONAL DEVELOPMENT\*

*Bölgesel Kalkınmada Siirt Üniversitesinin Rolü*

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### ABSTRACT

#### Keywords

Siirt University, Siirt  
Province, Regional  
Development, Survey.

#### Anahtar Kelimeler

Siirt Üniversitesi, Siirt İli,  
Bölgesel Kalkınma,  
Anket.

In the world there is a transition to the information economy and with all of its effects; companies, regions and countries in development that produce information and use that information effectively in the creation (production) process are in an advantageous position. Because of this fact, universities that produce and disseminate information became the most important actors in regional development.

Siirt University is one of the newly established and dynamic universities in its region. In this paper, Siirt University's role in regional development is examined using information-based and economic-based sources. For this aim, questionnaires are distributed to Siirt province tradesman and students studying at Siirt University. Two different type of surveys are created; one for 675 Siirt tradesman, the other for 1325 Siirt University students, and answers are recorded using face-to-face interviews. The province tradesmen are asked for how they perceive the university and their view of the province's economy. The students are asked for what they spend their money in the city and their opinions about Siirt University. Collected survey data is analyzed to determine the economic role of Siirt University in its region and various suggestions are proposed. The answers of the respondents who participated in the survey are calculated on the average of their monthly expenditures, and it was found that each student spends an average of 680.5 TL, and the total yearly contribution of the university is calculated as 157 million TL. In addition,  $\chi^2$  independence analysis is used to test six hypotheses.

### ÖZ

Dünyada bilgi ekonomisine geçiş ve bütün etkileri ile birlikte; bilgi üreten ve bu bilgileri yaratma (üretim) sürecinde etkili bir şekilde kullanan şirketler, bölgeler ve ülkeler avantajlı bir konumdadırlar. Bu nedenle, bilgiyi üreten ve yayan üniversiteler bölgesel kalkınmanın en önemli aktörleri haline gelmişlerdir.

Siirt Üniversitesi, bölgesinde yeni kurulan ve dinamik üniversitelerden biridir. Bu çalışmada, Siirt Üniversitesi'nin bölgesel kalkınmadaki rolü, bilgi bazlı ve ekonomik bazlı kaynaklar kullanılarak incelenmiştir. Bu amaçla anketler hazırlanmış, Siirt ili esnafına ve Siirt Üniversitesi'nde okuyan öğrencilere yapılmıştır. İki farklı anket türü

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oluşturulmuştur; biri 675 Siirt esnafına, diğeri 1325 Siirt Üniversitesi öğrencisine yapılmış, bire bir yüz yüze görüşme ile sonuçlar kaydedilmiştir. İl esnafına üniversiteyi nasıl algıladıkları ve il ekonomisine bakışları sorulmuştur. Öğrencilere şehirde neye paralarını harcadıkları ve Siirt Üniversitesi hakkındaki düşünceleri sorulmuştur. Siirt Üniversitesi'nin bölgedeki ekonomik rolünü belirlemek için toplanan anket verileri analiz edilmekte ve çeşitli önerilerde bulunmaktadır. Ankete katılanların cevapları aylık harcamalarının ortalaması üzerinden hesaplanmakta, her öğrencinin ortalama 680.5 TL harcadığı ve üniversitenin yıllık toplam katkısının en az 157 milyon TL olduğu hesaplanmaktadır. Ayrıca, altı hipotezi sınamak için  $\chi^2$  bağımsızlık analizi kullanılmıştır.

## 1. INTRODUCTION

Economic, social, cultural and income imbalances between regions are significant in Turkey; both in rural and in urban settlements. These imbalances between regions are evident in the East and Southeast regions. In these regions, the employment opportunities of social and physical infrastructure in cities are insufficient to meet the population pressure created by intensive migration movements. Investment and employment in these regions should be increased, and socio-cultural values should be preserved. In local and regional development, this can be accelerated by advancing cooperation between the public, private sector and non-governmental organizations by enabling a more efficient use of resources and mobilizing local dynamics (DPT, 2006). In line with these objectives, universities established in the region can be very helpful in realizing these goals. They can improve cooperation for regional development by providing coordination between public institutions. At the same time, they can accelerate regional development with human capital increase, projects, employment and economic resources created in cities and regions where they are established.

Therefore, universities besides their educational functions, have many functions and effects in social, economic and cultural terms. Together with their functions such as the training of the qualified manpower needed by a country, the production and dissemination of information; universities are important institutions that influence the social, economic and cultural development of the city, the country where they are established and even benefit the whole world (Yılmaz & Kaynak, 2011; Kahraman & Tamer, 2016).

Previous scientific studies presented in the second part have emphasized that universities have direct and indirect economic contribution to their regions. The purchases of goods and services from the universities, the expenditures of academic and administrative staff, the expenditures of students and visitors have important contributions to the revival of the city's economic structure. This article uses the information in previous studies and calculates the economic contribution of Siirt University to the region where it is located. Unlike other studies, this article also presents the views of tradesmen. The views of students and tradesmen are useful in providing insight into the future of the university.

In the third part, the type of contributions of the university is explained. In the fourth part, information about the number of students, employees, academic and administrative staff about Siirt University, which is one of the newly established universities, is summarized. While examining the direct income and employment creation effect of Siirt University, a survey study is conducted to generate data for the university and to investigate the indirect income effect caused by student spending. In addition, to get an insight into the integration between university and city a second survey is conducted in which Siirt province tradesmen expectations, their economic status, their views about university and students are recorded. Equally important, various hypothesis tests are performed to detect if there are any significantly different behaviors between variables. Last part gives the conclusions, results and recommendations.

## 2. LITERATURE

Universities aim to produce knowledge and technology by high-level methodical research to disseminate the knowledge they produce. Their mission is to work with private/public institutions; to make suggestions; and to be the leader of progress in this regard for the development of economic, social, cultural and scientific aspects of the (region or) country (YÖK, 1981).

The first studies in this field, in the world and in Turkey that investigate the contribution of universities focus more on the university's students and their spending. A university has a great impact on the

economic, social, cultural and physical infrastructure in the city. In this respect, evaluating only the expenditures in the city and region where universities are located will result in incomplete information (Özyaba, 1999; Öztürk, Torun, & Özkök, 2011). In Turkey, there are numerous studies about this economic contribution, which are summarized below.

The first study, which investigates the effect of the universities in the city, is conducted by Aydemir (1994) in Trabzon. It examines the direct/indirect effects of Karadeniz Technical University (est. 1955), which is one of the first universities established in Turkey. Another study examining the effects of universities on urban development is carried out by Özyaba (1999). In this study, the roles of universities in regional economic development, their effects on city development are examined and the effects of Uludağ University on the city and its environment is given.

Atik (1999) examines the contribution of Erciyes University to the regional economy in Kayseri. It is concluded that this university contributes 13.7 million TL to the economy and employs a total of 7'675 people in three different campuses.

Erkekoğlu (2000) gives the direct and indirect employment of Sivas Cumhuriyet University for the 1998-1999 academic year to Sivas province. This university provides employment opportunities for a total of 4'965 people and contribution to the economy reached approximately 15.4 million TL.

Bilginoğlu, Atik, Turker, Pamuk and Duzgun (2002) state that Erciyes University contributes 9.7 million TL to the province of Kayseri and that the university has an employment opportunity for 2'696 people.

Ergün (2003) investigates the effect of Bolvadin Vocational School of Afyon Kocatepe University on the economy of the region and calculates the total economic contribution from the university to be approximately 3.8 million TL, 3'291'075 TL from student expenditures and 500'000 TL from personnel expenses.

Tuğcu (2004) gives Nevşehir Hacı Bektaş Veli University's total economic contribution to the city's economy in the 2002-2003 academic year. In this study for the city of Nevşehir, economic contribution is about 4.5 million TL, and the employment contribution is 278 people.

Tugay and Başgül (2005) for the 2004-2005 academic year, the contributions of affiliated faculties and colleges in Burdur to the provincial economy are investigated. According to the results of this study, it is concluded that the direct income contribution to the Burdur province's economy is 3.5 million TL, the indirect income contribution from the student expenditures is 14.4 million TL and the total income contribution is 17.9 million TL.

Sürmeli (2008) examines the impact of Anadolu University on Eskişehir in terms of economic and employment effects. In this study, the total contribution of university expenditures in the city economy is calculated as 443 million TL, and with the multiplier effect, this contribution is over 1 billion TL. The employment contribution effect of Anadolu University to Eskişehir is calculated as 6'939 people.

Kaşlı and Serel (2008) reported that students who study at Balıkesir University Gönen Vocational High School spend a monthly expenditure of 518.86 TL. Total amount of annual expenditure is determined as 2.3 million TL.

Görkemli (2009) grouped Selçuk University's contribution to Konya's economy in three different ways: direct, indirect and stimulated. As a result of this study, the direct and indirect contribution of the university to the city is found to be 278 million TL. Based on the marginal consumption trend, with the multiplier coefficient at 3.06 the total impact reached to 852 million TL. Thanks to the university, the total employment effect is 13'702, and the employment generated by the stimulated income contribution is 34'085.

Dalğar, Tunç and Kaya (2009) conduct a survey in Burdur Mehmet Akif Ersoy University with 1'000 of 3'920 students in two vocational schools, and one school in the Bucak district of Burdur province. They find that higher education institutions contribute to the economy of the district by 372 people in the size of employment and 45 million TL in the economic dimension.

Akçakanat, Çarıkçı and Dulupçu (2010) report in their study for Süleyman Demirel University that the total contribution of student expenditures to the Isparta economy exceeds 80 million TL and that these figures are very important for the city economy.

Çalışkan (2010) reports that the average monthly expenditure of a student is 560 TL and that 8'291 students studying at Uşak University contribute 50 million TL to the city economy in total.

Selçuk and Başar (2012) report that the students who were studying at Kars Kafkas University have an average monthly expenditure of 549 TL and a total average expenditure of 8 million TL per month. Selçuk (2012) article calculates that the students studying at Atatürk University spend 744.66 TL on a monthly basis and 31'276 students at Atatürk University Campus spent a total of 186.3 million TL.

Kaya (2014) article carries out surveys for residents and business owners and finds that Adıyaman University is the reason for an intense construction process with the opening of the university in the neighborhood close to the university. The employment contribution number was 7'125 people as of 2011 and reached to 8'454 people as of 31 December 2012.

Korkmaz (2015) article applies a questionnaire to the students of the Faculty of Economics and Administrative Sciences of Bayburt University. In the study, it is observed that the students had a monthly average expenditure of 432.66TL. Based on this result, it can be said that 4'791 students attending the 2012-2013 academic year contributed approximately 16.6 million TL to Bayburt economy in a year.

Yılmaz and Kaynak (2011) article states that Bayburt University brought vitality to the economic life of the city and that new businesses started, and investments increased in the city. It also states that the University is developing day by day, and the quality of life of the city is improving.

Sankır and Demir Gürdal (2014) article is a study about Bulent Ecevit University in the context of urban perception. The majority of the participants state that the university has a positive impact on the economic life of the city, caused the opening of new workplaces, thus contributing to the prevention/reduction of unemployment; in other words, they are aware of university's economic contributions to the city.

Kaya (2014) article conducts a survey to 62 enterprises and 200 households in Altınşehir neighborhood, including Adıyaman University. In the light of the data obtained, it is determined that the rate of those who opened new businesses in the year and the following years increased by 82%.

Kaya (2014) and Işık (2008) article states that it is possible to see the positive effects in the structured environment such as urbanization rate, urban growth and housing market in the places where the university is established. While there are significant changes in the number of structures and constitution of the population in the cities where the universities are, the growth of the urban area, the increase in urban functions, the emergence of important employment areas, the revival of the housing market and the emergence of significant structural changes in the city can be noticed. In addition, Kaşlı and Serel (2008) state that the universities established in the regions where urbanization is not fully realized contribute significantly to the economic, social and cultural development level of the region where they are established.

Yılmaz and Kaynak (2011) in Bayburt; Yayar and Demir (2013) in Tokat; Taşçı, Gökalp, Genç Kumtepe, Kumtepe, Toprak, Tosunoğlu and Sürmeli (2008) in Eskişehir; Sönmez and Başkaya (2013) in Kilis; Özbay (2013) in Niğde state that a significant increase in social and cultural activities in the city with the establishment of the university is observed and this causes a revival in culture, art and social life. Universities make a significant contribution to social and cultural activities in the cities where the university is established. As a matter of fact, after the establishment of the university in the city, functions specific to the cities (restaurants, cafes, pastry houses, branded clothing stores, parks, gardens, cinema, large shopping centers, modern houses, wide streets, traffic lights etc.) have shown a great improvement or increase.

Mavruk, Tekinarslan, Gürün and Akkurt (2014); Özbay (2013); Yılmaz and Kaynak (2011) state that the university had a significant impact on population growth and population growth rate. Yılmaz and Kaynak (2011) further states that the university had a significant impact on the reduction of migration in Bayburt and Özbay (2013) in Niğde.

### 3. A UNIVERSITY'S ECONOMIC CONTRIBUTION TO LOCAL ECONOMY

The most preferred model for measuring the contribution of a university to the local economy is the Keynesian type multiplier model. It is assumed that the multiplier model allows for the separate evaluation of the expenditures made by the different components such as administrative, academic staff and student and the relation of universities with the regional economy. It is also assumed that expenditures made in consumption will create an economically expanding effect on investment expenditures (Görkemli, 2009). Therefore, the main factor in this approach is that an individual's expenditure is expressed as income to another individual, and it is expected to spread to the whole economy if it continues in a cycle.

The expenditures of the university, the administrative and academic staff it employs, the student population it has, and the stimulating effects they provide to the related sectors, make significant contributions to the regional economy. Siirt University's direct employment and direct income contribution to the local economy are examined in the following parts.

In this study, Siirt University's role in regional development is examined using information-based and economic-based sources. For this aim, questionnaires are distributed to Siirt province tradesman and to students studying at Siirt University. Two different type of Surveys are created; one for 675 Siirt tradesman, one for 1325 Siirt University students, and answers are recorded using face-to-face interviews. The students are asked for what they spend in the city and about their opinions about Siirt University. The province tradesmen are asked for how they perceive the university and their view of the province's economy. Collected survey data is analyzed and various suggestions are proposed to determine the economic role of Siirt University in its region.

#### 3.1. Direct Contributions

The contributions made by the universities by the administrative and academic staff employed by the university contribute directly to the urban economy (Görkemli, 2009). These contributions are divided into two as direct income effect and direct employment contribution. While administrative and academic staff working in universities constitute the direct employment contribution, salaries paid to these personnel is the direct income effect (Altuntaş & Erilli, 2015).

The staff working in the administrative and academic units of the university are the direct employment in the local economy, thanks to the university. University staff usually live in the cities where they are employed; therefore, all staff working in the academic and administrative units of Siirt University are the direct employment contribution of the university to the local economy. As of 2017, Siirt University employs 774 people, of which 484 are academic and 290 are administrative.

#### 3.2. Indirect Contributions

Universities also buy goods and services from local factor owners. In this respect, indirect static contributions refer to the increase in income and employment after the sales of factor-owners to the university. In addition, the indirect contributions of educational institutions to the local economy come from staff and student spending (Altuntaş & Erilli, 2015). Indirect contributions can be calculated using surveys.

It is possible to examine indirect static contributions in two basic categories. These are indirect income effect and indirect employment contribution. The indirect income effect refers to the money spent by universities on people or organizations other than their own staff, and the income generated by university students in the region. These contributions are called indirect income contribution of universities (Görkemli, 2009). Therefore, the goods and services purchased by the university and its students determine the local value added.

The calculation of the indirect employment contribution is made using the indirect income contribution. Firstly, service production computation is made for the relevant year, and this value is calculated by dividing the total labor force employed in the significant year by the value of service production per capita. This value is the indirect employment contribution by the university to the local economy (Görkemli, 2009). In short, indirect employment contribution is obtained by dividing the total income contribution of university students by the production of one person (Altuntaş & Erilli, 2015).



Some of the contributions to the local economy of the students studying in higher education institutions, the administrative and academic staff, who work in these institutions are very easy to calculate while some are not. For example, it is easy to calculate the expenses made in the institutional field such as the money paid to the dormitories and student associations, the donations made to various institutions, the expenses they make in the city bookstores and the individual income of the bank branches in the city. Expenditure on various goods and services such as shelter, food and drink, local and intercity travel, entertainment, books and dress is relatively difficult to obtain compared to others (Çatalbaş, 2007).

### 3.3. Induced Contributions

Induced contributions are based on direct and indirect contributions, and represent an increase in income and employment (Görkemli, 2009). They are as a result of the work and income of individuals and the expenses they generate, resulting in the emergence of some new goods and services (Çatalbaş, 2007).

The induced effect of the individuals making income due to these expenditures is called the Keynesian Multiplier Effect. This effect is based on the assumption that depending on the value of a certain marginal propensity of consumption, the expenditures will increase by several times to the economy than the initial action itself. Under these assumptions; expenditures of universities, university employees and students studying within the university make a significant contribution to the local economy by making an expanding impact in the local economy, depending on the value of marginal propensity of consumption value of the economy (Görkemli, 2009).

## 4. SIİRT UNIVERSITY'S ECONOMIC CONTRIBUTION TO LOCAL ECONOMY

Siirt province has 6'182 km<sup>2</sup> area (0.7% of Turkey), 322'664 person population (0.40% of Turkey among 81 provinces with 58<sup>th</sup> rank) and 52 people per km<sup>2</sup>. Male population is 166'463 (51.59%) and female population is 156'201 (48.41%). The population growth rate of Siirt province in 2016 was 0.72% and it increased by 2'313 people compared to the previous year. While (49.15%) 158'574 of the population is in the central and district centers of Siirt province, the number of inhabitants in villages and towns is (50.85%) 164'090 (TUİK, 2019; Wikipedia, 2019).

Siirt University is one of the newly established and dynamic universities in its region. Siirt University has 7 faculties, 4 high schools, 4 institutes, 5 vocational schools and 15 research and application centers. Kezer, Health, Center, Kurtalan and Eruh Campus are the five campuses where teaching and research studies continue (SİU, 2017a). Since 29 May 2007, Siirt University has been continuing its organization and structuring processes in addition to its education and training activities. Siirt University has 14 professors, 24 associate professors, 140 assistant professors, 95 lecturers, 14 lecturers, 186 research assistants and 11 experts. There are 290 administrative personnel in the administrative structure (SİU, 2017b).

The total number of students of Siirt University in 2017 is 12'223. Faculties have the largest share in this number with 5'267 students, vocational schools in the second place with 4'331 number of students, and high schools in third place with 1'043 number of students. Besides, there are 1'027 students studying pedagogical formation and 555 students at the Institute of Science and Social Sciences (SİU, 2017b).

### 4.1. Direct Contributions

The staff working in the administrative and academic units of the university give the direct employment contribution in the local economy thanks to the university. University staff usually live in the cities where they are employed. As of 2017, Siirt University employs 774 people, of which 484 are academic and 290 are administrative.

### 4.2. Survey Results for the Indirect Contributions

Table 1 gives the expenditure of Siirt University, which will be used to calculate the total indirect contribution of the University.

**Table 1.** The Income Expenditure Balance of Siirt University

Year	Total Budget Revenue	Total Budget Expenditure	Difference
2011	50'545'753	36'484'170	14'061'583
2012	40'126'853	42'363'257	-2'236'404
2013	50'196'414	59'870'150	-9'673'736
2014	72'291'215	72'192'096	99'119
2015	79'972'986	83'901'022	-3'928'036
2016	97'159'650	90'717'965	6'441'685

Source: SİU (2016).

#### 4.2.1. Student Survey Results

The general views and expectations of Siirt University students about the university and the city, the general trend in their expenditures and the indirect income contribution to the local economy are aimed to be evaluated within the framework of the selected sample. In this context, the questions asked to the target population are grouped under several main headings.

- The average spending amount of university students in Siirt province,
- Distribution of students' expenses according to needs,
- General views and suggestions of the students about Siirt University and Siirt province.

A survey is conducted for the university students' views about the university and the city, and on the expenditures they make in the city. Demographic characteristics of the participants, monthly average expenditures, monthly average incomes, opinions about the services offered to the students are collected. In addition, the efficiency, adequacy of the participants in the departments of Siirt University, the organization of activities such as a sufficient number of panels and conferences at the university, the presence of student clubs in accordance with the interests and abilities, the richness of the library in all kinds of resources, job opportunities more than other departments and the opportunity to work in the business world opinions are also examined. In the determination of the level of participation in these statements, "I totally agree", "I agree", "Indecisive", "I do not agree", "Totally disagree" five-point Likert-type scale is used.

Based on the 5% sample error and the 95% confidence interval criteria, the number of students in Siirt University targeted to reach was 1000 students with a population of 12'223, and the collected answers are from 1'325 students. Data obtained during the research process is prepared by using Microsoft Office Excel program and data is evaluated using SPSS 20 package program. In the analysis of the data, frequency tables, chi-square tests and cross-table presentations are used.

Table 2 to Table 7 and Figure 1 give the demographic distributions.

**Table 2.** Gender Distribution

	Frequency	Percent
Male	652	49.32%
Female	670	50.68%
Total	1322	100.00%

**Table 3.** Age Distribution

	Frequency	Percent
15-20	537	41.24%
21-30	729	55.99%
31-40	26	2.00%
41-50	9	0.69%
51-60	1	0.08%
61-...	0	0.00%
Total	1302	100.00%

In Siirt University, there are 12'223 students from which 6'872 (56.30%) are male and 5'334 (43.70%; SiU, 2017b). Table 2 gives the gender of participants, where 49.32% are male and 50.68% are female. In addition, Table 3 presents the age distribution of the participants and approximately 97% are in the 15-30 age range.

If the students are categorized by their sciences, there are 4'905 (40.13%) students in social sciences, 575 (4.70%) in natural and applied sciences, 3'111 (25.45%) in educational sciences, 1'903 (15.57%) in health sciences and 1'729 (14.15%) in engineering sciences (SiU, 2017b). The percentages of participants is given in Table 4 and these numbers are close to actual numbers.

**Table 4.** Distribution by Faculties

	Frequency	Percent
Social Sciences	515	40.17%
Natural and Applied Sciences	85	6.63%
Health Sciences	192	14.98%
Educational Sciences	325	25.35%
Engineering Sciences	165	12.87%
Total	1282	100.00%

Faculties with 5'267 (43.09%) students and high schools with 1'043 (8.53%) students are considered as undergraduate. Vocational schools with 4'331 (35.43%) students are considered as associate degree. There are 1'027 (8.40%) students in pedagogical formation and 555 (4.54%) students in the institute of science and social sciences for master's and doctorate degree (SiU, 2017b). The percentages of participants are given in Table 5 and these numbers are close to actual numbers.

**Table 5.** Distribution by Educational Level

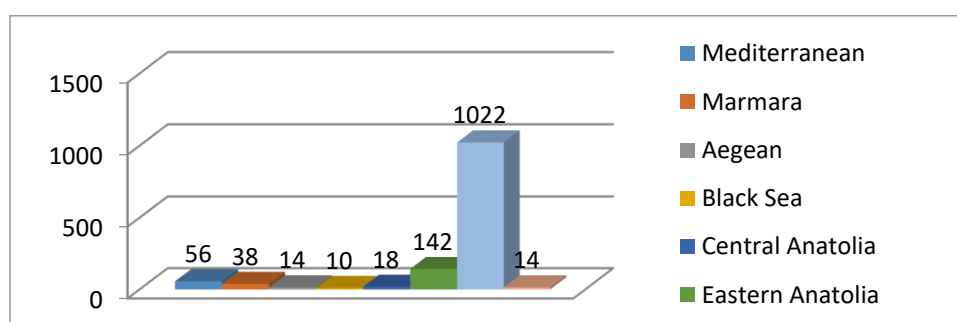
	Frequency	Percent
Associate Degree	467	35.68%
Undergraduate	794	60.66%
Master's Degree	46	3.51%
Doctorate	2	0.15%
Total	1309	100.00%

The number of students who come from another city to study is 66.38% (SiU, 2017c), and the percentage is very close to the percentage of participants' number given in Table 6. In addition, 1'022 (77.78%) of the students are from Eastern Anatolia Region (Figure 1). In Table 7 most of the participants live with their friends (51.82%), while there are participants from Siirt or the ones with relatives live with their families (34.42%) or relatives (3.02%). Most probably 10.75% of the participant students who come from another city live alone.

**Table 6.** Are You Coming From Another City To Study?

	Frequency	Percent
Yes	848	64.19%
No	473	35.81%
Total	1321	100.00%

**Figure 1.** Students' Families Distribution by Region





**Table 7.** With Whom Do You Live?

	Frequency	Percent
Family	445	34.42%
Friends	670	51.82%
Relatives	39	3.02%
Alone	139	10.75%
Total	1293	100.00%

Table 8 to Table 23 and Figure 2 to Figure 6 give the economic related results.

**Table 8.** Do You Work In Any Business?

	Frequency	Percent
Yes	18	1.37%
Sometimes	132	10.05%
Part-time	63	4.79%
Full-time	45	3.42%
No	1056	80.37%
Total	1314	100.00%

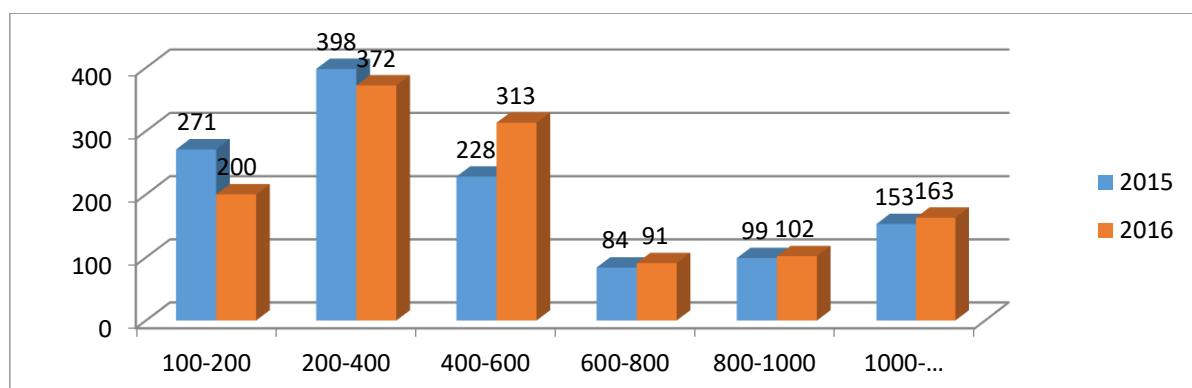
Majority of the students (80.37%) do not work in any job (Table 8). For academic success to be high 72.78% of the students want a monthly income higher than 1000TL (Table 9), but in reality only around 13% of the students have a monthly income higher than 1000TL (Figure 2). Most of the students' income comes from credit and scholarship 62.65% (Table 10), which is less than 1000TL. Only students working full-time or part time (8.22%) might have an income higher than 1000TL (Table 8). In addition, the majority of students stay in cheap places (Table 11). Although, 14% of the family head is unemployed (Figure 3), these results suggest that there is student's lack of income to be more successful.

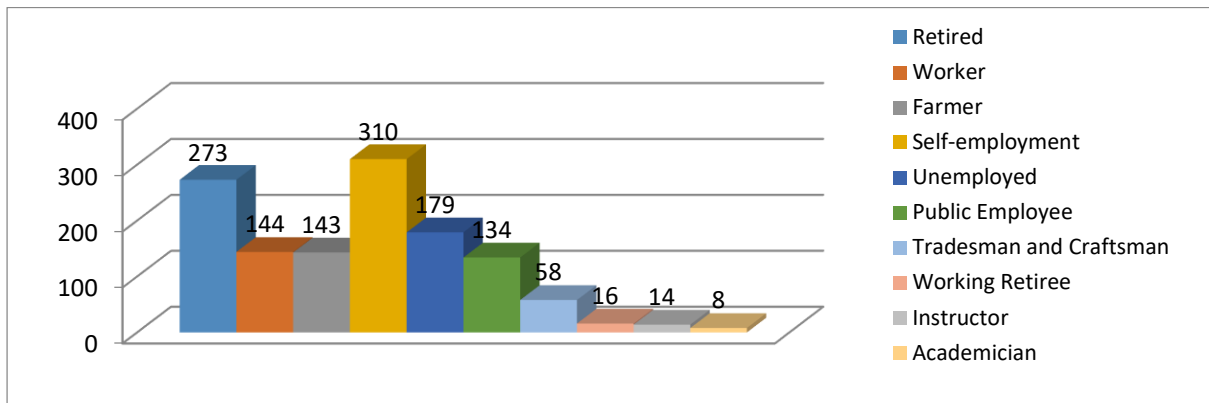
**Table 9.** For Academic Success to Be High, How Much Should Monthly Income Be

	Frequency	Percent
0-1000	347	27.22%
1001-2000	289	22.67%
2001-3000	219	17.18%
3000 and above	420	32.94%
Total	1275	100.00%

**Table 10:** Source of Income

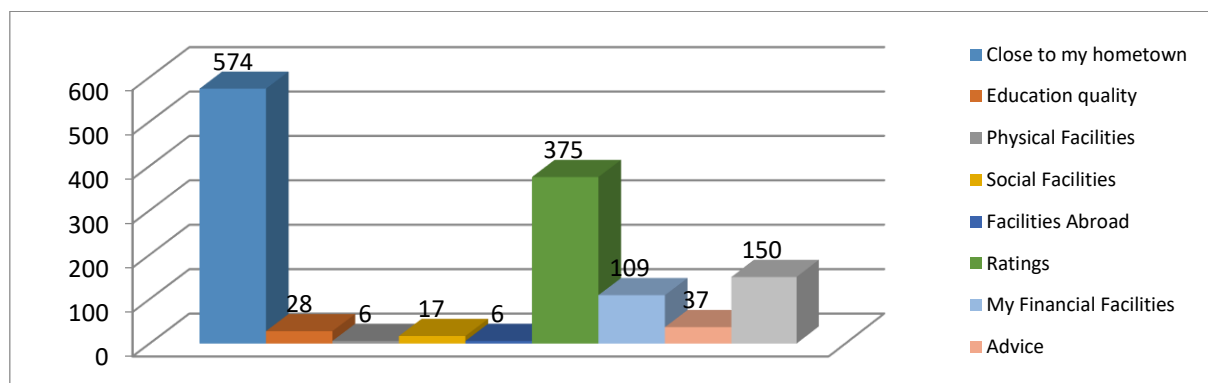
	Frequency	Percent
Family	378	27.57%
Credit and Scholarship	859	62.65%
Working	113	8.24%
Other	21	1.53%
Total	1371	100.00%

**Figure 2.** Distribution According to 2015 and 2016 Monthly Incomes

**Figure 3.** Distribution of Family Head by Profession**Table 11.** Distribution According to Where They Stay

	Frequency	Percent
Rent	292	22.29%
Government dormitory	479	36.56%
Private Residence	133	10.15%
Hotel / hostel	18	1.37%
Next to the relatives	31	2.37%
Family	357	27.25%
Total	1310	100.00%

According to the reasons of preference 574 (44.09%) of the students came to Siirt University because it is close to their hometown, 375 (28.80%) because of the ratings and 109 (8.37%) because of financial constraints (Figure 4). This implies that almost half of the students came to Siirt University because of geographic and financial constraints.

**Figure 4.** Distribution According to the Reasons of Preference

The region, where Siirt is located is among the second cheapest regions in Turkey (TURKSTAT, 2017). This fact is also supported by 938 (71.93%) students in Table 12, who state that the cost of living in Siirt province is equal to or better compared to alternatives. However, 662 (50.62%) students claim that housing costs in Siirt Province are high (Table 13) and 585 (44.86%) claim food and beverage prices are high (Table 14).

**Table 12.** How Is the Cost Of Living in Siirt Province Compared to Alternatives

	Frequency	Percent
Very high	130	9.97%
High	236	18.10%
Normal	763	58.51%
Low	135	10.35%
Very low	40	3.07%
Total	1304	100.00%

**Table 13.** How Do You Think Housing Costs In Siirt Province?

	Frequency	Percent
Very high	235	17.97%
High	427	32.65%
Normal	572	43.73%
Low	59	4.51%
Very low	15	1.15%
Total	1308	100.00%

**Table 14.** How Do You Think of Food and Beverage Prices in Siirt

	Frequency	Percent
Very high	190	14.57%
High	395	30.29%
Normal	664	50.92%
Low	44	3.37%
Very low	11	0.84%
Total	1304	100.00%

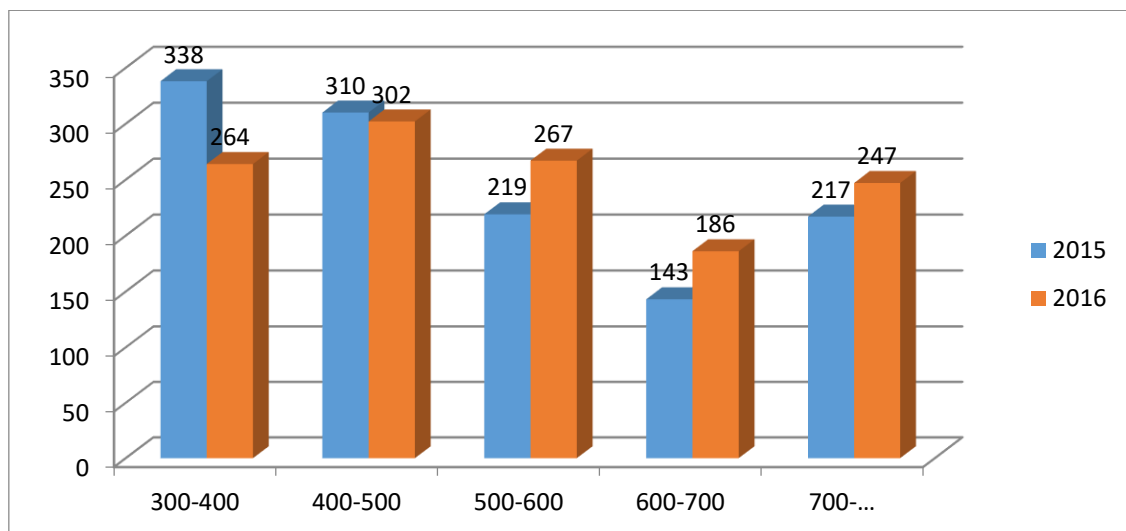
**Figure 5:** Total Monthly Expenditure in Siirt Province in 2015 and 2016

Figure 5 gives the total monthly expenditure in Siirt Province for the years 2015 and 2016. Compared to Figure 2 students spend less than their incomes. Most of the students (57.23%) have one-month transport expenditures of less than 100TL (Table 15), (54.49%) have one-month eating and drinking expenses less than 300TL (Table 16), (59.57%) have one-month expenses for cultural activities less than 50TL (Table 17), (68.98%) have one-month expenditure on sporting activities less than 50TL (Table 18), (54.67%) have one month energy expenditures less than 200TL (Table 19), (69.68%) have one month phone expenditures less than 50TL (Table 20), (73.37%) have one-month clothing expenditure less than 200TL (Table 21), (62.13%) have one-month education expenses less than 100TL (Table 22), and (72.21%) have one month accommodation expenditures less than 400TL (Table 23).

**Table 15.** One-Month Transport Expenditures

	Frequency	Percent
0-50	266	20.68%
50-100	470	36.55%
100-150	202	15.71%
150-200	133	10.34%
200-...	215	16.72%
Total	1286	100.00%

**Table 16.** One-Month Eating and Drinking Expenses

	Frequency	Percent
100-200	320	24.77%
200-300	384	29.72%
300-400	237	18.34%
400-500	151	11.69%
500-...	200	15.48%
Total	1292	100.00%

**Table 17.** One Month Expenses for Cultural Activities (Cinema, Theater, Concert, Etc.)

	Frequency	Percent
0-25	463	36.29%
25-50	297	23.28%
50-75	229	17.95%
75-100	163	12.77%
100-...	124	9.72%
Total	1276	100.00%

**Table 18.** One-Month Expenditure on Sporting Activities

	Frequency	Percent
0-25	644	52.70%
25-50	199	16.28%
50-75	172	14.08%
75-100	99	8.10%
100-...	108	8.84%
Total	1222	100.00%

**Table 19.** One Month Energy (Electricity, Water, Natural Gas, Etc.) Expenditures

	Frequency	Percent
0-100	445	36.15%
100-200	228	18.52%
200-300	242	19.66%
300-400	162	13.16%
500-...	154	12.51%
Total	1231	100.00%

**Table 20.** One Month Phone (Fixed / GSM) Expenditures

	Frequency	Percent
0-25	283	22.01%
25-50	613	47.67%
50-75	182	14.15%
75-100	91	7.08%
100-...	117	9.10%
Total	1286	100.00%

**Table 21.** One-Month Clothing Expenditure

	Frequency	Percent
0-50	144	11.28%
50-100	376	29.44%
100-200	417	32.65%
200-400	216	16.91%
400-...	124	9.71%
Total	1277	100.00%

**Table 22.** One-Month Education Expenses (Books, Laboratory Equipment, Etc.)

	Frequency	Percent
0-50	394	30.83%
50-100	400	31.30%
100-150	242	18.94%
150-200	133	10.41%
200-...	109	8.53%
Total	1278	100.00%

**Table 23.** One Month Accommodation (House Break, Dormitory, Hotel, Hostel) Expenditures

	Frequency	Percent
0-100	220	17.71%
100-250	378	30.43%
250-400	299	24.07%
400-550	148	11.92%
500-...	197	15.86%
Total	1242	100.00%

Table 24 to Table 28 are the opinion of students. In these tables 28.99% find the education given in the department efficient and sufficient (Table 24); 31.28% had no difficulties when they came to Siirt University (Table 25); 18.42% have no complaints about social communication problems, tenant-landlord relations or economic problems (Table 26); 18.68% have no problems with bus companies, restaurants, home owners, cafeterias or stationaries (Table 27).

**Table 24.** I Find the Education Given in the Department Efficient and Sufficient

	Frequency	Percent
I totally agree	106	8.24%
I agree	267	20.75%
Unsure	258	20.05%
I do not agree	380	29.53%
I totally disagree	276	21.45%
Total	1287	100.00%

**Table 25.** The Difficulties Students Face When They Come to Siirt University

	Frequency	Percent
People's Attitude	113	8.58%
Accommodation	281	21.34%
Eating and drinking	91	6.91%
All	420	31.89%
no difficulty	412	31.28%
Total	1317	100.00%

**Table 26.** Complaints

	Frequency	Percent
Social communication problems	281	21.39%
Tenant-landlord	119	9.06%
Economic	282	21.46%
All	390	29.68%
No complaints	242	18.42%
Total	1314	100.00%

**Table 27.** Who Are You Having Problems With?

	Frequency	Percent
Bus Companies	408	30.49%
Restaurant	86	6.43%
Home Owner	122	9.12%
Cafeteria	63	4.71%
Stationery	105	7.85%
All	304	22.72%
None	250	18.68%
Total	1338	100.00%

In Table 28, 23.37% of students expressed their belief that they will have no opportunity to work in the area of their graduation. In Table 29, almost half of the students (50.32%) stated that they are not satisfied in Siirt.

**Table 28.** Do You Think You Will Have The Opportunity To Work In The Area You Graduate?

	Frequency	Percent
Yes	416	32.30%
Maybe	571	44.33%
No	301	23.37%
Total	1288	100.00%

**Table 29.** Are You Satisfied In Siirt?

	Frequency	Percent
I am not happy at all	382	30.08%
I'm not satisfied	257	20.24%
Unsure	170	13.39%
Satisfied	354	27.87%
I am very pleased	107	8.43%
Total	1270	100.00%

#### 4.2.2. Testing Student Survey Hypotheses

$\chi^2$  independence analysis is used to test the following hypotheses. In literature  $\chi^2$  test is used to investigate the difference between the expected value and the observed value. Such nonparametric tests should be used when any of the hypotheses below relate to the data (McHugh, 2013). In the  $\chi^2$  independence analysis, cross-table frequencies and the following hypothesis can be tested:



$H_0$ : Two categorical variables are independent.

$H_1$ : Two categorical variables are dependent.

or

$H_0$ : Two categorical variables are not interrelated.

$H_1$ : Two categorical variables are interrelated.

#### Hypothesis 1

$H_0$ : There is no significant relationship between the education level of the students and the monthly total income of 2015.

$H_1$ : There is a significant relationship between the education level of the students and the monthly total income of 2015.

**Table 30.** Cross Table for Hypothesis 1

	100-200	200-400	400-600	600-800	800-1000	1000-...	Total
Associate Degree	93	128	72	38	41	63	435
Undergraduate	166	257	144	42	55	79	743
Master's Degree	7	9	11	4	2	7	40
Total	266	394	227	84	98	149	1218
Associate Degree	21.38%	29.43%	16.55%	8.74%	9.43%	14.48%	100.00%
Undergraduate	22.34%	34.59%	19.38%	5.65%	7.40%	10.63%	100.00%
Master's Degree	17.50%	22.50%	27.50%	10.00%	5.00%	17.50%	100.00%
Total	21.84%	32.35%	18.64%	6.90%	8.05%	12.23%	100.00%
Chi-Square Tests	Value	df	Asymp. Sig. (2-sided)				
Pearson Chi-Square	17.390 <sup>a</sup>	10	.066				
Likelihood Ratio	17.156	10	.071				
N of Valid Cases	1218						

Notes: <sup>a</sup> 3 cells (16.7%) have expected count less than 5. The minimum expected count is 2.76.

As shown in Table 30 ( $p$ -value = 0.066 > 0.05, accept  $H_0$ ), the incomes of the groups participating in the survey are unrelated. There is no statistically significant relationship between the education level of the students and the monthly total income of 2015.

#### Hypothesis 2

$H_0$ : There is no significant relationship between the education level of the students and the monthly total incomes of 2016.

$H_1$ : There is a significant relationship between the education level of the students and the monthly total incomes of 2016.

**Table 31.** Cross Table for Hypothesis 2

	100-200	200-400	400-600	600-800	800-1000	1000-...	Toplam
Associate Degree	76	119	93	36	42	70	436
Undergraduate	114	240	206	53	54	81	748
Master's Degree	7	9	11	2	5	8	42
Total	197	368	310	91	101	159	1226
Associate Degree	17.43%	27.29%	21.33%	8.26%	9.63%	16.06%	100.00%
Undergraduate	15.24%	32.09%	27.54%	7.09%	7.22%	10.83%	100.00%
Master's Degree	16.67%	21.43%	26.19%	4.76%	11.90%	19.05%	100.00%
Total	16.07%	30.02%	25.29%	7.42%	8.24%	12.97%	100.00%
Chi-Square Tests	Value	df	Asymp. Sig. (2-sided)				
Pearson Chi-Square	18.844 <sup>a</sup>	10	.042				
Likelihood Ratio	18.801	10	.043				
N of Valid Cases	1226						

Notes: <sup>a</sup> 2 cells (11.1%) have expected count less than 5. The minimum expected count is 3.12.

As shown by Table 31 ( $p$ -value = 0.042 < 0.05, reject  $H_0$ ), it is seen that the status of the groups participating in the survey was statistically related. There is a statistically significant relationship between the education level of the students and the monthly total incomes of 2016. According to this table master's degree students' incomes are relatively higher than other groups. Compared to undergraduate students, associate degree students' monthly incomes are higher.

### Hypothesis 3

$H_0$ : There is no significant relationship between the students who prefer Siirt University and finding the opportunity to study in the area they will graduate.

$H_1$ : There is a significant relationship between the students who prefer Siirt University and finding the opportunity to study in the area they will graduate.

**Table 32.** Cross Table for Hypothesis 3

	Yes	Maybe	No	Total
Close to my hometown	184	238	144	566
Education quality	13	11	2	26
Physical Facilities	4	1	1	6
Social Facilities	2	9	6	17
Facilities Abroad	0	0	4	4
Ratings	120	179	70	369
My Financial Facilities	28	55	23	106
Advice	12	17	8	37
Other	28	35	25	88
Total	391	545	283	1219
Close to my hometown	32.51%	42.05%	25.44%	100.00%
Education quality	50.00%	42.31%	7.69%	100.00%
Physical Facilities	66.67%	16.67%	16.67%	100.00%
Social Facilities	11.76%	52.94%	35.29%	100.00%
Facilities Abroad	0.00%	0.00%	100.00%	100.00%
Ratings	32.52%	48.51%	18.97%	100.00%
My Financial Facilities	26.42%	51.89%	21.70%	100.00%
Advice	32.43%	45.95%	21.62%	100.00%
Other	31.82%	39.77%	28.41%	100.00%
Total	32.08%	44.71%	23.22%	100.00%
<b>Chi-Square Tests</b>	<b>Value</b>	<b>df</b>	<b>Monte Carlo Sig. (2-sided)</b>	
<b>Pearson Chi-Square</b>	35.643 <sup>a</sup>	16	.002 <sup>b</sup>	
<b>Likelihood Ratio</b>	35.128	16	.006 <sup>b</sup>	
<b>Fisher's Exact Test</b>	30.870		.007 <sup>b</sup>	
<b>N of Valid Cases</b>	1219			

Notes: a. 7 cells (25.9%) have expected count less than 5. The minimum expected count is .93.

b. Based on 10000 sampled tables with starting seed 2000000.

As shown in Table 32 ( $p$ -value = 0.007 < 0.05, reject  $H_0$ ), it is seen that the status of the groups included in the survey are statistically related. There is a statistically significant relationship between the students who prefer Siirt University and finding the opportunity to study in the area they will graduate.

### Hypothesis 4

$H_0$ : There is no significant relationship between the level of education and how much the monthly total income should be.

$H_1$ : There is a significant relationship between the level of education and how much the monthly total income should be.

As shown in Table 33 ( $p$ -value = 0.544 > 0.05, accept  $H_0$ ), the status of the groups participating in the survey was statistically unrelated. There is no significant relationship between the level of education and the monthly total income. However, this table does not satisfy the assumption that no cell should have an expected of less than one. The variable doctorate violates this assumption and makes the results unreliable. In the test for independence, the observed pattern between the variables in the table is not strong enough to show that the two variables are dependent on each other or not. According to this table master's degree students' and doctorate students' income requirements are relatively higher than in

other groups. Compared to undergraduate students, associate degree students' monthly income requirements are higher.

**Table 33.** Cross Table for Hypothesis 4

	0-1000	1001-2000	2001-3000	3000 +	Total
<b>Associate Degree</b>	119	95	77	153	444
<b>Undergraduate</b>	219	178	129	245	771
<b>Master's Degree</b>	7	11	10	17	45
<b>Doctorate</b>	0	0	1	1	2
<b>Total</b>	345	284	217	416	1262
<b>Associate Degree</b>	26.80%	21.40%	17.34%	34.46%	100.00%
<b>Undergraduate</b>	28.40%	23.09%	16.73%	31.78%	100.00%
<b>Master's Degree</b>	15.56%	24.44%	22.22%	37.78%	100.00%
<b>Doctorate</b>	0.00%	0.00%	50.00%	50.00%	100.00%
<b>Total</b>	27.34%	22.50%	17.19%	32.96%	100.00%
<b>Chi-Square Tests</b>	<b>Value</b>	<b>df</b>	<b>Monte Carlo Sig. (2-sided)</b>		
<b>Pearson Chi-Square</b>	7.222 <sup>a</sup>	9	.630 <sup>b</sup>		
<b>Likelihood Ratio</b>	8.117	9	.591 <sup>b</sup>		
<b>Fisher's Exact Test</b>	7.532		.544 <sup>b</sup>		
<b>N of Valid Cases</b>	1262				

Notes: <sup>a</sup>. 4 cells (25.0%) have expected count less than 5. The minimum expected count is .34.

<sup>b</sup>. Based on 10000 sampled tables with starting seed 1502173562.

#### Hypothesis 5

$H_0$ : There is no significant relationship between the gender of the students and their monthly total expenditures in 2015.

$H_1$ : There is a significant relationship between the gender of the students and their monthly total expenditure in 2015.

As shown in Table 34 ( $p$ -value = 0.000 < 0.05, reject  $H_0$ ), it is seen that the status of the groups participating in the survey are statistically related. There is a statistically significant relationship between the gender of the students and their monthly total expenditure in 2015 and these variables are dependent. Male students' expenditures are statistically significantly different than female students. Similar results are obtained for the year 2016.

**Table 34.** Cross Table for Hypothesis 5

	300-400	400-500	500-600	600-700	700 +	Total
Male	131	143	120	74	141	609
Female	207	167	99	69	75	617
Total	338	310	219	143	216	1226
Male	21.51%	23.48%	19.70%	12.15%	23.15%	100.00%
Female	33.55%	27.07%	16.05%	11.18%	12.16%	100.00%
Total	27.57%	25.29%	17.86%	11.66%	17.62%	100.00%
Chi-Square Tests	Value	df	Asymp. Sig. (2-sided)			
Pearson Chi-Square	41.252a	4	.000			
Likelihood Ratio	41.728	4	.000			
N of Valid Cases	1226					

Notes: <sup>a</sup> 0 cells (.0%) have expected count less than 5. The minimum expected count is 71.03.

#### 4.2.3. Tradesmen Survey Results

A questionnaire about the opinions and expectations of the tradesmen of Siirt province and their overall situation is collected. The demographic characteristics of the participants, general information about the status of the Siirt tradesman activity compared to other provinces, the income and expense items of

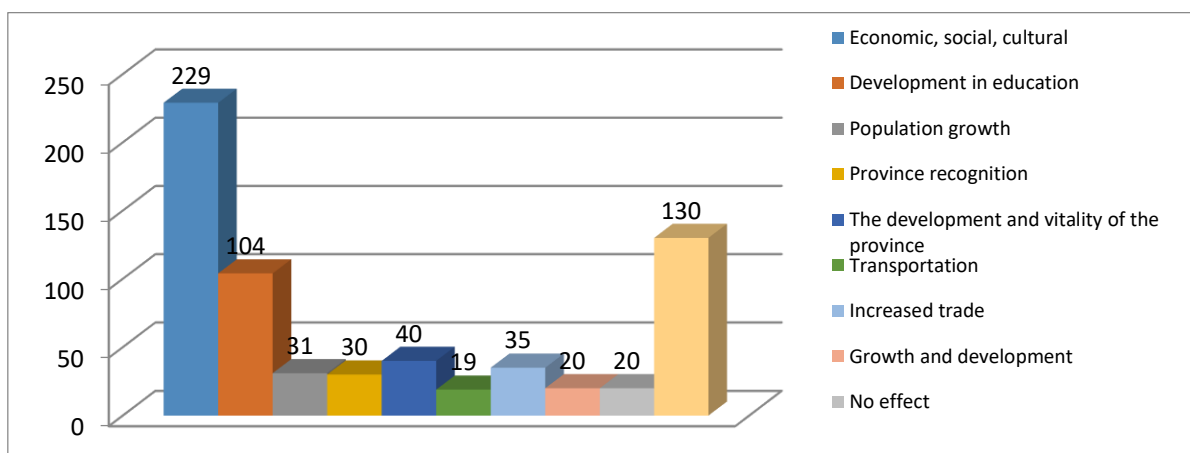
the tradesmen, the problems of the tradesmen and the craftsmen, the point of views of the tradesmen are collected. In addition, the participants view of Siirt University's benefits to province, employment, economy, tradesman's income, impact on society, scientific solutions to the problems of the city, transportation facilities, rents, cost of life are examined. In the determination of the level of participation in these statements, "I disagree", "I do not agree", "No idea", "I agree", "I totally agree" five-point Likert-type scale is used.

The survey is applied to a sample group, which is thought to represent the city of Siirt. In the sample selection, based on the 5% sampling error and the 95% confidence interval criteria, it is aimed to reach 1000 people of a population of 4558 representing the number of tradesmen in Siirt province, but 675 tradesmen are reached due to the inadequate participation of tradesmen. The data obtained during the research process are prepared by using Microsoft Office Excel program, data is evaluated by SPSS 20 package program and in the analysis of the data, frequency tables, chi-square tests and cross-table presentations are used.

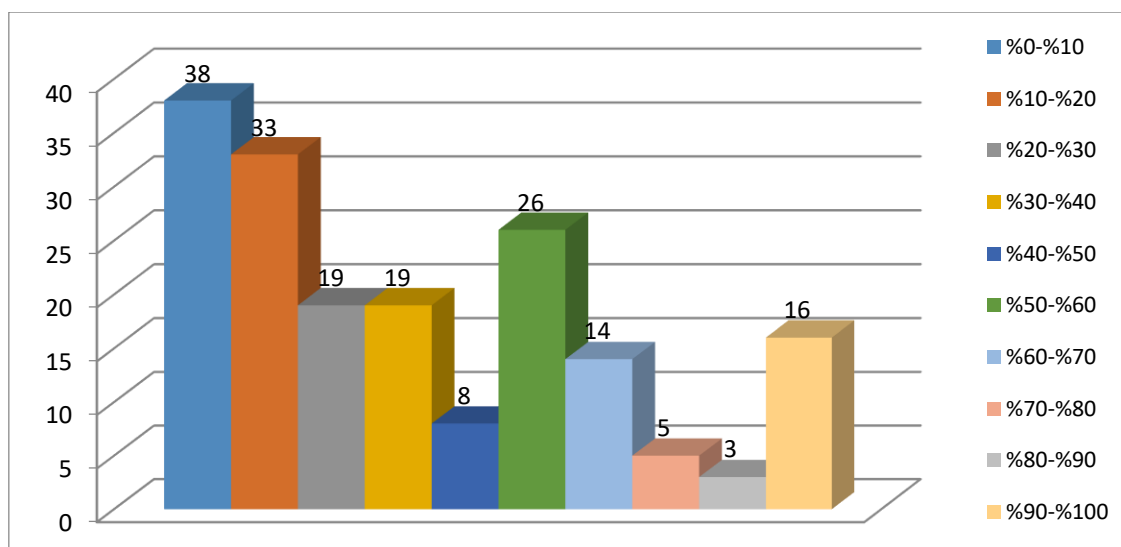
**Table 35.** I Regard Siirt University as a Gain

	Frequency	Percent
I disagree	67	10.08%
I do not agree	84	12.63%
No idea	66	9.92%
I agree	308	46.32%
I totally agree	140	21.05%
Total	665	100.00%

**Figure 6.** The Three Biggest Impacts of Siirt University to the City

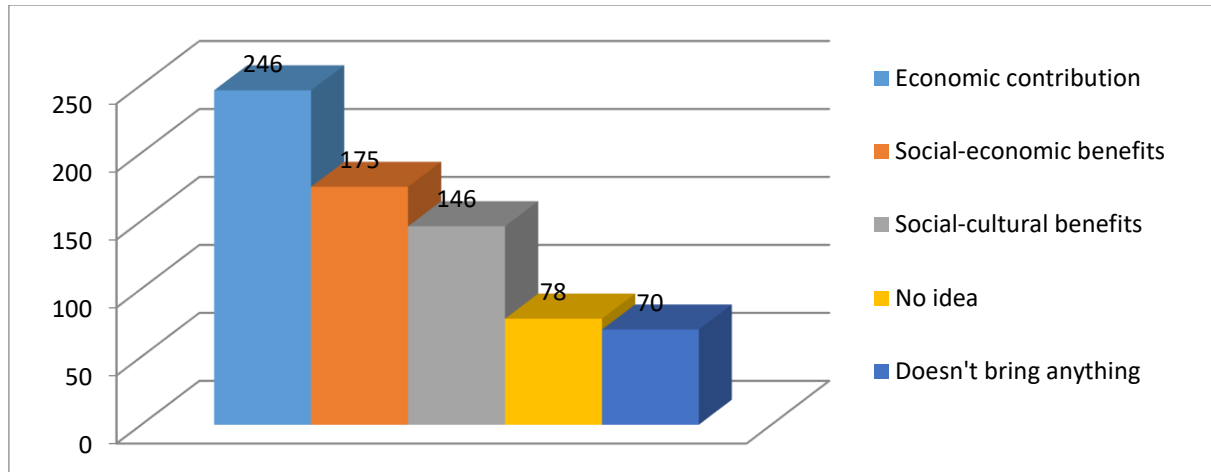


**Figure 7:** Thanks to Siirt University, My Earnings Are Increasing ...



Approximately two-thirds of tradesmen (67.37%) regard Siirt University as a gain to the city (Table 35). Economic, social, cultural and increased trade (40.12%) are among the three biggest impacts of the university to the city (Figure 6). Only 38 (20.99%) of tradesmen stated that their earnings have increased less than 10%, and 64 (35.36%) stated that their earnings have increased more than 50% (Figure 7). According to tradesmen Siirt University students' contribution to Siirt are economic (34.41%) and social-economic (24.48%, Figure 8).

**Figure 8.** Siirt University Students' Contribution to Siirt



Approximately two-thirds of customers (68.08%) are students (Table 36). Most of the tradesman state that the opening of the university had a positive impact on employment in Siirt (57.12%, Table 37), Siirt University and students have a positive contribution to the economy of Siirt (69.15%, Table 38), the expenses made by students are increasing the income of the tradesmen (64.30%, Table 39), rents have increased with the opening of the university (66.88%, Table 40), and urban transport has improved (56.66%, Table 41).

**Table 36.** Who are your Customers of Siirt University who are very Profitable?

	Frequency	Percent
Students	467	68.08%
Staff	117	17.06%
Auctions	58	8.45%
Other	44	6.41%
Total	686	100.00%

**Table 37.** The Opening of the University Had a Positive Impact on Employment in Siirt

	Frequency	Percent
I disagree	62	10.03%
I do not agree	105	16.99%
No idea	98	15.86%
I agree	269	43.53%
I totally agree	84	13.59%
Total	618	100.00%

**Table 38.** Siirt University and Students Have a Positive Contribution to the Economy of Siirt.

	Frequency	Percent
I disagree	64	10.34%
I do not agree	76	12.28%
No idea	51	8.24%
I agree	334	53.96%
I totally agree	94	15.19%
Total	619	100.00%



**Table 39.** The Expenses Made by Students Are Increasing the Income of the Tradesmen

	Frequency	Percent
I disagree	60	9.69%
I do not agree	95	15.35%
No idea	66	10.66%
I agree	303	48.95%
I totally agree	95	15.35%
Total	619	100.00%

**Table 40.** Rents Have Increased with the Opening of Siirt University

	Frequency	Percent
I disagree	39	6.36%
I do not agree	95	15.50%
No idea	69	11.26%
I agree	265	43.23%
I totally agree	145	23.65%
Total	613	100.00%

**Table 41.** Urban Transport Has Improved

	Frequency	Percent
I disagree	69	11.20%
I do not agree	135	21.92%
No idea	63	10.23%
I agree	268	43.51%
I totally agree	81	13.15%
Total	616	100.00%

**Table 42.** Activities at the University Have a Positive Impact on Society

	Frequency	Percent
I disagree	63	10.18%
I do not agree	116	18.74%
No idea	169	27.30%
I agree	191	30.86%
I totally agree	80	12.92%
Total	619	100.00%

**Table 43.** The Rate of Out-Migration Decreased Due to Unemployment in Siirt

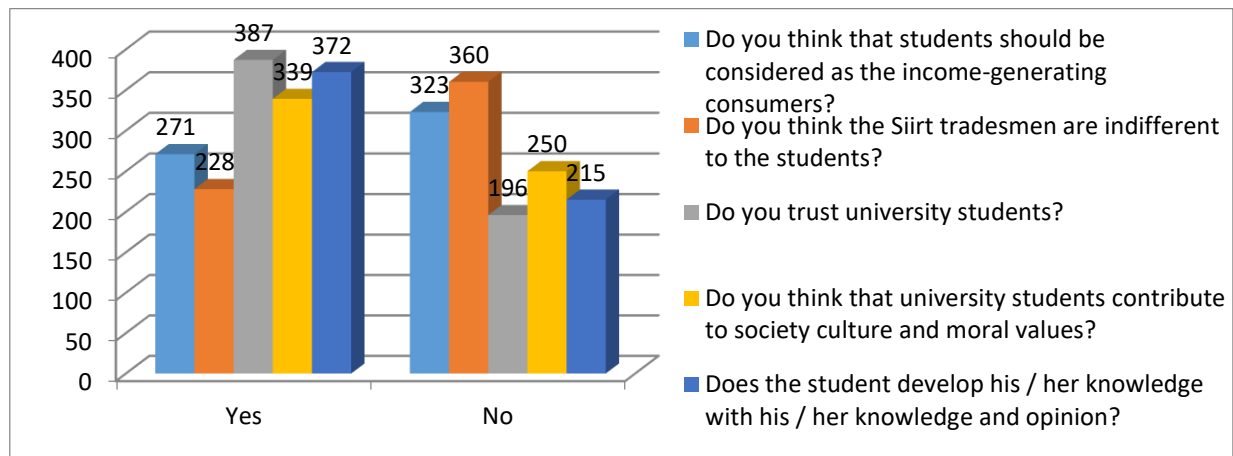
	Frequency	Percent
I disagree	154	24.80%
I do not agree	177	28.50%
No idea	131	21.10%
I agree	111	17.87%
I totally agree	48	7.73%
Total	621	100.00%

**Table 44.** The University Has Caused an Increase in the Cost of Living

	Frequency	Percent
I disagree	68	11.06%
I do not agree	161	26.18%
No idea	114	18.54%
I agree	186	30.24%
I totally agree	86	13.98%
Total	615	100.00%

Only 43.78% of participants think that the activities at the university have a positive impact on society (Table 42), 25.60% think the rate of out-migration decreased due to unemployment in Siirt (Table 43), and 44.22% think the university has caused an increase in the cost of living (Table 44).

**Figure 9.** Tradesmen's Perspectives of Siirt University Students



**Table 45.** The Level of Communication with the Student of Siirt Province

	Frequency	Percent
Customer	176	28.76%
Friendship-Customer	268	43.79%
Friendship	115	18.79%
Other	53	8.66%
Total	612	100.00%

Figure 9 presents tradesmen's perspectives of university students, and Table 45 gives the level of communication of tradesmen with the student of Siirt Province. The results show a positive attitude towards students.

#### 4.2.4. Testing Tradesmen Survey Hypotheses

As explained in Part 4.2.2.  $\chi^2$  independence analysis is used to test the following hypothesis.

**Table 46.** Cross Table for Hypothesis 5

	I disagree	I do not agree	No idea	I agree	I totally agree	Total
I disagree	23	8	5	21	2	59
I do not agree	10	21	4	30	12	77
No idea	7	6	15	28	4	60
I agree	21	34	20	173	36	284
I totally agree	3	7	5	76	39	130
Total	64	76	49	328	93	610
I disagree	38.98%	13.56%	8.47%	35.59%	3.39%	100.00%
I do not agree	12.99%	27.27%	5.19%	38.96%	15.58%	100.00%
No idea	11.67%	10.00%	25.00%	46.67%	6.67%	100.00%
I agree	7.39%	11.97%	7.04%	60.92%	12.68%	100.00%
I totally agree	2.31%	5.38%	3.85%	58.46%	30.00%	100.00%
Total	10.49%	12.46%	8.03%	53.77%	15.25%	100.00%
Chi-Square Tests	Value	df	Asymp. Sig. (2-sided)			
Pearson Chi-Square	140.432 <sup>a</sup>	16	.000			
Likelihood Ratio	116.683	16	.000			
N of Valid Cases	610					

Notes: <sup>a</sup> 2 cells (8.0%) have expected count less than 5. The minimum expected count is 4.74.

#### Hypotheses 6

$H_0$ : There is no significant relationship between tradesman view to see Siirt University as a gain and Siirt University has a positive contribution to the economy of Siirt.

$H_1$ : There is a significant relationship between tradesman view to see Siirt University as a gain and Siirt University has a positive contribution to the economy of Siirt.

As shown by Table 46 ( $p$ -value = 0.000 < 0.05, reject  $H_0$ ), it is seen that the status of the groups included in the survey are statistically related. The class distributions differ enough to conclude that there is a relationship between these two variables. There is a significant relationship between the tradesman views to see Siirt University as a gain and Siirt University has a positive contribution to the economy of Siirt. There are high percentages on the diagonal cells, which is an indicator for this dependence. This table shows that there is a consistency in the answers of tradesmen.

#### 4.2.5. Economic Contribution of Student Expenditures

In the academic year of 2015-2016, the students' monthly average of expenses in Siirt is used to calculate the contribution of the students to the provincial economy. The total annual contribution was calculated for students from both Siirt and from outside Siirt.

**Table 47.** Students Monthly Average Expenses

Spending Items	TL	Percent
City transportation	107	7.66%
Eating and drinking	313	22.42%
Cultural activity	46	3.30%
Sport activity	38	2.72%
Energy	297	21.28%
Communication	45	3.22%
Clothing	173	12.39%
Shelter	285	20.42%
Educational spending	92	6.59%
Total	1396	100.00%

Using the data in Table 47 and assuming that 12'223 students in Siirt University stay eight months in the province;

Total Monthly Economic Contribution = Monthly Student Expenditure x Number of Students

= 1'396 x 12'223 = 17'063'308 TL

Total Annual Economic Contribution = Total Monthly Economic Contribution x Duration (Month)

= 17'063'308 TL x 8 Months = 136'506'464 TL

It is determined that every student studying at Siirt University spent an average of 1'396 TL per month. However, this figure contradicts the monthly expenditure of the students in the province of Siirt in 2015 and 2016. This may be due to the fact that during the survey period, the students paid more attention to the expenditures of the month and did not remember the general expenditures in other months. Another reason might be that city transportation, cultural activity, sport activity, clothing and educational spending are not the same for each month and might be only a one-time purchase. For this reason, an estimate can be made by using the data presented in Figure 5.

The answers of the respondents who participated in the survey are calculated on the average of their monthly expenditures, and it was found that each student spent an average of 680.5 TL in a month. Repeating the same calculations yielded a total annual economic contribution as 66'540'568 TL.

## 5. CONCLUSIONS, RESULTS AND RECOMMENDATIONS

In this paper, the economic contribution of Siirt University to its province is investigated. In this context, a survey is conducted to tradesmen and Siirt University students to obtain economic data, the opinions and observations of the participants about the university. Microsoft Excel and SPSS statistical programs are used to analyze the surveys conducted in the field;  $\chi^2$  independence analyzes is performed to detect dependencies in six hypotheses by using frequency and cross tables. The answers related to economic questions are summarized in this paper.

When the students' perceptions about Siirt University are examined, it is stated that students choose Siirt University because it is close to their hometown and because university placement allowed to come to Siirt (Figure 4). Siirt University students think that their departments are efficient and adequate (Table 24).

With the categorization of student expenditures, a guide for entrepreneurs who want to invest to Siirt is formed. These data may provide additional information as market research to those who wish to invest in the province. For example, most of the students think that the cost of living (Table 12) and food and beverage prices (Table 14) in Siirt province are normal or lower, but housing costs are higher (Table 13). According to the reasons of preference 44.09% of the students came to Siirt University because it is close to their hometown, 28.80% because of the ratings and 8.37% because of financial constraints (Figure 4). Almost half of the students (50.32%) are not satisfied with Siirt province (Table 29). Based on these results, investments can be prepared to make Siirt province more attractive to students and to increase students' satisfaction levels. For example, it is possible to see the lack of high-quality cafes and sports areas, theater and cinema halls, and these investments will provide important income to companies who want to provide in these establishments. For the students, these investments will make the city attractive and the duration of stay in the province for students can be extended, and this will naturally increase their economic contributions to the city. The exchange of ideas between the university and the private sector should be increased in a way to extend their stay. For example, efforts can be made to arrange agreements, protocols, etc. for students to do their internship in Siirt.

Siirt tradesmen expressed the opinion that the existence of the university is important in terms of enhancing the quality of the economic, social and cultural life of Siirt province, and that the university is an asset for the city (Table 35), but the social and cultural activities are insufficient in terms of quantity. The perception of tradesmen towards the university is generally positive. They stated that Siirt University has economic, social and cultural effects on the city, the quality of education has increased and the province has become promoted (Figure 6). The opening of Siirt University has a positive impact to the economy of Siirt (Table 38), its employment (Table 37), and the expenditures of university and students (Table 39) affected the income of tradesmen positively. Participants also stated that activities at the university beneficially affected the society (Table 42).

The tradesmen have generally a positive attitude towards Siirt University students. They do not see students as a revenue-generating consumer, the shopkeepers are sensitive toward students, trust students, think that students contribute to the culture and moral values of the community, and that students improve the region with the knowledge and opinion they have (Figure 9). The views of students and tradesmen are useful in providing insight into the future of the university. It can be stated that according to tradesmen, the university plays an active role in changing the structure of the city. It is widely accepted among them that the university has a direct contribution to the changes in the number of students; the newly opened businesses; companies increased service quality; increased mobility in economic, social and cultural life; the advertisement of the province; the improvement in education, and the university is the initiator of this transformation.

In the  $\chi^2$  independence analysis and hypotheses tests, the first two are about education level of the students and the monthly total income of the year 2015 and 2016, are tested. For the year 2015 at 6.7% significance level and for 2016 for 4.2% significance level, there is a significant relationship between these two variables. The third hypothesis test suggests that there is a statistically significant relationship between the students who prefer Siirt University and finding the opportunity to study in the area they will graduate. The fourth hypothesis investigates the relation between the level of education and how much monthly total income a student wishes to should be. There is no significant relationship between these two variables. The fifth hypothesis test suggests that there is a statistically significant relationship between the gender of the students and their monthly total expenditures in 2015 and 2016.

The sixth hypothesis suggests that there is statistically significant relationship between tradesman view to see Siirt University as a gain and Siirt University has a positive contribution to the economy of Siirt. This hypothesis increases the probability for the reliability of the results. In addition, 60% of tradesmen agree that Siirt University is a gain for the province, while at the same time think that Siirt University contribute positively to the local economy (Table 46).

In addition to the indirect contributions of the students to the economy of Siirt, with the help of the data obtained from the Strategy Development Department of Siirt University, direct and total contribution values are calculated. In the 2015-2016 academic year, the total expenditure of Siirt University students in Siirt province is calculated as 66'540'568 TL, with the assumption that they spent an average of 8 months on average (Table 47). According to the 2016 year-end data, the total expenditures of the university in Siirt province are found to be 90'717'965 TL (Table 1). The contribution of Siirt University to Siirt province economy is minimum 157'258'533. When the macroeconomic multiplier is activated, this number will be greater. This contribution, which is a very high value for Siirt province, shows how important Siirt University is for the province. As a matter of fact, this study covers the expenses of the students of Siirt University and the expenditures of the university in the province. The private expenditures of academic and administrative staff were excluded from this study. Considering the expenditures of academic and administrative staff, it is possible to say that this contribution is more. Siirt University employs 774 people, of which 484 are academic and 290 are administrative. This is the employment contribution.

**Table 48.** Summary of Literature Review

	University/ Province	Nominal Spending	Real Spending	Nominal Contribution	Real Contribution
<b>2017</b>	<b>Siirt</b>	<b>680.5</b>	<b>753.17</b>	<b>157'258'533</b>	<b>157'258'533</b>
Korkmaz (2015)	Bayburt	432.66	554.33	16'582'992	19'830'532
Selçuk ve Başar (2012)	Kars Kafkas	549.00	833.40	8'000'000	12'144'283
Çalışkan (2010)	Uşak	560.00	987.20	50'000'000	88'143'019
Selçuk (2012)	Atatürk	744.66	1'045.06	186'300'000	282'809'984
Kaşlı and Serel (2008)	Balıkesir	518.86	1'166.59	2'300'000	4'626'855
Ergün (2003)	Afyon Kocatepe			3'800'000	11'839'644
Tuğcu (2003)	Nevşehir Hacı Bektaş Veli			4'500'000	14'020'631
Bilginoğlu et al. (2002)	Erciyes			9'700'000	37'840'182
Tugay and Başgöl (2005)	Burdur			17'900'000	45'540'435
Dalğar et al. (2009)	Burdur Mehmet Akif Ersoy			45'000'000	85'940'658
Erkekoğlu (2000)	Sivas Cumhuriyet			15'400'000	131'776'300
Akçakanat et al. (2010)	Süleyman Demirel			80'000'000	141'028'830
Atik (1999)	Erciyes			13'706'000	179'179'399
Görkemli (2009)	Selçuk			278'000'000	530'922'286
Sürmeli (2008)	Anadolu			443'000'000	891'172'429

Table 48 summarizes the results in literature review part. Real values are calculated using 1987 and 2003 based consumer price index numbers with base year 2017 (TURKSTAT, 2019a; TURKSTAT, 2019b). Real student spending is higher in the provinces in the west of Turkey. Per student real spending value calculated in this paper is between Kars Kafkas and Bayburt University, which are both in the eastern part of Turkey. Universities that are older, have more students or are in big city have a larger per student real spending. In addition, universities with high number of students have a larger real contribution to the region economy.

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