

International Trade and Employment in Labour-Intensive Sectors in Iran; The Case of Carpet- Weavers

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Abstract

Most developing countries try to “reduce production costs” to be able to increase their exports to the competitive international markets. The process of economic globalization has winners and losers. Surging international trade has lowered the share of Iran's labour-intensive exports, especially Persian Carpets, in international markets; as the production costs of its rival countries are lower.

The findings of this research and the results of the survey which was conducted in Kashan show that rise in international trade has reduced Iran's competitiveness in labour intensive exports and the increased the share of resource based exports.

As, harsh international competition in conquering hand-woven carpet markets has reduced real wages of carpet-weavers and has restructured the labour force of the carpet industry in Iran. The middle income families, who were involved in carpet-weaving for long time, have left the industry and Afghan immigrant workers increasingly substitute Iranian middle class weavers. The estimated econometric model also indicates that by increasing real income, many workers leave low-paid carpet weaving jobs. So, Iran's share in international hand-woven carpet markets would be lower, if low-paid women and Afghan workers were not concentrated in Iran's hand-woven carpet industry.

Key Words: Employment, International Trade, Carpet Weavers, Afghan immigrants

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1- Introduction

Economic globalization is a historical process, the result of human innovation and technological advancements. It involves the increasing integration of economies around the world, particularly through trade and financial flows. Yet, globalization has created inequality within and between nations, threatens employment and living standards, and thwarts social advancements by accelerating "*the race to the bottom*".

Globalization offers extensive opportunities for worldwide development but it is not progressing evenly. Countries that have been able to integrate are seeing faster growth and reduced poverty. By contrast, many developing countries have not been able to gain from open and liberalized international trade, and face economic stagnation and declining standard of living for the vast majority of the workforce.

This paper sets out to investigate the effects of surging international trade on gender inequality in Iran by investigating about the situation of carpet weavers. For providing a relatively clear picture of hand-woven industry in Iran, in addition to the use of all available statistics and information, the author has conducted interviews with 96 carpet weavers in Kashan (which is famous for its hand-woven carpets worldwide).

The paper, reviews the literature about globalization and gender inequality, especially in labour-intensive export sectors, where women are mainly concentrated; and shows how international competitions causes "*race to the bottom*" and suppress real wages, especially in developing countries. Then the trend of Iran's exports is presented to show the effects of globalization in Iran's labour-intensive exports. In the next section change in Iran's share in international carpet markets is studied to analyze the effects of declining exports on changes of labour force structure in hand-woven carpet industry. In this regard the age, gender, education and income of weavers and the position of carpet weavers in households are extracted from the results of our survey. In the final stage the concluding remarks are presented.

2- The Impact of Globalization on Gender Inequalities

Globalization has intensified in the past decade, leading to a new global outreach through an unprecedented surge in international trade flows and

cross-border capital movements. The increased capital mobility combined with an accelerated pace of technological change pose serious opportunities and challenges for the development of the human resources and labour market policies in many developing countries. Not every developing country is going to be a winner in the new global contest. Adverse effects and asymmetrical impacts across various sectors and countries are widely expected. In fact, the distribution of benefits from trade liberalization is likely to be highly skewed between countries and within countries.

Competition between nations or states, over investment and export-markets, leads to the progressive dismantling of regulatory standards which is known as the "race to the bottom". This process implies that the states compete with each other as each tries to underbid the others in lowering production costs, real wages and taxes to make itself more attractive to outside financial interests. This action would hurt all nations except the one that undercut the others (Tonelson 2002).

Some may believe, however, that "*race to the bottom*" can help ameliorate poverty, for if businesses can operate for less money, they can cut prices while maintaining their profit margins. In other word, it can be possible to trade off employment and growth with labour standards. Yet, in general, the benefits of globalisation in accordance with this competitive logic have not trickled down to those who make the products. *The race to the bottom* works to undermine the ability of governments to enforce labor standards such as workers' compensation and working conditions (Rodric 1999). But the winner is the country that defines the bottom. Therefore, globalization has been associated with declining labour standards in most countries, especially in developing countries. Many governments ignore the violation of labour laws, in order to persuade investment and to promote exports (Stiglitz 2002; Standing 1999).

Since the early 1980s, because of declining oil prices, appearance of economic stagnation, on one hand, and recommendations by international financial institutions such as the World Bank and IMF, by the other, oil-exporting countries have started reform programs for privatization to increase the efficiency of economic sectors (Bell 1995). The main objectives of the reform policies were to accelerate growth, to diversify exports and to create sufficient job opportunities for increasing number of unemployed.

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Economic reforms were not successful enough in many oil exporting countries, as labour costs in these countries were generally higher than many newly industrializing countries, especially India and China. Intensified competition among developing countries for capturing the markets of labour-intensive exports, leads to loss of employment for many women, depending on the sectoral reallocation of work. Losing employment, as a result of import competition, is concentrated among small-scale farmers and low-skilled workers, so women living in poverty are likely to suffer disproportionately, just as other women make inroads into paid work. The impact can be even greater as safety nets grow thinner and remain gender biased (Winters 1999).

The increase in women's share of paid employment has taken place at a time when the power of workers generally has eroded, owing to increased capital mobility, greater flexibility due to technological innovation as well as labour market deregulation caused by the need to stay competitive. Although trade expansion may give women more advantages in terms of employment, their 'comparative advantage' as workers lies in their lower wages and inferior working conditions. Women are crowded into a narrow range of sectors that produce standardized commodities, such as textiles, garments and electronics that compete on the basis of price alone; and in the informal sector, where work is characterized by long hours, insecure employment, unhealthy conditions, low wages and often sexual harassment (Benería and Lind 1995; Williams 1999). The search for greater flexibility and lower costs has led to the exploitation of cheap female labor in many developing countries, with no increase in their welfare.

Poorest women workers in developing countries, in general, tolerate the heavy burden of harsh international competition by accepting low wages, bear a double workload of productive and reproductive activities, and do not experience a change in the sexual division of labour in household tasks; especially in home-based paid-work. In such cases women employment is compatible with traditional female roles and is socially acceptable as women's work in terms of limited physical mobility outside the home (Berik 1987).

3- International Trade, Its Effects and Consequences

Since late 1980s, Iranian Governments have tried to expand and diversify non-oil exports by facilitating export procedure and awarding prizes to exporters. Due to Iran's rich oil and gas reserves, chemical and petrochemical industries have a comparative advantage. Trade liberalization has expanded the international markets for resource and energy-based products. However, Iran could not increase the export of labour-intensive goods, especially in textile, clothing and leather products, as Iran's non-oil exports face increasing competition in the international markets.

As table 1 indicates, the share of clothing and shoes has declined in Iran's non-oil exports during 1976-2006 and the value of such exports remained relatively stable in between 1996-2006; while international markets have been expanding. As an example, during 2001-04, exports of textile products of China increased about 30 percent per year; this rate for Pakistan and India was more than 20 percent. While in the same period China tripled exports of textile products from USD 3.6 to USD 10.2 billions and India and Pakistan doubled it from USD 1.5 to USD 3 billion, Iran's exports of textile products remained about USD 27 million during 2002 - 2004 (UNCTAD 2006).

Table 1: Iran's Non-Oil & Oil and Gas Exports (Million USD)

Commodity	1977		1982		1994		2000		2006	
	Value 1*	Pct. 2*	value	Pct.	value	Pct.	value	Pct.	value	Pct.
Fresh and dried Fruits	90.4	17.3	78.8	27.7	186.8	3.9	130.6	3.5	1571	12.0
Pistachio	NA	-	NA	-	389.8	8.1	318.5	8.5	1073	8.2
Carpet	114.5	21.9	67	23.6	2132.9	44.2	619.5	16.5	413	3.2
Leather	39.9	7.6	40.6	14.3	134.6	2.8	79.4	2.1	NA	-
Other Agricultural Products	133.6	25.5	68.9	24.3	414.5	8.6	317.8	8.4	368	2.8
Mineral Metal Clods	1.1	0.2	7.1	2.5	55.9	1.2	37.7	1.0	321	2.5
Iron, Cast Iron and Steel	NA	-		0.0	340.5	7.1	300.8	8.0	1327	10.1

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Copper Ingots and Wires	NA	-	NA	-	244.4	5.1	85.4	2.3	840	6.4
Clothing and Shoes	32	6.1	11.3	4.0	133.0	2.8	150.5	4.0	293	2.2
Vehicles and Spare Parts	9.9	1.9	1.5	0.5	24.1	0.5	39.3	1.0	345	2.6
Chemicals & Petrochemicals	12.1	2.3	0.1	0.04	35.3	0.7	110.2	2.9	3201	24.5
Other Industrial Products	89.7	17.2	8.4	3.0	732.7	15.2	1573	41.8	3327	25.4
Total Non-oil	523	100	284	100	4,825	100	3,763	100	13,079	100
Oil and Gas	20,926	97.6 (3*)	10,563	97.4	14,603	75.2	28,461	88.3	62,458	82.7

1*- Value USD Million, 2*- Percent of non-oil exports 3*- The share in total exports

Source: Iran Custom Administration

Trade is geared more toward imports than exports. Despite tariffs, quotas, taxes, valuations, permits and authorizations for import restrictions, many entrepreneurs tend to be importers because of its high profit margin.

Since 2002, thanks to the sharp increase in the oil exporting revenue import has escalated. Total imports in the year 2000 were USD 18.1 billion and they reached more than USD 41.7 billion in 2006¹ (Iran Central Bank 2008). Huge amounts of imported goods threaten domestic production and employment. Domestic producers face increasing costs, high uncertainty in the economic and political spheres and they are not capable of competing with powerful international rivals. In addition to the legal imports the volume and value of smuggled commodities are rising. The vast land and sea borders are not fully controllable. Moreover, as price differentials create a high profit margin for the dealers who do not pay any custom clearance charges and who illegally smuggle in different commodities, such as clothing, home appliances and spare parts. It is estimated that over USD 3.5 billion worth of imported commercial goods were smuggled in 2002 (The Ministry of Interior Affairs 2003).

1- US sanctions against Iran is only related to the import of high-tech products, so it does not affect imports of consumer commodities, non-high tech capital and intermediate goods.

Flows of cheap commodities have increased the risk of bankruptcy, especially in the Iranian textile, clothing, leather and wooden products and sugar industries. At present, many factories work much lower than their capacity due to the problem of insufficient domestic demand. Figure 1 show clearly that production in textile and clothing sector has declined sharply since 1990; and production in 2003 was lower than 30 years ago.

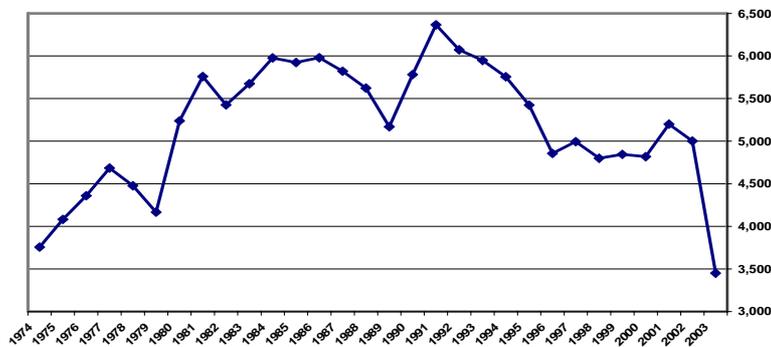


Figure 1: Value Added of Textile & Clothing Sector
(Billion Rials- 1997 Constant Prices)

Source: Iran Central Bank (2008)

In accordance to decline in production, employment in non-competitive sectors reduced. Although technological change accelerated the process of job losses in these sectors, yet decline in value added of labour intensive sectors shows clearly that Iran's competitors have been successful to capture its share in many domestic and international markets. During a decade (1986-96) employment in textile and clothing sector was almost stable, while employment in chemical and petrochemical (resource based) industries more than tripled. There is not detailed data about employment changes in home-based and small firms in the past decade; yet, available data show considerable job losses in labour-intensive large industries (Table 2).

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Table 2: Employment Changes in Iran's Large Industries (2001-2005)

Sectors	1996-97	2000 - 01	2001-02	2002-03
Textile	-0.9	-3.5	-13.4	-17.3
Clothing	NA	5	-2.4	-10.3
Leather	NA	-4	-24.4	-57.4
Wooden Products	-4.8	1	-5	-6.8
Paper Products	1.4	22.9	-2.2	-5.9
Total Employment in Large Industries	2.1	4.6	-0.5	-3.8

Source: Central Bank of Iran, different years.

Decrease in the exports of Iran's hand-woven carpets has been huge. During 1994-2006 the value of exports of hand-woven carpets decreased from USD 2.1 billion to USD 413 million and its share in non-oil exports decreased from 44.2 to 3.2 percent (Table 3). In the early year of Iran-Iraq war, carpet export declined considerably, yet after the end of the war, carpet exports escalated. As hard currency transfer was controlled, many Iranians exported carpets to gain hard currency out of Iran. There was evidence that showed more than 50 percent of exports value did not return to Iran. Due to changes in export regulations, that obliged exporters to remit the formally evaluated value of exported carpets to Iran during 6 months, the rush to export all kinds of carpets, stopped in 1995. To escape the Iranian government controls of carpet exports, some exporters started to arrange carpet weaving workshops in Pakistan and India that wages were much lower and carpet exports were encouraged and there was not political tension with major carpet importing countries¹, so helped to increase the share of Iran's competitors in the international carpet markets.

1- Direct interview with a few Iranian carpet exporters in Germany.

Table 3: Persian Carpet Exports

	Value (USD Million)	Weight (Tons)	Total Non-oil Exports (USD Million)	Share of Carpet in Non-Oil Exports
1977	114.5	6000	523.2	21.9
1982	67	1000	283.7	23.6
1989	344.7	5220	1043.9	33
1994	2132.9	32816	4824.5	44.2
2000	619.5	2557	3762.7	16.5
2002	514.3	2092	4608.7	11.2
2004	490.1	1563	6847.1	7.2
2005	460.2	1362	10494.6	4.4
2006	413	NA	12997	3.1

Source: Extracted from Iran Custom Administration Statistics, different years, and Iran Central Bank (2008)

4- Share of Iran in the International Carpet Markets

Persian carpets are treasured as magnificent works of art. There is widespread practice of the craft in almost all parts of the country. Carpet weaving is easy to learn; it provides employment for more than 1,000,000 people, mainly women, as a cottage industry.

However, for the past few decades Persian carpets have lost a significant degree of importance as commercial goods because of severe competition from other countries and from machine-made carpets. Political problems also take a toll on the Iranian exports. Before Islamic Revolution in Iran (1979), joint Iranian/American firms produced rugs specifically targeted at the American markets. After the crises of the American hostages in 1980, US imposed sanction against Iran and prevented Persian carpets to be imported into the country, but some rug dealers continue to export Iranian carpets to the US from Canada, yet most American dealers, unwilling to risk their businesses, rely upon Chinese or Turkish hand-made carpets. As a response to the American demand for Persian carpets, carpets from China, India and Pakistan, with Iranian designs are flooding the market. For example, India offers 65 per cent of its carpets with the Persian designs

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(Eilland 1998). Increasing supply and more or less stable demand has pushed down the international price for carpets. The average price for one square meter of woolen hand-woven carpet decreased from US\$300 in 1981 to about US\$90 in 2005 (Arman and Mohammadi 2005).

In 2005, China, India, Turkey and Pakistan collectively hold 60 per cent of the global carpet market; two times the Iranian share. Within the last three decades, international carpet trade grew from USD 350 million to about USD 2 billion in recent years, nevertheless Iran's market share has dropped from 60 per cent to 30 per cent. Iran still has the highest share in the international carpet market, but by falling Iranian production, the slack is taken up by other nations, Particularly China, India and Pakistan. (Table 4).

Table 4: Production, Employment and Exports in Hand- Woven Carpet Industry in Major Exporting Countries (2000-05)

	Iran	India	China	Pakistan	Turkey
Exports (Million USD)	550	370	400	250	90
Production (Million Sq. Meters)	6	NA	NA	4	5.2
Weavers (Million Persons)	1.5	1.5	NA	NA	NA
Avg. Price of Carpets (Per Sq. Meters)	96	NA	NA	67	72
Market Share (Percent)	30	20	20	15	5

Source: WTO (2005).

China's share in international carpets market is rising. China's competitiveness stems from a huge supply of low-paid labour force. The legal minimum wage in China is much lower than Iran. For example, in 2003 the legal minimum wage in Shenzhen, the Chinese city with the highest monthly minimum wage, was equivalent to only USD 42 (formal minimum wage in Iran in the same year was about USD 100¹). Moreover, the average workday in labour-intensive industries amounts to about 11 hours each day, often with no days off—that is, about an 80-hour workweek. When the long

1- In 2003 monthly minimum wage in Iran was 853,380 rials and 1 USD was equal to 8344 rials (Central Bank of Iran 2008).

working hours are taken into account, a sizeable proportion of the workers are making considerably less than the minimum legal wage (Chan 2003). In 2003, the average monthly salary of carpet weavers in Iran and India was USD 61 and 23 respectively (National Iranian Carpet Center 2005). Labour cost of carpet production in India, China and Pakistan is less than half of the Persian Carpets. Declining carpet prices due to competition among rival countries for gaining higher share in the international carpet markets is the most important reason of decreasing Persian carpets production and export.

During 2000-05 production of Persian carpet decreased from 7.5 to 5 million square meters¹. Some of the major Iranian carpet exporters are not interested to invest in carpet production any more, as the profit margin in hand-woven carpet industry is very low. They believe that Persian carpet can not compete with Chinese and Indian carpets and its share in the international market will shrink further in the future (National Iranian Carpet Center 2005).

Carpet-weavers in Iran, India, Pakistan, Turkey and Nepal face with unfavorable work conditions. Countries with lower production costs are the winners in the global competition and low real wages are essential causes of success in export of hand-woven carpets. It means that carpet weavers in developing countries compete ruthlessly with each other and suppress real wages and working condition to be able to preserve their jobs. Low wages has changed the structure of the workforce in Persian carpet industry. Most middle-income weavers have left the industry and the poorest families are engaged in low-paid weaving. Afghan women and children increasingly enter to the industry as they can not find alternatives to carpet weaving.

5- Employment in Hand-Woven Carpet Industry

There is not precise data regarding home-based carpet weaving. In 1966 and 1976 census home-based production was calculated, but in succeeding census in 1986, 1996 and 2006 there is not any data regarding household production units.

1 - About 70 percent of produced Persian rugs and carpets are exported.

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During 1966-76 the number and proportion of carpet-weaving households increased considerably. The total number of household that were engaged in carpet weaving increased from 248,178 in 1966 to 633,072 in 1976. During this period more than 80 percent of carpet-weaving households were in rural areas. Substantial increase in the carpet-weaving households indicates the higher income of carpet weaving compared to other home-based industries such as spinning, and cotton cleaning. Further more, carpet weaving is easy to learn and even children less than 7 years can learn to weave.

After Islamic Revolution (1979), due to US sanctions against Iran, production and exports of Persian carpets declined significantly. For example, during 1978-82 exports of carpets declined from 1.84 to 0.71 million square meters and carpet production decreased from 5 to 1.4 million square meters.

Since more than 90 percent of women workers in Iran's textile sector in rural areas are carpet-weavers (Nomani and Behdad 2006), we can use the data regarding changes in textile employment as a good proxy of employment in hand-woven carpet, especially for women in rural areas. During 1976-86, the number of workers in Iran's textile industry decreased from about 1,010,000 to 830,000. Women in rural areas lost about 340,000 jobs; mainly carpet-weavers (Iran Statistics Center, 1987).

As mentioned earlier, in 1980s rival countries increased their share in international carpet markets. Excess supply of hand-woven carpets reduced international carpet prices. Profit margin of investment on Persian carpets shrunk; many carpet exporters gave up the trade; and volume of production and export of Persian carpets declined sharply.

The number of carpet weaving workshops decreased significantly; and the share of female wage earners in textile sector decreased from 25 to 18 percent during 1976-96. In addition to decline in export of hand woven carpets, increase in education level of girls, reduced the number and proportion of women carpet weavers, especially among unpaid family workers in textile sector (Table 4). While the total number of women workers in textile sector declined in this period, many women continued to weave carpets in the urban and rural areas as independent producers.

Declining real wages of carpet-weaving was another reason for encouraging weavers to produce carpets independently.

Weaving wages were generally lower than industrial wages. For example in 1983 average daily wage of weavers in Torkman Sahra was about half of the legal minimum wage (Jahad 1362). Our survey in Kashan shows the similar result for 2006. Therefore, weavers prefer to work independently if they can afford the living expenses until the carpet is finished and sold.

5-1- Hand-Woven Carpet Industry in Kashan

Carpet weaving has been wide spread in many Iranian cities and villages since late 17th century. In 1970s more than 58 percent of home-based production units and 33 percent of Iran's rural areas were engaged in carpet weaving. About 55 percent of carpet weavers lived in villages and 45 percents in towns and cities; among them 80 percent were women (Iran Statistics Center 1977). There are different informal statistics regarding carpet weavers. Due to the estimate of Iran Carpet Company, in 2005 about 1.3 million persons wove carpets on 900 thousands looms in different parts of Iran (Iran Carpet Company 2006).

There were many carpet weaving workshops in Kashan in the past, but at present carpets are woven at home. Supervising carpet –weaving in workshops is easier, yet for escaping formal minimum wages, extra time payment, taxes, rent and utilities' expenditures, carpet dealers prefer to put the looms in the house of weavers. Matching home-based production with the fluctuation of market demands is much easier and cheaper. Dealer can put more or less looms in the houses whenever they expect boom or bust in the market.

To depict a picture about current employment pattern in hand-woven industry a survey was conducted in Kashan. I chose Kashan as a representative of carpet producing regions in Iran. Kashan is a city situated between Tehran and Isfahan, known for its quality hand-woven carpets. Kashan's design is rated high in both domestic and international markets. This design needs a high knot density, which requires great skill, much practice and immense concentration. I had prior knowledge about the concentration of carpet weavers in Kashan city and its villages. The principal

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research tool used was an extensive structured questionnaire comprising an introductory sequence of closed questions eliciting demographic data on age, education, marital status, occupation and household structure followed by several sequences of open-ended questions on the subject of wages, working hours and job preferences. In addition to interviews with carpet weavers, the study heavily relies upon information generated through direct talks with carpet merchants and exporters, as well as government officials.

The method of survey is snow ball sampling. Because of the lack of formal data about carpet weavers, I contacted my relatives in Kashan to assist me to find carpet-weaver for setting up interviews. I also contacted Iran Carpet Company in Kashan to get the addresses of their carpet-weavers, but my addresses were few. In all sites many weavers were introduced to me by the women I had already interviewed. The survey was carried out during October and December 2006. The sample consist 68 carpet weaving households, amounting to 96 weavers (80 women and 16 men) from Kashan and its five villages (Table 5). 60 percent of the sample weavers lived in Kashan and Ravand, because I had better connection in these sites. I visited many Afghan carpet weavers in these two sites, but I did not find Afghan weavers in other selected locations. It does not mean that Afghan weavers do not leave in Fin. Afghan weavers constitute 39 percent of our sample. Hand-woven carpet industry is the most important accessible job for Afghan women and children in Kashan and its villages.

Table 5: Distribution of carpet weavers by location(percent)

	Iranian		Afghan		Total	
	Women	Men	Women	Men	Women	Men
Kashan	9	0	17	2	26	2
Fin	12	2	0	0	12	2
Ravand	9	2	13	8	22	10
Khozagh	4	0	0	0	4	0
Aran	10	2	0	0	10	2
Aliabad	6	-	0	0	6	0
Total	50	6	30	10	80	16

Source: Extracted from completed questionnaire

We selected different sites to cover diverse economic structure of the region. Close to Fin and Ravand, there are job opportunities in industrial complexes and factories, while Khozagh and Aliabad have not any industries. Nevertheless, the data set has been analysed as a random sample, and the derived feature can be generalized cautiously. In addition to regular questionnaire, I had informal talks with sample carpet weavers, and direct quotations in this article are from my recollections.

5-2- Employment Structure of Kashan's Hand-Woven Carpet Industry

About 40 years ago, Kashan's economy was mainly dependent on hand-woven carpets and women had no other job opportunity but carpet weaving. Kashan is an industrial district now. Many women work in different industries such as blanket, china and glass wears factories. Increasing number of educated women work in education, health and other services. So, carpet weaving has declined considerably in Kashan city, but in rural areas that access to outside house jobs is limited, women are engaged in weaving. Few numbers of Iranian weavers in Kashan's urban areas (10 percent of our sample) indicates that Iranian women who live in the city have more access to better paid jobs out of the houses as alternative works to weaving. Yet, Afghan immigrants who live in Kashan are engaged in carpet weaving. Most

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of Afghan immigrants lives illegally¹ in Iran and have not work permission. Afghan men, generally, work in construction sector and dairy farms and Afghan women and children weave carpets in Kashan and its villages. Carpet weaving earning is an important complementary income for poor and crowded Afghan families. Afghans learn special Iranian weaving style and are among the best weavers of silky and high-density knots carpets².

5-2-1. Age and Sex Structure of Carpet Weavers

Carpet weaving is generally a women job in most part of Iran. In 1996, more than 91 percent of women industrial workers have been in textile and clothing sector, mainly in carpet weaving. While the international carpet prices are decreasing, so do the real wages of carpet weavers. Furthermore, Iran's declining international market share, has caused huge job losses and has had negative effects on the weavers' families (Iran Chamber of Commerce 2006).

Carpet weavers, generally, are unpaid family workers. Home weaving is compatible with child care and the performance of domestic tasks, often through stretching the length of the working day.

As mentioned earlier about 80 percent of our sample weavers are women. The age and sex structure and education and income levels of Iranian and Afghan households in our sample are not the same. While 87.9 percent of Iranian weavers are women, this share for Afghans is 73.3 percent. As Table 6 shows in Afghan men are more active in carpet weaving compared to Iranian men. At present Afghan weavers are among the best weavers of delicate designs of high density knots, silky carpets.

1- A small number of Afghan were issued "white cards" stipulating their status as *panahandegan* (refugees) entitling them the right to work.

2- An Iran Carpet Company's official in Kashan said that about 50 percent of carpet weavers in Natanz and Delijan (Kashan's neighboring cities) are Afghans. Many Iranian women in these cities work in factories and are not interested in carpet weaving.

Table 6: Distribution of Sample Carpet Weavers by Sex and Nationality

	Iranian		Afghan		Total	
	Number	Percent	Number	Percent	Number	Percent
Women	58	87.9	22	73.3	80	83.3
Men	8	12.1	8	26.7	16	16.7
Total	66	100	30	100	96	100

Source: Extracted from completed questionnaire

Male carpet weavers are divided in 2 different age groups. Among Iranians, few men weave carpets with their wives after retirement. They knew carpet weaving from childhood, but they stopped weaving when they went to school. Afghan men weave till they can find job outside houses, to help their families. In our sample, there is not any male weaver in Afghan household more than 20 years old; while, there is not any men carpet weaver in Iranian households less than 48. Among Iranian and Afghan male carpet weavers, there is not any young man between 21-45 years of age (Table 7).

Table 7: Distribution of Sample Carpet Weavers by Age, Sex and Nationality (percent)

	Iranian		Afghan		Total	
	Women	Men	Women	Men	Women	Men
7 – 10	0	0	15	28.6	5.0	20
11 - 15	5	0	25	57.1	11.7	40
16 - 20	12.5	0	15	14.3	13.3	10
21 -30	17.5	0	20	0	18.3	0
31- 40	27.5	0	15	0	23.3	0
41- 50	22.5	66.7	10	0	18.3	20
51+	15	33.3	0	0	10.0	10
Total	100	100	100	100	100	100

Source: Extracted from completed questionnaire

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65 percent of Iranian women carpet weavers in the sample were housewives with more than 30 years of age; this rate for Afghan women is 20 percent; where as 40 percent of Afghan women and 2.5 percent of Iranian women were less than 16 years old. All male Afghan weavers in our sample are single, while their Iranian counterparts are married. Distribution of education level demonstrates the dissimilarity between Afghan and Iranian carpet weavers more clearly.

5-2-2. Education Level

In past 3 decades the education of Iranian women has increased substantially. Girls from traditional families had not the right to study more than 5 years before the Islamic Revolution (1979), but after the Revolution the attitude regarding women's education changed. Girls from low-income families in most rural areas have secondary and even higher education.

Most weavers are illiterate or have about 5 years of schooling (84 percent of sample weavers). This indicator also shows that weavers are from poorest households, as increasing proportion of Iranian middle-income families support the education of their children both boys and girls and do not oblige them to work. So, we can not find many Iranians in schooling age in our sample. Illiteracy rate among Afghans in our sample is more than 53 percent; this rate for Iranian weavers in the sample is 20 percent. 10 percent of Afghan weavers have more than 5 years of schooling; this rate for Iranians is 20 percent. It is mainly because of limitation of education possibilities for Afghan immigrants in Iran. Iranian female students generally do not weave carpets, while their Afghan counterparts not only weave carpets in summer vacations, but also during school time (Table 8).

Table 8: Distribution of Sample Carpet Weavers by Education Level (percent)

Years of Schooling	Iranian		Afghan		Total	
	Women	Men	Women	Men	Women	Men
Illiterate	20	0	50	14.3	30	10
1 - 5	60	100	40	71.4	53.4	80
6 - 8	20	0	10	14.3	16.6	10
Total	100	100	100	100	100	100

Source: Extracted from completed questionnaire

5-2-3. Child Labour

Insufficient income of adult members in low-income families does not cover the expenses of their crowded households. In such cases children are drawn into income-earning activities to bridge the gap. Until 1990s, children work was one of the important features of Iran's hand-woven carpet industry. In Kerman Province 5-7 years old children were rented for one year to carpet production workshops (Social Research Institute 1967). In 1960s about 60 percent of carpet weavers were 5-19 years old that worked 14-15 hours per day and got less than half of the adult wages. A survey in Yazd Province in 1982 showed that 50 percent of carpet weavers had less than 20 years. Even in urban areas, more than 30 percent of women carpet weavers had less than 15 years of age (Rashidian 1988).

As mentioned earlier by reducing the family size in 1990s, education level increased very rapidly, especially for girls and even low-income Iranian families encouraged their 2-3 children to continue their study to escape poverty.

In our sample, Afghan families were more dependent on the earning of their children both boys and girls. 85.7 percent of male and 40 percent of female Afghan weavers have less than 16 years of age; these rates for Iranian weavers are 0 and 5 percent respectively. While in our sample, there is not any weaver up to 10 years of age in Iranian families, more than 28 percent of Afghan weavers in the sample are less than 11 years old. The share of 11 to 15 years old weavers is 3 percent for Iranians and 48 percent for Afghans. Young Iranian weavers lived in Aliabad village, about 20 Kilometers far from Kashan; where as young Afghan weavers lived in urban as well as rural

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areas. It is obvious that in most Iranian carpet weaving families children are students and do not engage in weaving while in Afghan families children have to work hard to support their families, even if they are students.

The average size of Iranian and Afghan households in our sample is 6.1 and 4.1 respectively. Many Afghans live in extended families; typically, a husband, his two wives with many children who are carpet weavers since young age. The house of many Afghan families in Kashan's villages has become a carpet-weaving workshop. In some houses, there are two or three carpet- looms and up to 10 persons weave simultaneously (Table 9). While 12 percent of Iranian households in our sample have 3 weavers, this share for Afghan families is 46.7 percent. There was not any Iranian household with more than 3 weavers in our sample, while 30 percent of Afghan families had more than 3 weavers, most of them are children.

Table 9: Number of Carpet Weavers in Households by Nationality

	Iranian		Afghan		Total	
	Number	Percent	Number	Percent	Number	Percent
1 Weaver	22	45.8	1	5	23	33.8
2 Weavers	20	41.7	3	15	23	33.8
3 Weavers	6	12.5	9	45	15	22.1
4 Weavers	0	0	3	15	3	4.4
5 +	0	0	4	20	4	5.9
Total	48	100	20	100	68	100

Source: Extracted from completed questionnaire

Beside carpet weaving, Afghan children, especially boys, are active in different kind of relatively difficult and low-paid jobs in agriculture, construction and services sectors¹ in Kashan urban and its rural areas. Whenever they find job, they stop weaving, because weaving income is very low and as weaving is believed to be the women's job.

About 50 percent of the Afghan illiterate in our sample are less than 16 years old; while the ages of all illiterate Iranian are more than 35 years.

1- For example, some Afghan children carry carpets in Kashan's Bazaars.

Afghan girls are likely to suffer more from the households' poverty. Separate data by child gender in our sample indicate that about 17 percent of male and 56 percent of female with less than 16 years of age in Afghan households are illiterate. It shows that for Afghan low-income carpet weaver families, boys' education is more important than girls'.

I visited the father of a 14 years old illiterate Afghan carpet weaver in Kashan's Bazaar. He got USD 800 wage from the carpet dealer as the wage of her daughter for weaving carpets 14 hours per day for 8 months; her mother helped her in weaving too. The money would be spent for household expenses and the girl had not access to her earning.

In an Afghan family in Ravand, a 15 years old boy was student. He told me that he got up at 5:30 AM and weave carpet for about an hour before going to school. Coming back in the afternoon, he weaves until 10 PM, and does his home work as carpet weaving break time. He was lucky because he could continue his study in high school. Her sister had to leave the school to weave carpets with her mother whole days, despite her enthusiasm to continue her study. Their father had left Iran and the family was entirely dependent on children's earning.

5-2-4- Earning of Carpet – Weaving

Carpet weaving is a home-based work, and finishing a carpet takes long time, job can be interrupted because of illness of a family member, wedding or mourning ceremonies. So, it is not easy to calculate the real daily or monthly earning of women carpet weavers. A survey in 1986 showed that the average monthly wage of carpet weavers was more or less equal to legal minimum wage (Zonooz 1988). In the past 2 decades the nominal wages have increased but the weavers can not live with weaving income anymore. While legal minimum wage is about USD 200, the average wage of carpet weavers is USD 60. Weaving is very low-paid job. Therefore most other works can be better than weaving.

Our sample weavers suffered from declining real wages. They gained much less than the formal minimum wage and did not have pension and social insurance. An Iranian woman in our sample told me that she weaves carpet to help her family, but her earning is falling actually. In 1991, she wove a carpet and got 4000,000 Rials. She could invest her wage on building

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their house. Yet, in 2006 she wove similar carpet and got 7000,000 Rials. She could buy less than half of the construction materials that she had bought in 1991, with her 2006 earning¹.

Carpet weavers have implicit, verbal contracts. They generally receive advance payment during the long process of weaving a carpet. When the job is done, the middleman evaluates the weaver's wage, due to the quality and quantity of weaving, duration of weaving and amount of advance payment. If weaving is longer than expected time, weaver receives lower wage, as the capital of the merchant was dormant. In most cases, the final payment is not in cash. The weavers have to accept a cheque to be cashed after 1-3 months.

If the family can afford to not receive advance payment for weaving, it is more profitable to weave carpets independently². In 2007, the cost of material for a 12 square meter carpet was about 650 USD. It took a year (in average 8 hours per day) for two weavers to finish the carpet. They sold the carpet in 2600 USD. Their earning was about 2000 USD (1000\$ each). If they wove for a trader, their income would be half. As most weavers are from low-income families and cannot afford to wait a long time for the weaving earning, they prefer to get advance payment and weave for the carpet traders.

About 70 percent of our sample weavers (96 percent of Afghan and 49 percent of Iranian weavers) were wage earners. All Iranian men in our sample were independent carpet weavers. They were retired from their previous job and could finance the household expenditure during the time of weaving carpets. Where as all Afghan men were wage earners, because they were children of low-income families and cannot afford to not receive money before finishing the carpets. Only one Afghan women in our sample was independent weaver (Table 8).

The hourly wage of a carpet weaver in our sample was about USD 0.2. A 20 years old Afghan man in Ravand told me that he weaves carpets whenever he is unemployed. Daily wage of construction works is about USD 9, while if you weave carpets 10 hour per day, you can not get more than

1- Only in the year 1995 inflation rate was about 50 percent.

2- Most weavers in Kashan can get the raw material and pay the price after finishing the carpet.

USD 3 daily. As most Afghan women in Kashan urban and rural areas have not job opportunities except carpet weaving, they have to accept low wages. In Aliabad, the monthly wage of two young girls and their mother was about USD 200, while the wage of the head of household who worked as a unskilled construction worker was the same. In other word the wage of construction work was three times of carpet weavers' earning.

Table 8: Distribution of Sample Carpet Weavers by the Kind of Production (percent)

	Iranian		Afghan		Total	
	Women	Men	Women	Men	Women	Men
Wage Earner	52.5	0	95	100	66.7	70
Independent	47.5	100	5	0	33.3	30
Total	100	100	100	100	100	100

Source: Extracted from completed questionnaire

Carpet weaving wage is not sufficient to provide for the minimum basic- needs of the weavers' household, yet it helps them to accumulation money for building the house or buying means of production. In 50 percent of sample households, the share of weaving earning in the total income is less than 30 percent.

As Table 9 indicates weaving wages are too low to cover whole costs of living of most Iranian carpet-weavers' households, yet can be important part of total income revenue, if the head of household is unemployed or has left the family. In 63.7 percent of Iranian families in our sample, carpet weaving income was less than 31 percent of households' income. In such cases women, usually are not obliged to finish the carpet very soon. They weave carpets whenever they have not other duties because they like weaving and want to increase the family's assets. In contrary, 54.6 of Afghan and 12.2 percent of Iranian households gained more than 40 percent of their total earnings by carpet weaving. These families are highly dependent on carpet-weaving.

Table 9: Share of Carpet Weaving in Household Income (Percent)

	Iranians	Afghans	Total
10 – 20 Percent	36.4	9.1	26.5
21 – 30 Percent	27.3	18.2	23.5
31 – 40 Percent	24.2	18.2	29.4
41 – 50 Percent	6.1	27.3	11.8
50 +	6.1	27.3	8.8
Total	100	100	100

Source: Extracted from completed questionnaire

Average per capita monthly income of the sample households was USD 62. It means that 50 percent of the sample household had per capita income more than USD 2 per day. While per capita monthly income for 14.3 of sample households (90 percent of them Iranians) was more than USD 100, for 22.9 percent of these households (88 percent of them Afghans) per capita income was less than 30 USD per month and less than USD 1 per day.

The results of our survey show that a transformation of workforce has taken place in Iran's hand-woven carpet industry. As 3 decades ago most families in Kashan were engaged in carpet weaving; yet, by declining carpet weaving real wages, most middle-income households stopped weaving and Afghan immigrant weavers increasingly entered into the industry.

6- Econometric Model

As mentioned earlier there are two types of carpet weavers: wage earners and independent weavers. Independent weavers, generally, produce carpets for domestic consumers and do not access to the international markets. They do not follow the changes in the taste of foreign consumers. Wage earners produce carpets for traders who are sensitive in the quality, colors and designs to be in accordance to the desire of consumers in different countries. Income of wage earners is much lower than independent weavers. To define the factors effecting the decision of our sample carpet weavers in Kashan to weave as wage earner or self-employed, logit model is used. The variables are:

Y Dependent Variable (0 for self-employed weavers, 1 for wage earners)

X1 Sex of the Weavers (2 for men and 1 for women)

X2	Nationality of the Weavers (0 for Afghans and 1 for Iranians)
X3	Age of the Weavers
X4	Education Level (years of schooling)
X5	Marital Status (2 for married and 1 for single)
X6	Household Monthly Income
X7	Family Size
X8	Household Per Capita Income

$$\begin{aligned}
 Y = & 1.685 - 0.217*X1 - 0.225*X2 + 0.0007*X3 + 0.0269*X4 - 0.074*X5 \\
 & (4.62) \quad ((1.63) \quad (1.58) \quad (0.15) \quad (1.603) \quad (0.64) \\
 & - 2.034*X6 - 0.0008*X7 - 3.23*X8 \\
 & (2.51) \quad (0.02) \quad (1.57)
 \end{aligned}$$

Equ. 1

$$\begin{aligned}
 R^2 &= 0.46 \\
 D-W &= 1.74 \\
 F &= 6.54 \\
 \text{Prob (F Statistic)} &= 0.000004
 \end{aligned}$$

The result of estimation shows that weavers age (X3), marital status (X5) and family size (X7) are not significant variables. Educational level is significant variable in decision about weave as wage earner; but it can not be acceptable that weavers with higher education are interested to be wage earner (given the low real wage of weavers). Yet, it can be justified as independent (self-employed) weavers in our sample are, generally, illiterate or have a few years of schooling and have income sources other than carpet weaving.

By omitting insignificant variables age, marital status and family size, Equation 2 is estimated.

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$$Y = 1.576 - 0.189*X1 - 0.212*X2 - 1.680*X6 - 3.308*X8$$

(7.54) (1.44) (1.82) (2.73) (2.33)

Equ. 2

$$R^2 = 0.42$$

$$D-W = 1.66$$

$$F = 11.73$$

$$\text{Prob (F Statistic)} = 0.00000$$

The results of Equ. 2 are economically acceptable. The most important variables in decision making about carpet weaving as wage earner is the household's per capita income (X8) and the household's total income (X6). It is more probable to weave as wage earner in low income families. Other significant variable are nationality and sex of weavers. The minus signs of X1 (Sex of weavers) and X2 (Nationality) mean that it is more probable for women and Afghans to work as wage earners in carpet industry (as 2 is for men and 1 for women and 1 is for Iranians and 0 for Afghans). Equation 2 confirms (significance probability is 85 percent for X1 and X2) that women and Afghans from low income families are the major labor force for production of exporting carpets. According to the model, sex, nationality and income are more important than education level, age and marital status in deciding to weave as wage earners; yet these variables can not explain all the causes for continuing carpet weaving as wage earners.

7- Concluding Remarks

Economic globalization has increased Iran's exports significantly, yet this surge has been mainly due to export of resource and energy based and capital- intensive commodities, while the share of Iran's main labour-intensive exports, especially hand-woven carpets, have declined during past two decades. Excess supply of hand-woven carpets, has reduced international carpet prices. Profit margin of investment on Persian carpets has shrunk; many carpet exporters gave up the trade; and volume of production and export of Persian carpets have declined sharply. Women carpet weavers in Iran are among the main losers of expanding international trade, as harsh competition among developing countries for conquering the

international carpet markets suppressed their real wages. The battle for more exports is accompanied by the "race to the bottom" as the winners are countries with lower labour costs.

The findings of our survey in Kashan show that in the past women from middle-income families wove carpets, but by decline in carpet-weaving real wages, carpet weaving has become the sign of poverty. The average earning of carpet weavers is much lower than formal minimum wage and most women are not interested in carpet weaving any more. Yet, low income families still rely on the complementary income of women's carpet weaving. Many women and children from low- income Afghan immigrant households have substituted Iranian weavers. They work hard and accept low wages.

The estimated econometric also indicates that household income has important negative effect on the accepting low-paid carpet weaving job; so, by increasing real income, many workers will stop carpet-weaving. It seems that the presence of low income Afghan migrants in Iran's hand woven carpet industry has helped to preserve the high position of Persian carpets in the international markets.

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