



## WOMEN'S EMPLOYMENT IN AVIATION: THE CASE OF UNITED STATES (USA)

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### Abstract

Employment is a really serious issue in that it can create an economic disruption if it is not dealt with correctly. The wrong solution for employment causes similar results. For this reason, it is important for both the economies of the country and the sector in question to solve the employment problem completely and correctly. In this context, an employment policy should be produced for the aviation sector as well as others. Employment policies should be determined in such a way that both the labour force and qualification need to increase. However, these policies should be in the direction of improving existing policies rather than a radical change. For instance, women's employment is available in many economies. Therefore, this policy should not be radically changed; on the contrary, it should be in the form of improving existing policies. Within this scope, ignoring women while forming employment policy may have several economic and financial consequences. However, certain factors affect women's employment. These factors can be expressed as follows: the glass ceiling syndrome, the queen bee syndrome, marital status and age, educational status, mobbing and sexual harassment, and wage inequality. In this study, women's employment data are extracted from the USA labour force statistics. The data were subjected to evaluation by the content analysis method. With this method, lots of the data and information independent of one another are examined deeply. By this way general trends can be determined clearly. Therefore, the data in this study are examined within the scope of labour economics. This study concludes that women's employment in the USA aviation market follows a positive course, but this is not enough. To eliminate the insufficiency, a number of economic and financial proposals need to be implemented.

**Keywords:** Civil aviation, Employment, Employment of women, Tax.

### Havacılıkta Kadın İstihdamı: Amerika Birleşik Devletleri (ABD) Örneği

#### Öz

İstihdam, doğru bir şekilde ele alınmadığı takdirde ekonomik bir bozulma yaratabileceği için ciddi bir konudur. İstihdam için yanlış çözümler benzer sonuçlara neden olur. Bu nedenle hem ülke ekonomilerinin hem de söz konusu sektörün istihdam sorununun eksiksiz ve doğru çözülmesi önemlidir. Bu bağlamda havacılık sektörü için olduğu kadar diğerleri için de bir istihdam politikası üretilmesi gerektiği açıktır. İstihdam politikaları, hem işgücünü hem de niteliği artıracak şekilde belirlenmelidir. Ancak bu politikalar radikal bir değişiklikten ziyade mevcut politikaların iyileştirilmesi yönünde olmalıdır. Örneğin, kadın istihdamı birçok ekonomide mevcuttur. Dolayısıyla bu politika kökten değiştirilmemeli, aksine mevcut politikaların iyileştirilmesi şeklinde olmalıdır. Bu kapsamda istihdam politikası oluşturulurken kadınları görmezden gelmenin bir takım ekonomik ve mali sonuçları olabilir. Ancak, bazı faktörler kadın istihdamını etkilemektedir. Bu faktörler şu şekilde ifade edilebilir: cam tavan sendromu, kraliçe arı sendromu, medeni durum ve yaş, eğitim durumu, mobbing ve cinsel taciz ve ücret eşitsizliği. Bu çalışmada kadın istihdamı verileri ABD işgücü istatistiklerinden alınmıştır. Veriler içerik analizi yöntemiyle değerlendirmeye tabi tutulmuştur. Bu yöntemle birbirinden bağımsız birçok veri ve bilgi derinlemesine incelenir. Bu sayede genel eğilimler net bir şekilde belirlenebilir. Bu nedenle çalışmadaki veriler çalışma ekonomisi kapsamında incelenmiştir. Çalışma, ABD havacılık pazarında kadın istihdamının olumlu bir seyir izlediği ancak

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*bunun yeterli olmadığı sonucuna varmaktadır. Yetersizliğin giderilmesi için bir takım ekonomik ve mali önerilerin hayata geçirilmesi gerekmektedir.*

**Anahtar Kelimeler:** Sivil havacılık, İstihdam, Kadın istihdamı, Vergi.

## 1. Introduction

The goods and services produced in the field of civil aviation are provided thanks to those employed in this field. Therefore, as in every sector, the qualification level of those employed in this sector determines the quality of the goods and services produced. Airline companies that produce qualified goods and services increase their profits at the same rate. For this reason, the concept of employment is included in the first section of this study.

The quality of a labour force is an important element. When it comes to labour force, the male labour force comes to mind first. However, benefiting only from a male workforce and therefore excluding women limits the quality of goods and services produced. To overcome this limitation, women must also be employed. Nevertheless, women face certain difficulties in terms of employment. The difficulties in question form the subject of the second part of this study.

In the third part, an evaluation was carried out using the content analysis method based on data relating to the USA. The reason why the USA was chosen is that its data on women's employment could be explained in detail. The study was concluded by making findings and suggestions for this evaluation.

## 2. The Concept of Economical Employment

Argumentum a contrario is the conclusion reached by acting from a contrary rule that has been arranged in the solution of a problem (Saraçoğlu et al., 2021). Therefore, to understand what employment is, it is necessary to know what unemployment means. One of the shortcomings of the market mechanism is fluctuations in economic activity. The issues referred to as economic fluctuations are inflation and unemployment (Baumol & Blinder, 2006). Unemployment is a loss of human power arising from the non-participation of the labour force in employment in various forms (Yıldız, 2014). Unemployment is an individual and social economic problem for two reasons (Parkin, 2010):

- **Income and Production Loss:** Job loss means a loss of income for unemployed workers and loss of production for the economy. Loss of income is a devastating situation for those who lose their income, making unemployment a frightening situation for everyone. Although social insurance seems to be a guarantee, it does not compensate for income losses and not every unemployed person can benefit from it.
- **Human Capital Loss:** Long-term unemployment permanently damages a person's employment prospects by destroying human capital.

The types of unemployment are as follows:

- **Natural Unemployment:** Unemployment that occurs when production and employment are at full employment level is called natural unemployment (Abel & Bernanke, 2005).
- **Cyclical Unemployment:** This is the difference between the actual unemployment rate and the natural unemployment rate (Abel & Bernanke, 2005).
- **Frictional Unemployment:** This takes time for workers to participate in employment because workers are looking for jobs that match their experience and abilities. The unemployment that occurs during this time is frictional unemployment (Mankiw, 2008).
- **Structural Unemployment:** This is unemployment that occurs because the number of available jobs in certain labour markets is insufficient to provide a job for everyone who wants one; it is structural unemployment (Mankiw, 2008).

Based on all these facts, employment can be defined as the employment of individuals who make the decision to work and provide income to benefit from their services (Şahin, 2010). Unemployment and employment rates are calculated using the following formulas (Biçerli, 2007; Şahin, 2010):

- Labour Force = Employed + Unemployed
- Labour Force Participation Rate = (Labour Force/Non-Institutional Working-Age Civilian Population<sup>1</sup>) x 100
- Unemployment Rate = Job Seekers/Labour Force
- Employment Rate = Employed/Non-Institutional Working-Age Civilian Population
- The Ratio of the Civilian Population of Non-Institutional Working Age = The Civilian Population of Non-Institutional Working Age/The Total Population

In a labour market, there are male and female workers in the employment pool. Female workers are in a more disadvantaged position in this regard than male workers. Undoubtedly, there are several reasons for this disadvantage.

### 3. Factors That Affect Women's Employment

Depending on the perception of gender, women face various problems with balancing work and family life. These problems affect the employment of women. These are the glass ceiling syndrome, the queen bee syndrome, marital status and age, educational status, mobbing and sexual harassment, as well as inequality in wages (Gümüş Dürbin, 2021).

#### 3.1. The Glass Ceiling Syndrome

The concept of a glass ceiling was first used in an article written by Hymowitz and Schellhart regarding working women in the Wall Street Journal newspaper in 1986 (Karakılıç, 2019). The concept was later used in many articles and was specifically related to women. The glass ceiling syndrome is defined as a barrier that women face just because they are women, which is defined as an invisible barrier for women employees attempting to reach senior positions. It is seen that women get stuck with glass ceiling obstacles on the way to reaching the positions they want in their working lives, and they hit the glass ceiling. Women cannot cope with these obstacles that they face and become stuck in obstacles (Yaprak, 2009).

One of the main factors contributing to the formation of a glass ceiling is discrimination and prejudice. Research has shown that women and minorities are often overlooked for promotions and leadership positions and are often paid less than their white male counterparts (Riach & Rich, 2002).

Another important factor contributing to the glass ceiling is the prevalence of stereotypes and unconscious biases in the workplace. Research has shown that both men and women tend to have unconscious biases against women and minorities, which leads to a lack of representation in leadership positions (Dovidio & Gaertner, 2002).

Today, the participation rates of women employees involved in working life in the labour force are high. However, despite this, female employees are less likely to reach senior management positions compared to male employees. Women employees, who are unlikely to be involved in senior management positions, usually take part in middle management positions and continue to work by

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<sup>1</sup> The non-institutional civilian population is the population other than those residing in schools, dormitories, hotels, kindergartens, nursing homes, hospitals, prisons, barracks or army houses and foreign nationals. The part of this population aged 15 and above constitutes the civilian population of non-institutional working age (Biçerli, 2007, p.54).

adopting the norms and values of the enterprise concerned. Due to the dominance of men at the top level, masculine norms and values are adopted. These masculine norms and values reinforce the glass ceiling syndrome (Van Vianen & Fisher, 2002).

Another organizational factor that causes the glass ceiling syndrome faced by female employees is the barriers set by female managers. Female managers base themselves on other female employees. These female managers believe that other female colleagues will behave just like them (Örücü et al., 2007).

The glass ceiling syndrome, which is a challenge that women may face along the leadership journey, means that the number of women on the way to the top at an elite career stage is decreasing. Career opportunities are more difficult for women employees on the success stairway that they will climb on the way to leadership (Eagly & Carli, 2007). However, the lack of representation in leadership positions can lead to feelings of isolation and frustration among women, who may feel that their contributions are not valued or recognized.

### **3.2. The Queen Bee Syndrome**

The Queen Bee Syndrome is a phenomenon in which successful women in male-dominated environments act hostile towards other women to maintain their powerful positions (Straines, et al., 1974). This phenomenon has been extensively studied in the academic literature and has been found to have a negative impact on women's advancement in the workplace (Derks et al., 2016).

In the Queen Bee syndrome, which is a managerial problem, female managers want to be the only one in top management and think that it is more privileged to have only one woman on the leadership path. From this point of view, they do not want other women employees to take part in management (Örücü et al., 2007). A whole set of these jealous perceptions of women is called the Queen Bee Syndrome.

There are certain obvious characteristics of the Queen Bee syndrome. These are internalizing the deceptions of men and using these deceptions against other employees, ending the competition between other employees as leader and ignoring the signs of discrimination that occur in the institution (Zel, 2002). This behaviour will completely suppress the other female colleagues of the female employee who wants to be the queen bee in the enterprise, and she will want to be the only one. In addition, organizations can also review their policies, procedures, and working practices to ensure that they are fair and egalitarian for all employees. These may include flexible working arrangements, parental leave, and equal pay, which can help create a more supportive environment for women and minorities (Hewlett & Luce, 2008).

### **3.3. Marital Status and Age**

Marital status is a social and demographic characteristic that refers to a person's current marital status, such as being married, divorced, single or widowed. This feature is often used to describe an individual's marital status and provides insight into their personal life, family situation, and social connections.

One of the main factors contributing to the origins of marital status are the social and cultural norms surrounding marriage. Historically, marriage has been seen as a rite of passage and a basic institution in many societies (Coontz, 2005). It has been used to form alliances, secure property rights and legitimize children.

Research has shown that marital status can be associated with a few social, psychological, and health-related consequences. For instance, it has been found that married individuals generally have

better mental health outcomes than those who are single, divorced, or widowed (Waite & Gallagher, 2000).

Age is a fundamental aspect of human biology, and the origins of age can be traced back to the earliest stages of life on earth. One of the most important factors contributing to the origin of age is the aging process itself. Aging is a gradual, progressive, and ultimately universal process that results in a loss of function and an increased sensitivity to disease and death (Hayflick, 1965). This process is caused by a combination of genetic, environmental and lifestyle factors and is a natural part of the life cycle.

Another factor that contributes to the origin of age is the concept of chronological age. Chronological age is a measure of the time that has elapsed since an individual's birth and is used to track and monitor physical and psychological changes that have occurred over time (Schaie, 2005). Age is often used as a way of grouping individuals in different developmental stages, such as childhood, adolescence, adulthood, and old age.

Another positive aspect of age on female employees is that older women can have more experience and expertise, which can lead to increased job performance and career development. They may also have developed a stronger sense of self-confidence and self-efficacy, which can help them overcome any difficulties in the workplace. In addition, older women may be more likely to become mentors and role models for younger female employees, which can help create a more inclusive and supportive workplace culture. (Eagly & Carli, 2007).

### **3.4. Educational Status**

Education is the most important element that has an impact on the status and employment opportunities that women will have in society, and it is an issue that contains obstacles in many ways in women's employment. Social roles imposed on women, expectations of women and stereotypical prejudices may discourage women from working life and continuing their careers and may also lead to a lack of representation in these areas (Arslan, 2013). Women's access to resources such as information, technology software, credit options and markets is not as easy as men's access today. This difference in the level of access is shaped and strengthened by gender norms that have been accepted by societies (Njuki et al., 2021).

According to a report by the International Association of Women Airline Pilots in 2018, 5% of commercial airline pilots worldwide and 7% of pilots in the United States are women. According to the report, the increase in the number of female pilots is increasing by as little as by as little as one percentage point every ten years (Centre for Aviation, 8/8/2018). This under representation is a problem not only in the United States, but all over the world, and it is based on gender discrimination, insufficient support, lack of role models, and unconscious biases (Ferla & Graham, 2019). Such a lack of women's employment in commercial aviation is also attributed to the fact that women are excluded from military training programs (Harris, 2016). Especially women working in the field of military aviation face many obstacles during their education by being subjected to discrimination, obstacles in accessing promotion opportunities and underestimation of their abilities (Oster, 1997). In detailed research conducted on the subject (Germain et al., 2012) the obstacles that stand before women in the aviation sector have been investigated and important findings have been obtained. According to the results of the research while 19% of women in education feel a lack of technical knowledge, 18.4% of them say the cost of education is high, 14% of them say they experience instructor mismatch, and 10.8% of them experience a lack of confidence, only 14.8% of them state that there are no obstacles.

### 3.5. Mobbing and Sexual Harassment

Sexual harassment is a problem that damages the psychological and physical health of the person experiencing harassment which can have negative consequences such as decreased job satisfaction, decreased productivity and unwillingness to work. Research has shown that women working in male-dominated industries and professions are more likely to be sexually harassed than those working in female-dominated or gender-balanced environments (Foley et al., 2022). Mobbing refers to a psychological attack on people in various forms such as psychological violence, pressure, siege, harassment, humiliation, and threats. It is possible to encounter both mobbing and sexual harassment cases in many areas from the health sector to tourism (Yıldız & Özkan, 2022). In studies conducted on mobbing and sexual harassment, many factors have been observed that cause these two conditions. In general, the main reasons may be based on common concepts such as social, psychological, cultural, and economic factors, as well as more individual reasons such as how people behave in work environments using different leadership styles, jealousy, power desire, or self-esteem (Flores et al., 2014).

In a study conducted on the problems experienced by women employees in the aviation sector (Yanikoğlu et al., 2020) it was revealed that women pilots working in the military field are subjected to more mobbing and sexual harassment compared to women pilots in the civilian field. Furthermore, they cannot express the mobbing and sexual harassment cases they face for fear of losing their jobs, and they usually do not reach a result even if they express it, but they continue to work under these pressures for long periods of time. In addition, it is observed that mobbing pressure has increased on people working in the aviation sector due to reasons such as the rapid growth in the aviation sector and increasing competitive conditions in recent years, this pressure is not only from managers to employees, but also from employees to employees (Özcan & Şen, 2022).

### 3.6. Inequality in Wages

Gender equality does not mean treating men and women the same, but providing equal access to resources, opportunities and talents that enable all people, regardless of gender, to improve their lives. When examining today's societies, it can be seen that women do not have this equal access. Despite the positive discrimination policies that women have today, gender inequality still prevails to varying degrees around the world (Kim, 2022). Wage distribution, on the other hand, is a function of the quality of labour components and wage structure. Men and women are usually affected to different degrees by the wage structure, especially where boundary-determining factors such as the minimum wage are important (Ganguli & Terrell, 2006). In the past, for a woman to earn money by working was perceived as a negative signal about the economic situation of her family (Seneviratne, 2020). Since the 1980s, there have been huge increases in income inequality in many industrialized countries (Fortin et al., 2017). Although progress has been made recently in narrowing the gender gap in education, health, and political representation, it is not possible to say that full equality has been achieved for women. This is because although there have been significant improvements in women's participation in the labour force in the last twenty-five years, widespread gender discrimination continues. Evidence from both developed and developing countries shows that women are paid 10-30% less than men for the same job (Danquah et al., 2021). There may be two reasons for this difference: human capital equipment such as education and experience, or gender difference. If there is a difference caused by the first factor, it is a fair difference and will not negatively affect productivity in the labour market (Mincer & Polachek, 1974). However, if gender is the only reason for the difference in question, this means that labour productivity has taken a big hit and is one of the biggest problems that societies will face when it comes to the development of a modern economic system (Becker, 1973). On the other hand, many studies have

found that this difference is not due to hardware, but rather due to gender differences (Blau & Kahn, 2017; Samek, 2019).

#### 4. Content Analysis Application for Women's Employment in the US Aviation Sector

##### 4.1. Methodology

In this study, content analysis is carried out using a qualitative research technique as a research method. Although there are many definitions of qualitative research, the most general definition is the holistic presentation of the data collected by various techniques such as observation, interview, and document analysis. Despite the unique difficulties of qualitative research, it is a technique that allows the achievement of extremely important results in social sciences. Questioning the information produced is a method in which the method cannot be singular, and the finding and theory are independent of the method. This method plays a more effective role in interdisciplinary applications in research that should be productive and versatile for social sciences. (Tanyaş, 2014). In this study, the employment of women working in the USA was examined, and an attempt is made to evaluate all the factors affecting the participation of women employees in enterprises. The change of women working in the aviation industry with FAA certification over the years, groups that are underrepresented in the aviation sector, the age demographic of female pilots, as of 2020, and the percentages of women in leadership positions in airlines were reached and by evaluating these data, an attempt was made to evaluate women's employment in the aviation sector in the USA.

##### 4.2. Research Ethics

This research paper did abide by the ethical rules and principles. References were made in accordance with the scientific standards. The authors declare that this research paper does not require an ethical committee report. The study is original and was carried out with following the universal scientific rules.

#### 5. Findings

The number and percentage ratios of women who have the FAA certificate are given in Table 1. According to Table 1, the qualifications obtained by women have increased from 1960 to 2020.

**Table 1.** *Women in aviation: Historical data 1960-2020* (Lutte, 2021)

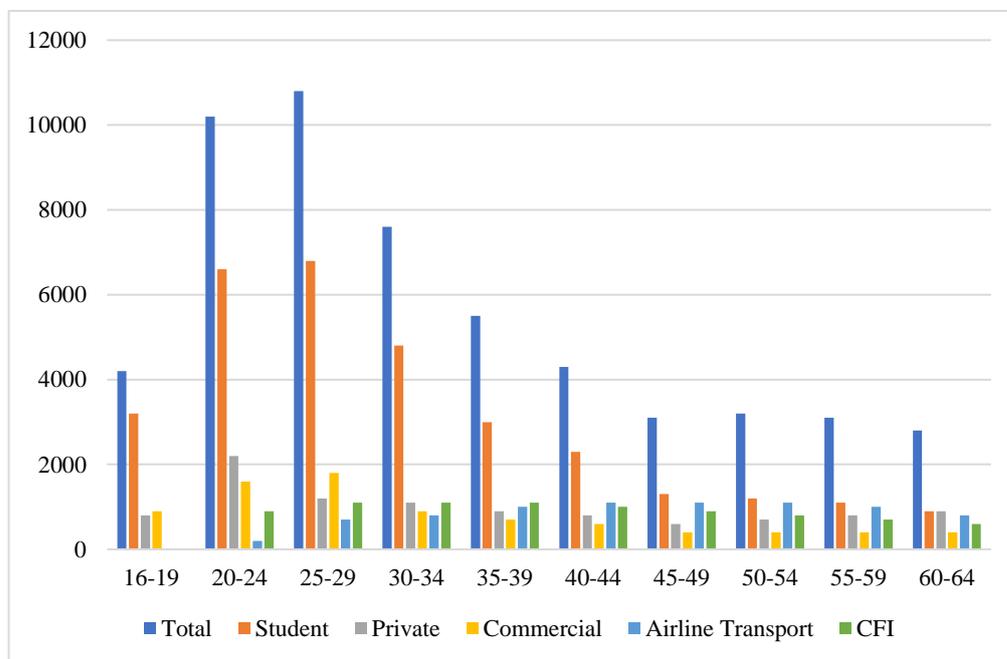
	Private		Commercial		ATP		Flight Instructor		Mechanic	
<b>1960</b>	3425	2.5%	738	0.8%	25	0.1%	425	1.4%	110	0.1%
<b>1970</b>	11409	3.8%	1897	1.0%	79	0.2%	589	1.6%	302	0.2%
<b>1980</b>	21554	6.0%	3993	2.2%	480	0.7%	2079	3.4%	890	0.4%
<b>1990</b>	17301	5.8%	5210	3.5%	2082	1.9%	3239	5.1%	3333	1.0%
<b>2000</b>	14544	5.8%	5807	4.8%	4411	3.1%	5193	6.4%	5047	1.5%
<b>2010</b>	13566	6.7%	8175	6.6%	5580	3.9%	6359	6.6%	7215	2.2%
<b>2020</b>	11316	7.0%	7724	7.4%	7549	4.6%	8592	7.3%	7860	2.6%

However, due to gender perception, institutional barriers and policies, these women who have qualifications are likely to experience the glass ceiling syndrome. However, it is equally likely that the number of women who have these qualities will rise. However, even if these women have settled into a high-level positions in the workplace, they may also experience the Queen Bee Syndrome due to competition between women. Although there is no data on marital status and age in Table 1, the gender

roles assumed by women can be a serious obstacle to their employment. In addition to these qualities, it is also possible for these women to be subjected to mobbing if their educational status is high. However, women with low education levels may have problems with employment even though they have these qualifications. They are also likely to experience wage inequality as part of mobbing.

**Table 2.** 2020 Aviation labour force (Lutte, 2021)

Occupation	Total Employed	% White	% Black or African American	% Asian	% Hispanic or Latino
Pilots	155000	94	3.4	2.2	5
Aircraft Mechanics and Service Technicians	153000	84.3	10.8	3.2	23
Aerospace Engineers	129000	83.3	6.8	9.1	10.5
Flight Attendants	81000	65	19.3	10.6	10.3
Air Traffic Controllers	18082	77.9	7.2	3.6	9.2



**Figure 1.** Women pilots age demographics (Lutte, 2021)

When looking at the data in Table 2, it is possible to state that whites are more privileged in terms of employment in the aviation labour force because they have a serious employment share in the aviation workforce. In addition, people of black, African American, Asian, Hispanic, or Latino origin are quite few. Therefore, the probability of these groups being subjected to a natural discrimination is quite high. It is possible that these groups, who are underrepresented in this respect, suffer mobbing and experience wage inequality. Even if underrepresented groups are qualified, their origin takes on the form of a glass ceiling for them. Therefore, it is possible for them to suffer from the Glass Ceiling Syndrome. In addition, for those who are married among women in these inadequate groups, their being married can be put forward by the employer as an excuse for employment. It is possible that the age factor may be added to these excuses. Even if women in underrepresented groups overcome all the obstacles, they may live in fear of being criticized and accused of failure. This may put them at risk of the Queen Bee Syndrome.

When the age demographic of female pilots is examined in Figure 1, it can be seen that they are clustered in the age groups of 20-24 and 25-29 years. Undoubtedly, there are some reasons for this situation. Firstly, women graduate from university at about the age of 20. Therefore, the information that women have is up to date. This allows them to find a job easily for them. It is easier for women in the 20-29 age range to change jobs because they are young. Even if they are married, they can tolerate job changes more easily. These job changes also allow them to have experience for women of this age. In other words, women at a young age progress in their working life by adopting the working principles of many companies. Secondly, individuality is at the forefront of female employees in these age groups. Especially the fact that women at this age are usually single allows these people to make decisions quickly without thinking about anyone. On the other hand, a married female employee can put company policies in the second place because she will decide according to her family whether she wants to or not. Thirdly, the physical endurance of employees at this age is higher than that of the upper age groups. Therefore, women in these age groups can take on more responsibilities. Fourth, employees in these age groups do not have much accumulation. Therefore, companies may prefer female employees of this age for strenuous jobs such as overtime. This is because women over the age of 30 are quite likely to prefer free time between overtime and free time. All these considerations explain why women employees are clustered more in the 20-30 age range.

Therefore, it is possible to suggest that this age interval is the age at which women begin to have qualifications. However, it can also be seen that the number of women gradually decreases in the periods after these age intervals. In this context, it is possible to draw the following conclusions in terms of the factors affecting women's employment:

- It is possible for women to experience the Glass Ceiling Syndrome from the age of 30, because the age demographic tends to decrease after this point. This proves that women over the age of 30 are more likely to face organizational and perceptual barriers.
- One of the reasons for the deceleration of the female age demographic after the age of 30 may be the Queen Bee Syndrome because successful women are likely to be envied by a male-dominated structure and their own peers.
- After the age of thirty especially, women are more likely to be married and have children. This will mean that a woman will be more interested in her own family than in her job. Such a situation means that women are not particularly active in the labour force. Therefore, it would be a correct approach to say that one of the reasons for the decrease in age demographics is the marital status and age factor.
- The high educational status of women does not explain the decrease in the age demographic. However, as the age demographic increases, the presence of women in the labour force is due to their educational status. Therefore, it is possible to cite the level of education as the reason why women still stay in the labour force as they age.
- It is possible that the decrease in the age demographic of women is associated with cases of mobbing and sexual harassment. Women individuals who experience such cases may also prefer to withdraw from the labour market instead of resorting to litigation. Therefore, it is possible that such a decrease can also be explained by cases of mobbing and sexual harassment.
- The fact that the wage level is not equal in a market may cause the working individual to leave that market. Therefore, it is possible that the decrease in the age demographic can be explained by the inequality factor in wages.

**Table 3.** *Women in leadership positions at airlines as of 2020 (Lutte, 2021)*

Position	Percentile
CEO	3
CFO	15
COO	4
CCO	13
CIO	13
HR Director	37

When we look at the status of women in leadership positions, it is seen that the participation rates at the highest level are extremely low. The reason for this situation is that the factors that negatively affect women's employment prevent women from occupying top positions. The high number of women working at the top level in human resources can be explained by the fact that the impact of factors that negatively affect women's employment is less intense than in other positions. In fact, women have the potential to be affected by all of these factors in the employment phenomenon until they reach the top position.

## 6. Conclusion, Discussion and Suggestions

Glass ceiling syndrome is one of the important factors in the decrease in the level of female employment. Sposito Akpınar (2013) emphasized this point in her study. The study was considered within the framework of samples obtained from Turkish and French institutions. According to the study, it was examined how women involved in middle-level management handled the phenomenon of progress in their own careers and how the institutions they worked for supported themselves in this regard. As a result, it has been found that women are not sufficiently supported in overcoming the glass ceiling syndrome (Sposito Akpınar, 2013). A similar situation is observed in the data on women's employment in the United States. However, this situation is actually due to the fact of age.

Queen bee syndrome is a phenomenon related to harmful competition between women. For example, Aksu and Şahin (2022) suggested that in order to eliminate the queen bee syndrome, the threat of social identity and the belief in the legitimacy of sexual discrimination should be reduced. When we look at the women's employment data related to the USA, it is unlikely to say that there are actually such threats. However, it is possible to talk about the existence of a competition arising from the nature of women. For this reason, it is possible that a queen bee syndrome can always continue to exist in the USA, albeit at a negligible level.

Şahinoğlu and Ağırkaya (2021) revealed in their study that role conflict affects women's employment, and that age and marital status are two of the determinants of women's employment. Indeed, when we look at the USA women's employment data as age progresses, it is seen that employment decreases. Although there is no data in terms of marital status, it is possible to state that the increase in family responsibility is more dominant after marriage. Therefore, it can be said that as the age of women increases and women are married, the decline in U.S. female employment may be observed.

Karabıyık (2012), on the other hand, considered women's employment from the point of view of Turkey in his study and revealed that women's employment decreases as the level of education decreases. When looking at the USA women's employment data, it is seen that the number of pilots has also increased. Taking into account the fact that there is a serious level of education to become a pilot,

it can be suggested that there is a direct proportional correlation between education and women's employment in the USA.

Sadi and Karatepe Gürün (2021) found that educated women employees in Istanbul are always exposed to sexual harassment and mobbing at workplaces regardless of their demographic characteristics. Considering that women's employment in aviation has increased in a country like the USA, which is one of the first countries that comes to mind when it comes to democracy, it is possible to suggest that such a problem is relatively less. However, the possibility that such a situation may exist at any time should not be ignored.

Turgut (2019) has revealed in his study on women's employment in Turkey that women earn less than men, work in more precarious conditions and more unregistered, and have less assets and operating income. However, when the situation is evaluated from the point of view of the USA, it is seen that the employment of women in aviation is increasing. The situation in which women's employment decreases is related only to age and marital status. In this regard, it is not possible to talk about a direct income inequality in women's employment in the USA. However, it is another fact that women's incomes should be increased in the field of aviation within the scope of positive discrimination. This is because employment in the field of aviation requires a physical and technical qualification. In this regard, women should be supported more than men.

America has the capacity to seriously affect the economies of other countries because of the share it has in the world economy. This situation also occurs naturally in the aviation market. The fact that economic data are more systematic than in many countries is proof of this situation. In this context, choosing the USA as the main country for women's employment is decisive in terms of the position of women's employment in other countries.

Even in America, which is among the leading countries in terms of democracy, it has been shown by certain data that women do not take much part in the aviation market. This is seen in the certificates received from the FAA. The aviation certificates that women have acquired in order to gain qualifications indicate that an inactive capacity still exists.

Women who are included in underrepresented groups are in danger of being discriminated against twice. The first pillar of this discrimination is that they are women. The second pillar is that they are found in underrepresented groups. The employment rates of women who are subjected to discrimination in this way will be low.

Another negative is that the share of women in pilot positions is gradually decreasing as the age demographic increases. The clustering of age demographics at a young age means that the employment process of women is limited until middle age.

The fact that the share of women in senior management is quite low indicates that the conditions in the American aviation market are still not suitable for women. As these adverse conditions are eliminated, the rate in question will increase to that extent.

More effective measures need to be taken to increase women's employment in the US aviation market. The data will become more positive this way. For this, several measures need to be taken:

- First, it is necessary for the US government to change the social perceptions in favour of women. The government should declare to people how essential it is for women to take part in employment in society. It is also important that the institutional structures of the private sector are established in such a way as to enable women's employment. These two elements will eliminate the Glass Ceiling Syndrome.

- It is necessary to ensure gender equality in private sector structures in the aviation market in a tangible way. In addition, women-women relations need to be transformed from destructive competition to constructive cooperation. In this way, the Queen Bee Syndrome can also be eliminated.
- Aviation market employers, like other employers, view the employment of single women more favourably than married women. However, the marital status of married women should also not be an obstacle to employment because the fact that women continue the work experience they have gained while single even when they are married can help to achieve more output in terms of the labour market. Therefore, marital status and age will also be removed as negative factors.
- A high level of education for women is theoretically considered a positive feature. However, for this situation not to create a problem for other employees in the labour force, it should be ensured that high levels of education are included in the corporate culture in such a way as to be an incentive element for promotion. If the high level of education in the corporate culture of the private sector is concretely encouraged, employees will make the labour factor in the workforce more qualified.
- It is necessary to create a legal framework that will provide positive regulations to women regarding sexual harassment and mobbing. In such a situation, women in the aviation market should be able to effectively access the means of seeking rights instead of withdrawing from the labour force. Women who can effectively use the means of seeking rights will be able to get the opportunity to work in the workforce for a longer term.
- A wage inequality that occurs in favour of men reveals an income effect in men, while it reveals the substitution effect in women. This shows that women prefer free time instead of working. To reverse this situation, taxation can be used as an incentive tool. Taking less income tax from women's wages will bring the income effect to the fore. However, it is necessary to adjust taxation in such a way as to create a cost element from the employer's point of view as well. Such an arrangement will make the employer more willing to employ women.

With these measures, the American aviation market will be able to set an example for other countries in terms of women's employment. Therefore, just as in other sectors, there may be a domino effect in the aviation market and women's employment will start to come to the fore in other economies as well.

## 7. References

- Abel, A.B., & Bernanke, B.S. (2005). *Macroeconomics* (5th ed.). Pearson Addison-Wesley.
- Aksu, M., & Şahin, B. (2022). Kraliçe arı sendromu bağlamında kadınların kariyer yolunda erilleşme sorununun teorik incelemesi. *Süleyman Demirel Üniversitesi İnsan Kaynakları Yönetimi Dergisi*, 1 (1), 1–25.
- Arslan, M. (2013). İş-aile ve aile-iş çatışmalarının kadın çalışanların iş doyumları üzerindeki etkisi. *Birey ve Toplum*, 2 (1), 99–114.
- Baumol, W.J., & Blinder, A.S. (2006). *Economics-principles and policy*. Thomson South-Western.
- Becker, G. S. (1973). *The Economics of discrimination*. University of Chicago.
- Biçerli, K. (2007). *Çalışma ekonomisi* (4. baskı). Beta.
- Blau, F.D., & Kahn, L. M. (2017). The gender wage gap: Extent, trends, and explanations. *Journal of Economic Literature*, 55 (3), 789–865. <https://doi.org/10.1257/jel.20160995>

- Centre For Aviation (8/8/2018): Women airline pilots: A tiny percentage and only growing slowly. Interview with CAPA, <https://centreforaviation.com/analysis/reports/women-airline-pilots-a-tiny-percentage-and-only-growing-slowly-432247>
- Coontz, S. (2005). *Marriage, a history: How love conquered marriage*. Penguin books.
- Danquah, M., Iddrisu, A. M., Boakye, E. O., & Owusu, S. (2021): Do gender wage differences within households influence women's empowerment and welfare? Evidence from Ghana. *Journal of Economic Behavior & Organization*, 188, 916–932. <https://doi.org/10.1016/j.jebo.2021.06.014>
- Derks, B., Van Laar, C., & Ellemers, N. (2016). The queen bee phenomenon: Why women leaders distance themselves from junior women. *The Leadership Quarterly*, 27(3), 456–469. <https://doi.org/10.1016/j.leaqua.2015.12.007>
- Dovidio, J. F., & Gaertner, S. L. (2002). Reducing prejudice: Combating intergroup biases. *Group Processes & Intergroup Relations*, 8 (4), 101–105. <https://doi.org/10.1111/1467-8721.00024>
- Eagly, A. H., & Carli, L. L. (2007). Women and the labyrinth of leadership. *Harvard Business Review*, 85 (9), 62–71.
- Ferla, M., & Graham, A. (2019). Women slowly taking off: An investigation into female underrepresentation in commercial aviation. *Research in Transportation Business & Management*, 31, 1–10. <https://doi.org/10.1016/j.rtbm.2019.100378>
- Flores, M.M.T., Tovar, L.A.R., & Vilchis, F.L. (2014). Mobbing: A theoretical model quantifying factors affecting the role of women executives in the institutions of public education in Mexico. *Contaduría y Administración*, 59 (1), 195–228. [https://doi.org/10.1016/S0186-1042\(14\)71249-5](https://doi.org/10.1016/S0186-1042(14)71249-5).
- Foley, M., Oxenbridge, S., Cooper, R., & Baird, M. (2022). ‘I’ll never be one of the boys’: Gender harassment of women working as pilots and automotive tradespeople. *Gender Work & Organization*, 29 (5), 1676–1691. <https://doi.org/10.1111/gwao.12443>.
- Fortin, N. M., Bell, B., & Böhm, M. (2017). Top earnings inequality and the gender pay gap: Canada, Sweden and the United Kingdom. *Labour Economics*, 47, 107–123. <https://doi.org/10.1016/j.labeco.2017.05.010>.
- Ganguli, I., & Terrell, K. (2006). Institutions, markets and men's and women's wage inequality: Evidence from Ukraine. *Journal of Comparative Economics*, 34 (2), 200–227. <https://doi.org/10.1016/j.jce.2006.02.008>.
- Germain, M.L., Herzog, M.J.R., & Hamilton, P.R. (2012). Women employed in male-dominated industries: Lessons learned from female aircraft pilots, pilots-in-training and mixed-gender flight instructors. *Human Resource Development International*, 15 (4), 435–453. <https://doi.org/10.1080/13678868.2012.707528>.
- Gümüş Dürbin, E. (2021). *Havacılıkta Kadın İstihdamı*. In D. Macit (Ed.), *Havacılık ekonomisi- teori, politika ve güncel araştırmalar* (pp. 487–506). Nobel.
- Harris, D. (2016). *Human Performance on The Flight Deck*. CRC.
- Hayflick, L. (1965). The limited in vitro lifetime of human diploid cell strains. *Experimental Cell Research*, 37 (3), 614–636. [https://doi.org/10.1016/0014-4827\(65\)90211-9](https://doi.org/10.1016/0014-4827(65)90211-9).
- Hewlett, S. A., & Luce, C. (2008). Off-ramps and on-ramps: Keeping talented women on the road to success. *Harvard Business Review*, 86 (3), 43–54.

- Karabıyık, İ. (2012). Türkiye’de çalışma hayatında kadın istihdamı. *Marmara Üniversitesi İİBF Dergisi*, XXXII (I), 231–260.
- Karakılıç, N.Y. (2019). Evaluation of glass ceiling syndrome in terms of gender discrimination perception. *Journal of Management and Economics Research*, 17 (2), 214–233. <https://doi.org/10.11611/yead.495207>.
- Kim, S. Y. (2022). Analyzing the impacts of informal institutional factors affecting gender inequality: Evidence from 43 countries. *World Development Perspectives*, 28, 1–11, <https://doi.org/10.1016/j.wdp.2022.100470>.
- Lutte, R.K. (2021). *Aviation Institute Faculty Publications*, Women in aviation: A workforce report. Nebraska: NASA Nebraska Space Grant. <https://digitalcommons.unomaha.edu/aviationfacpub/6>
- Mankiw, N.G. (2008). *Principles of economics* (5th ed.). South Western Cengage Learning.
- Mincer, J., & Polachek, S. (1974): Family investments in human capital: Earnings of women. *Journal of Political Economy*, 82 (2, Part 2), 76–108. <https://doi.org/10.1086/260293>.
- Njuki, J., Eissler, S., Malapit, H., Meinzen-Dick, R., Bryan, E., & Quisumbing, A. (2021). A review of evidence on gender equality, women’s empowerment and food systems. *Global Food Security*, 33, 1–12. <https://dx.doi.org/10.48565/scfss2021-1q69>.
- Oster Jr, C.V. (1997). Who's flying this plane? Education and training for aviation careers. In *Proceedings of the 39<sup>th</sup> Annual Meeting of the Transportation Research Forum: Volume 2* (pp. 852-874). Northwestern University. <https://hdl.handle.net/2027/ien.35556028232759>
- Örücü, E., Kılıç, R., & Kılıç, T. (2007). Cam tavan sendromu ve kadınların üst düzey yönetici pozisyonuna yükselmelerindeki engeller: Balıkesir ili örneği. *Celal Bayar Üniversitesi Yönetim ve Ekonomi Dergisi*, 14 (2), 117–135.
- Özcan, M. B., & Şen, G. (2022): Örgütsel sinizmin çalışanların performansı ve işe bağımlılık düzeyleri üzerindeki etkisi: Türkiye’de hava aracı bakım kuruluşlarında bir araştırma. *Business Economics and Management Research Journal*, 5 (2), 97–120.
- Parkin, M. (2010). *Economics* (9th ed.). Pearson.
- Riach, P. A., & Rich, J. (2002). Field experiments of discrimination in the market-place. *The Economic Journal*, 112 (483), 480–518. <https://doi.org/10.1111/1468-0297.00080>.
- Sadi, B., & Karatepe Gürün, S. (2021). Eğitimli kadın istihdamının sorunlarına yönelik bir araştırma. *İstanbul Kent Üniversitesi İnsan ve Toplum Bilimleri Dergisi*, 2 (2), 21–50.
- Samek, A. (2019). Gender differences in job entry decisions: A university-wide field experiment. *Management Science*, 65 (7), 3272–3281. <https://doi.org/10.1287/mnsc.2018.3107>.
- Saraçoğlu, F, Çakar Pürsünlerli, E., & Ömercioğlu, A. (2021). *Vergi hukuku* (12. baskı). Gazi.
- Schaie, K. W. (2005). *Developmental influences on adult intelligence: The seattle longitudinal study*. Cambridge University.
- Seneviratne, P. (2020). Gender wage inequality during sri lanka’s post-reform growth: A distributional analysis. *World Development*, 129, 1-13. <https://doi.org/10.1016/j.worlddev.2020.104878>.

- Sposito-Akpınar, C. (2013). Career barriers for women executives and the glass ceiling syndrome: The case study comparison between French and Turkish women executives. *Procedia-Social and Behavioral Sciences*, 75, 488–497, <https://doi.org/10.1016/j.sbspro.2013.04.053>.
- Straines, G. L., Tavris, C., & Jayaratne, T.E. (1974). The queen bee syndrome. *Psychology Today*, 8 (7), 56–60.
- Şahin, H. (2010). *İktisada giriş* (8. baskı). Ezgi Kitabevi.
- Şahinoğlu, T., & Ağırkaya, M.B. (2021). Kadın istihdamını etkileyen unsurlar ve bu unsurların demografik özelliklerle ilişkisi: Erzurum ili örneği. *İktisadi İdari ve Siyasal Araştırmalar Dergisi*, 6 (6), 398–421, <https://doi.org/10.25204/iktisad.902806>.
- Tanyaş, B. (2014). *Nitel araştırma yöntemlerine giriş: Genel ilkeler ve psikolojideki uygulamalar*, (5), 25–38. Eleştirel Psikoloji Bülteni. <http://elestirelpsikolojibulteni.todap.org/p/yayimlanmis-sayilar.html>
- Turgut, A.Ş. (2019). Türkiye’deki gelir eşitsizliğinin toplumsal cinsiyet, kadının istihdamı ve kadın yoksulluğu açısından değerlendirilmesi. *Kocaeli Üniversitesi Sosyal Bilimler Dergisi*, 2 (38), 315–329, <https://doi.org/10.35343/kosbed.581637>.
- Van Vianen, A.E.M., & Fisher, A.H. (2002). Illuminating the glass ceiling: The role of organizational culture preferences. *Journal of Occupational and Organizational Psychology*, 75 (3), 315–337. <https://doi.org/10.1348/096317902320369730>.
- Yanikoğlu, Ö., Kılıç, S., & Küçükönel, H. (2020). Gender in the cockpit: Challenges faced by female airline pilots. *Journal of Air Transport Management*, 86, 1–8. <https://doi.org/10.1016/j.jairtraman.2020.101823>.
- Yaprak, Ş. (2009). Kadınların yönetim kademelerinde yer almalarının önündeki engeller ve cam tavan olgusu. In B. Baytekin, F. Fidan, G. Hazer, D. Aygin, N. Yıldırım, M. Hayır & F. Şimşek (Eds.), *Uluslararası-Disiplinlerarası Kadın Çalışmaları Kongre Bildirileri: I. Cilt* (pp.181-192). Sakarya Üniversitesi. <http://www.kadinkongre.sakarya.edu.tr/formlar.html>
- Yıldız, K. (2014). İşsizlik türleri, her bir işsizlik türünün toplam işsizlikteki payı ve çeşitli demografik parametrelerle ilişkisi. *Akademik Bakış Uluslararası Hakemli Sosyal Bilimler Dergisi*, (45), 0-0.
- Yıldız, N., & Özkan, H. (2022): Türkiye’de turizmde mobbing ile ilgili literatürde yer alan çalışmaların bibliyometrik analizi. *Ekonomi Maliye İşletme Dergisi*, 5 (2), 357–368. <https://doi.org/10.46737/emid.1149660>.
- Waite, L. J., & Gallagher, M. (2000). *The case for marriage: why married people are happier, healthier and better off financially*. Doubleday.
- Zel, U. (2002). İş arenasındaki kadın yöneticilerin algılanması ve kraliçe arı sendromu. *Amme İdaresi Dergisi*, 35 (2), 39–48.