The new phase of globalization and brain drain

Migration of educated and skilled Iranians to the United States

Mohammad A. Chaichian

Department of International Studies, Psychology, Sociology and Social Work,
Mount Mercy University, Cedar Rapids, Iowa, USA

Abstract

Purpose – The purpose of this paper is to focus on “brain drain,” or emigration of educated and skilled individuals to the USA from one Southwest Asian nation, Iran, which has experienced fundamental social changes since the early 1970s. The author examines the profile of the educated Iranian emigrants particularly in the last two decades, internal and external socio-economic and political forces and processes that have facilitated emigration, and costs and benefits for both sending and receiving countries.

Design/methodology/approach – Building on earlier world-system and dependency theories the author traces the roots of center-periphery relations that have triggered emigration, and applies David Harvey’s analysis of the new phase of globalization (post-Fordist flexible production) to distinguish the emigration dynamics of Iran’s educated individuals during the 1950-1980 period from those of the last three decades (since the 1979 Iranian revolution).

Findings – The findings indicate that while in the former period (1950-1980) educated Iranians emigrated to further their education and sharpen their skills as sojourners, with the expectation that they will return to Iran and serve their nation, emigrants in the latter period (1980-present) are guided by a new culture of the post-Fordist globalization phase that thrives on the mobility of a highly skilled and educated global labour force that can be promptly and efficiently utilized wherever there is a demand. Similar to some other nationalities, the post-Fordist educated Iranian emigrants are no longer constrained by the nationalist sentiments of the previous period. Rather, they have developed an “internationalist national identity” that allows them to respond to the demands of a global market while still maintaining their Iranian cultural identity.

Originality/value – This is an original research based on documentation and personal interviews of a non-random sample of Iranian students at the University of Iowa.

Keywords Iran, United States of America, Immigrants, Globalization, Skilled workers, Social groups, Brain drain, Iran (emigration), United States (immigration)

Paper type Case study

Introduction

This paper’s focus is on emigration of the educated and skilled individuals to the USA from one Southwest Asian nation, namely, Iran which has witnessed fundamental social changes since the early 1970s. In the past two decades the educated and highly skilled individuals have comprised a sizeable portion of international migration known as “brain drain,” mostly from developing nations to developed countries. For instance,

An earlier draft of this article was presented at the conference on Trans-Atlantic Perspectives on International Migration: Cross Border Impacts, Border Security, and Socio-political Responses, March 4-5, 2010, University of Texas, San Antonio.
in 1990 a total of 12.9 million very well educated (i.e. those with “tertiary education”) immigrated from Africa, Asia and the Pacific, North and South America to OECD countries[1], of which 7.0 million went to the USA (Carrington and Detragiache, 1998). In the same year, Iran had the highest rate of brain drain to the USA among Asian countries whereby 14.7 percent of its labor force with a tertiary education immigrated to the USA (Carrington and Detragiache, 1998).

A few years later, Iran’s student news agency (ISNA) reported that about 220,000 leading academics and industrialists had left Iran for Western countries in 2000; and quoting the minister of science, research and technology at the time concluded that “they are unlikely to return” (Payvand, 2001). But during his first term (2005-2009) Iran’s President Ahmadinejad categorically denied the news about the country’s critical level of brain drain, and declared that “we do not have any brain drain”. At about the same time, in its 2009 Annual Report the International Monetary Fund (IMF) reported that with the emigration of 180,000 educated and skilled individuals Iran has the highest level of brain drain among 91 developing and developed nations, costing the government an equivalent of $50 billion in foreign exchange currency. The IMF report also indicated that more than 420,000 Iranians with higher education degrees resided in the USA, of which 250,000 were physicians and engineers (Payvand, 2001). Eventually, in the aftermath of the June 2009 presidential election fraud controversy, the second-term president in 2010 explicitly admitted that the emigration of educated elite has become one of the main social problems facing Iranian society – so much so that the government had to establish a special committee to tackle the issue of brain drain (Tale’ii, 2010). A new phenomenon that has compounded the problem for Iran is the recent emigration of thousands of Iranians to European countries and the USA, or a “new generation of exiled Iranians” who, in the aftermath of the 2009 presidential election have been applying as refugees or asylum seekers (Deutsche, 2009). But what makes Iran’s migration story unique, is that it has also hosted millions of refugees, mostly from Afghanistan and Iraq. Based on one estimate, in 1990 Iran admitted about 2,300,000 Afghan and 800,000 Iraqi refugees (Hakimzadeh, Figure 1, p. 7); and in 2003 the United Nations’ High Commissioner for Refugees (UNHCR) reported that by granting asylum to 985,000 individuals Iran ranked second after Pakistan in hosting refugees (IRNA, 2004)[2].

Theoretical context
In general, the term “brain drain” can be defined as “the permanent or long-term international emigration of skilled people who have been the subject of considerable educational investment by their own societies” (Wickramasekara, 2002, p. 3). Brain drain is sometimes also called as “focused migration,” or promotion by certain developed countries of emigration of highly educated individuals from developing nations (Murro, 2008, p. 158). Conventional theories of economic development and growth focus on nation-states and consider education a major determinant of long-term growth in developing countries, leading to the conclusion that migration of the educated citizens will hamper their economic growth since they will inevitably be replaced by the less educated, lower skilled individuals (Lucas, 1988; Bhagwati and Hamada, 1974; Piketty, 1997). International organizations such as the United Nations Development Program (UNDP), the International Labor Organization (ILO), the Organization for Economic Cooperation and Development (OECD), and even the World Bank make a similar
argument – that a “global knowledge divide” or emigration of the educated elite will inevitably put a damper on developing nations’ economic growth (Rizvi, 2005, pp. 175-6).[3]. However, others have set forth the argument that in developing countries with a potential for growth and a heterogeneous labor force the emigration of educated individuals will encourage others to seek higher levels of education (Mountford, 1997; Docquier and Rapoport, 1997). For example, in their proposed economic model Beine et al. (2001) postulate that in developing countries with a growing economy emigration of the educated elite offers the possibility of a beneficial brain drain (BBD), as those left behind will see the benefits of education and hence will be encouraged to further theirs. Another economic model is presented by Collier et al. (2004) who, using data for 48 countries for the 1970-1990 period conclude that brain drain or “human capital flight” is mainly a “portfolio choice”, meaning an individual decision aimed at furthering one’s chances for success regardless of a given country’s socio-economic and political environment or placement in a global economy.

Roughly started in the late 1960s and early 1970s, brain drain is a fairly new phenomenon that has evolved with the new phase of globalization. The main characteristic of this new phase is its tendency to integrate nations and people across political boundaries in order to facilitate free flow of goods and services, capital, knowledge and skills, as well as people (Stiglitz, 2002, pp. 9-10). The earliest theoretical analyses of this new phase of globalization included the neo-Marxist world-systems and dependency theories formulated by Wallerstein (1974) and Frank (1980), respectively. Rather than focusing on nation-states Wallerstein provided a “macro-level” model for a capitalist world-system instead, whereby an international division of labor has led to emergence of a hierarchy of various regions in the world, each with their specific processes of production, consumption and labor conditions. In brief, he divided the world into three categories of countries, namely, core (Western colonial powers and other countries with advanced capitalist economies); periphery (former colonies or newly independent nations that provide cheap labor and raw materials to the core countries and are controlled by them); and semi-periphery (peripheral countries in transition with a capacity for economic growth and development and technological advancement). Frank on the other hand postulated that the world capitalist system is based on an unequal socio-economic and political power relation between the rich, developed core nations and the poor developing countries that perpetuates the latter nations’ “underdevelopment” on one hand and dependency in the former on the other. Some scholars argue that both Frank and Wallerstein consider brain drain as the by-product of a world capitalist economy that is geared for economic development in core countries at the expense of the periphery:

It is argued that such a system encourages people in the periphery or semi-periphery who possess high skills or education to emigrate to the core, further strengthening the core’s position within the world-system. The world-system theory is thus used to show brain drain to be a predictable structural consequence of world capitalism, resulting in the reproduction of underdevelopment and global inequalities (Rizvi, 2005, p. 183).

But Rizvi is critical of the world-system and dependency theories’ approach to “brain drain” and argues they both provide a “functional theory of capital accumulation” that mechanically leads to emigration of the skilled individuals from periphery to the core independent of their specific historical and social locations; subordinates
“cultural dynamics to economic generalization”; and fails to “come to terms with people’s ‘situatedness’ in the world” (Rizvi, 2005, p. 183).

A more accurate interpretation of the new phase of globalization is offered by Harvey (1991) who calls the post-1970s period as the era of “post-Fordist flexible accumulation” which is in sharp contrast with the pre-1970 “Fordist-Keynsian” phase of globalization. Accordingly, the “Fordist-Keynsian” era was characterized by a rigid model of mass production that relied on a vertical corporate structure – a spatial hierarchy of industrial production that utilized former colonies and the newly independent countries to produce consumption goods while technology, know-how, and production of the more sophisticated capital goods remained in the center. This was a post-colonial nation-building approach that sought to modernize former colonies and aid them in economic development in order for them to become a more viable and compatible partners in the global market, and to that end students from developing countries were allowed to pursue their higher education in Western developed core countries (Peet and Hartwick, 1999). But there was little brain drain during this phase, as students were expected to “[…] return home and utilize their skills in nation-building projects” (Rizvi, 2005, p. 178). In contrast, Harvey (Rizvi, 2005, pp. 177-9) contends that the “post-Fordist flexible accumulation” is a decentralized global production process that relies on small-batch production, sub-contracting and outsourcing; as well as a two-tiered global labor market of highly mobile unskilled and skilled, multi-tasking workers with minimum or no bargaining power. This is closely linked to brain drain, as this new phase of globalization thrives on the ability of highly skilled and educated immigrant populations that could be moved around and utilized beyond national political boundaries in order to meet the demands of a global capitalist economy. Available data also tend to support a global shift in the extent of labor mobility during the second phase of globalization. For instance, in 2000 the United Nations reported that one out of every 35 persons in the world, or 175 million, were international migrants, representing more than a twofold increase since 1960 (United Nations, 2005, p. 379).

On the surface the emphasis on individual “portfolio choice” seems to be a plausible argument regarding global labor mobility (Collier et al., 2004). But Harvey’s analysis (1991) clearly indicates that individuals’ decisions to migrate are more based on “rational” than “portfolio” choices, influenced by demands for migrant labor during various phases of globalization and structural transformation of the world capitalist economy. In addition, economic and cultural dependency relations between the colonized and the colonizers strongly influence the social and cultural environment of the former, which in turn affect individuals’ choices and the direction of migration. For example, making the case for France’s former colonies Portes and Borocz (1989, p. 609) note that “Algerians, Moroccans and Tunisians [former French colonies] have immigrated to France in large numbers while virtually ignoring the ‘comparative advantages’ of other Western European countries”. Many factors, both internal and external, may trigger or initiate population mobility beyond national boundaries. During the colonial era migration patterns were mostly dictated by the colonial powers’ need to expand the colonies as well as maintain social order in the center. Thus, except for the forced migration of the African slave populations, up until the mid-twentieth century migration was mostly from central countries to the colonies and not vice versa[4]. However, the post-Second World War period’s anti-colonial movements and wars of independence in many colonies resulted in a new form of social disintegration, as indigenous ruling elite and certain members...
of the intelligentsia and government bureaucracy who helped maintain dependency relations with the colonizing “center” were perceived by the new revolutionary or post-colonial regimes as accessories of colonial powers, and often were forced to emigrate[5]. This first wave of migration from post-independence/post-revolution countries in the periphery is often followed by consecutive waves, when the newly established post-colonial governments are incapable of delivering what they promised or creating enough jobs. Externally, colonial powers’ national and global interests are also often at odds with the policies and ideological direction of post-revolution nations in the periphery, leading the former to impose punitive economic and political restrictions on the latter and to court and at times encourage the dissident population to leave. Classic examples related to the US’ colonial interests are Cuba after 1959, Vietnam after 1975, and Iran after 1979 (Chaichian, 2008a, Epilogue). However, despite similarities in immigration patterns, internal socio-economic, political, and cultural dynamics and incentives to emigrate are unique to each nation. At this juncture it is important to recognize the fact that regardless of individual decisions to emigrate or social conditions in the sending nations, the receiving country always has the final say in the numbers, conditions and qualifications of those who are admitted.

The case of Iran
The 1979 Iranian Revolution that dismantled the ancien regime and established the Islamic Republic led to a steady emigration of educated Iranians, with significant numbers settling in Europe and the USA. There are several interpretations of the internal and external factors that have influenced emigration of Iranians since the 1970s (Bozorgmehr, n.d.; Chaichian, 2008a, Epilogue; Hakimzadeh, 2006; Torbat, 2002). A reading of the census data indicates that during the 1960s, or almost two decades before the 1979 revolution Iranian immigration to the US gained momentum. Many immigrants came from affluent families who had economic means to send their children abroad to study (Hakimzadeh, 2006), and the number of those who were admitted was much lower than those in the following decade that preceded the 1979 revolution (10,291 and 46,152, respectively). Yet, most observers of Iranian immigration patterns consider the 1971-1980 period as the decade that produced the “first wave of emigration”. Three factors are identified as the main impetus for population mobility during this period. First, in an attempt to consolidate his political power in 1975 the then Shah (Mohammad Reza Pahlavi) dissolved all existing political parties and asked all Iranians to join his newly established Iranian People’s Resurgence Party (Hezb-e-Rastakiz-e Mellat-e Iran). Facing the expected resistance to this unilateral authoritarian decree he also asked those who did not agree with his one-party political system to pack and leave the country (Banuazizi, 1976, p. 476). Torbat (2002, p. 274) contends that “a number of political activists and academics who could not tolerate the Shah’s repression gradually started to leave the country”. In the meantime, affluent upper and middle-class families continued to send their offspring abroad to pursue their higher education. According to one study, during the 1977-1978 academic year alone there were about 100,000 Iranians studying abroad, of whom 36,200 were enrolled in American institutions (Hakimzadeh, 2006, p. 2). But probably the third and the most significant factor for emigration during this decade was the flight of the Shah’s supporters (royalists) and members of religious minority groups particularly the Jews and the Baha’is. The former group comprised mainly of the families closely associated with the monarch-government bureaucrats,
After the 1979 revolution Iran experienced the highest level of emigration in its recent history during the 1981-1990 period, generally identified by observers as the “second wave of emigration”. While there was more than fourfold increase in the number of immigrants during the 1970-1980 period compared to previous decade (10,291 and 46,152, respectively); the 1981-1990 period stands out with another fourfold increase in the number of those who left Iran, with substantial numbers being individuals with tertiary level of education and special skills[6]. The second wave included professionals, academics, members of the left-wing parties and organizations, women escaping religious and ideological restrictions and gender-based discrimination, and the draft-age men trying to escape the military service and fighting during the eight-year war between Iran and Iraq (1980-1988). In his analysis of the Iranian brain drain particularly to the USA, Torbat (2002, pp. 275-6) attributes two actions by the Islamic government to the surge in emigration during the 1980s. First, purging the skilled workers and experienced professionals who were affiliated with the ancien regime in a systematic government “cleansing campaign” (paksazi) and replacing them with government sympathizers and supporters of the Islamist ideology. Second, launching the “Cultural Revolution” (Enghelab-e Farhangi) in 1980 that aimed to “de-Westernize” the institutions of higher education and purge secular, pro-Western faculty opposing Islamization plans which resulted in closing the universities for almost three years[7]. The decade also witnessed the highest numbers of Iranian refugees seeking for asylum as a large-scale crackdown and execution of political opponents that left no other choice for many than to flee the country[8]. Although with less intensity, the US Government continued to admit 112,597 Iranian immigrants during the 1991-2000 period compared with 154,857 for previous decade (Hakimzadeh, 2006). But compared to the 1980s and early 1990s the number of Iranian refugees and asylum seekers has been on the rise since the mid-1990s even though fewer Iranian immigrants have been admitted to the USA. The estimates by the UNHCR indicate that in 2004 Iran ranked tenth among countries of origin for asylum seekers across Europe; and by the end of 2005 “there were 111,684 refugees, asylum seekers, internally displaced persons (IDPS) and other persons of concern from Iran worldwide of which 20,541 were hosted by the United States” (Hakimzadeh, 2006)[9]. During the 2006-2008 period Iran ranked very high among various nationalities and countries of origin (third in 2006 and 2007, and fourth in 2008) thus signaling possible changes in social, economic, and political conditions within Iran[10]. In the aftermath of controversial June 2009 presidential election there has been an increase in the number of Iranians, mostly educated and skilled, who have left Iran and applied for asylum in Western countries. For instance, between January and July 2009 Turkey processed 150 applications for asylum per month from Iran, with the numbers reaching an average of 250 per month from August 2009 to March 2010. Asylum applications in Germany also had an 80 percent increase (Mardomak, 2010a).

In her analysis of immigration cycles of Iranians to the US Hakimzadeh (2006) also identifies a “third emigration wave”, roughly from the mid-1990s onwards that in contrast to the previous two waves is much smaller in size. She also identifies two “very distinct” populations during this last wave comprised of “highly skilled individuals” leaving universities and research institutions, and the “working-class labor migrants
and economic refugees” who sometimes have “lower education levels and less transferable skills than previous emigrants”. My focus in this study is emigration of the highly skilled Iranians during the third wave (mid-1990s to present) who contribute to Iran’s brain drain. In the following pages I will examine several dimensions of brain drain, namely, national and global reasons; extent and costs; and educational, professional, and cultural profiles of Iranian immigrants in the USA.

National and global reasons for Iran's brain drain

According to one estimate approximately 800,000 individuals join the labor force in Iran each year, of which about 300,000 are university graduates. However, only 25 percent of the college educated individuals are able to find jobs (Iran Daily, 2005b). With unemployment rate of about 20 percent the Iranian Government has had a hard time in creating jobs for an increasing army of the unemployed, particularly the young and educated. It is a well-worn and oft-repeated fact-based cliché that many university teachers and students in Iran have to “moonlight as cab drivers to make ends meet” (Dehghanpisheh, 2004). The government’s control of almost four-fifth of Iran’s economy, economic mismanagement, and corruption at all levels of the bureaucracy further hampers the private sector’s ability to expand and create jobs and hence encourages capital flight (Thomas, 2006, p. 1). Yet, despite the apparent damage to Iran’s economy the government does not prevent the out-migration of people for at least three reasons.

First, Iran’s economy cannot provide adequate jobs for the country’s educated and skilled workforce; and creating good paying jobs for the educated and skilled Iranians is a costly undertaking that may be well beyond the government’s means. Based on one estimate, in 2005 it would have cost the government around $18,000 in order to create one new job for skilled workers – certainly not an economically feasible option (Iran Daily, 2005a). An example of post-revolution Iran’s dilemma in training an educated labor force, was the government’s decision to open up teacher training and technical colleges and semi-private universities known as “Free University” (daneshgah-e azad) in all provinces. With less rigorous application procedures and no entrance exams these colleges and universities were easier to get in and reportedly provided lower standard educational curricula. Related to the Free University’s medical school graduates in particular, one observer and practitioner called the plan “a grave mistake” that eventually “contributed to an oversupply of physicians in the country – a situation worse than not having enough doctors” (Saidi, 2006, p. 433). It is not a secret that many graduates of its medical schools cannot secure a job in their profession unless they are willing to serve in outlying “deprived” regions (manategh-e mahroom), further leading to their desire to leave. Saidi also observes that a major part of the physician brain drain pool after the 1979 revolution comprised of those “who have had part or all of their education and training in Western countries”, and once back home faced a culture shock and perceived themselves as “academic elites” who deserved a much better treatment than others. Often frustrated with their country’s inability to accommodate their needs and their own inability to adjust, this latter group returned “right back where they came from” (Saidi, 2006, p. 434). The flight of Iranian physicians has continued to the present time, with most coming to the US to continue their studies, work or both[11]. In his assessment of the share of a global physician brain drain for several advanced industrialized nations Mullan (2005, p. 1812) puts the number of Iranian International Medical Graduates (IMGs) in the US at 4,002, or 0.5 percent of its total physician labor force[12].
Second, adding insult to injury, many of the young educated Iranians have been exposed to the outside culture, mostly Western, either via the internet and satellite television or by traveling abroad; and have grown impatient with the government’s restrictions on social interactions and democratic processes such as the freedom of the press and individual expression (Dehghanpisheh, 2004). On the other hand, keeping several hundred thousand unemployed and discontented young educated Iranians would be a recipe for political and social crisis and as one observer notes, in the absence of social and economic opportunities “these highly educated citizens could well contribute to an effective civil opposition” (Dehghanpisheh, 2004). The best example in this case is the composition of the so-called Green Movement supporters in Iran that emerged in the aftermath of the June 2009 controversial presidential election who accused the Iranian Government of rigging the election results that led to the defeat of their candidates (Moussavi and Karroubi) and effectively sealed the second-term presidency for the incumbent President (Ahmadinejad). In his analysis of the clashes between protesters and the government and the latter’s “bloody” repression tactics Athanasiadis (2009) concludes that “a galaxy of disparate and overlapping causes and social groups – human rights advocates, discontented clerics, women’s groups, students, and unemployed workers” made up the Green Movement’s base; with student groups and committees at major universities comprising the movement’s core organizational body.

Iranian students’ presence in Iranian political scene predates the revolution. But with their increasing disillusion about the Islamic government’s objectives, direction, and repressive strategies to govern their participation in Iran’s democratic movement in the past two decades has intensified, the latest being the Iranian Government’s violent confrontation with student protests in December 2009[13]. The level and intensity of students’ dissatisfaction with and opposition to the government’s handling of issues of both academic and social concern has reached an alarming level; and a government official recently acknowledged that based on existing data in the 2009 presidential election 70 percent of students voted against Ahmadinejad’ re-election (Rooz Online, 2009). According to a United Nations report since the controversial June 2009 presidential election and ensuing street violence more than 4,200 Iranians have applied for refugee status worldwide, with students comprising a sizeable portion of this refugee population. For instance, Hamid Dabashi, an Iranian American professor at Columbia University is quoted as saying that the level of inquiry by students in Iran who have contacted him and wanted to come to the USA in 2009 was “more than 20 times the rate of previous years,” and that it was “mind-boggling how many extremely accomplished young people were trying to come abroad” (Stecklow and Fassihi, 2009)[14].

Third, an often overlooked and unacknowledged factor that eventually leads to brain drain is Iran’s rigorous university entrance exams known as “concours”[15] that secure high school graduates a seat at national state-sponsored universities. But since the available seats are limited this means that on average only 10-12 percent of applicants can gain entry, leaving the rest behind who then join others who failed previous years’ entry exams[16]. Thus, if they can afford, many students who fail the concours opt for leaving Iran to pursue their education mostly in Europe, the USA, Canada, and increasingly in the past decade Australia. Even those who are admitted to the universities often become frustrated with Islamization of higher education institutions in terms of the curricula and social environment, inadequate faculty
and staff, lack of institutional support for research, and repression of students’ freedom of expression and exchange of ideas in academia. Restrictive government policies have also put Iranian academics in a bind, as the intellectual environment of Iranian universities has increasingly succumbed to the ongoing political crises and the government’s religious ideological control. In his brief analysis of the causes of Iran’s brain drain Kamyab (2007) provides a succinct account of this problem:

Scholars and scientists feel excluded from decision making their expertise qualifies them for and believe their work is unappreciated. An Education Ministry official states that a large number of university scholars who go abroad on sabbaticals contact their home institutions requesting unpaid leave: a tacit way of acknowledging they intend to stay abroad. Officials attribute this to lack of resources, including insufficient research facilities and laboratories, a lack of new books and access to education websites as well as low salaries.

The extent and costs of Iran’s brain drain
One of the most common critiques of the brain drain process in both scholarly works and popular discussions, is its negative and often disastrous outcomes for the sending country while the host nation rips all the benefits not only in terms of utilizing the skills and educational talents, but also the costs involved in educating each student on both sides[17]. Iran’s educational system is predominantly government sponsored and supported by extensive subsidies and therefore it is difficult to accurately calculate the per capita cost of education at different levels; and except for for-profit private schools that are tuition-driven all state-sponsored K-12 schools in Iran are tuition free. Since in both Iran and the USA the K-12 education is heavily subsidized, a strong case can be made for the dollar amount saved by admitting foreign born immigrants with post-secondary education and degrees, in this case from Iran. For instance, in state-run universities students who pass the nation-wide “concours” not only pay no tuition; their room and board is also free of charge[18]. In contrast, based on one estimate the average “transcript cost”, or the tuition for a student at undergraduate level in the University of Florida system for 2006-2007 academic year was $33,672 (Johnson, cf. Lederman, 2009)[19]. Since there are no available data for Iranian-born population with tertiary education in the USA in 2006, we cannot use the above estimate and calculate the savings for the USA in 2006-2007 by having these educated Iranians admitted to American universities. But the census data indicate that in 1997 there were 165,000 Iranian born individuals 25 years or older with tertiary education in the USA (Torbat, 2002, p. 281, Table 2). If we adjust the estimated cost of four-year higher education ($33,672) for inflation in reverse, back in 1997 each Iranian-born immigrant with tertiary education would have cost the USA $28,072[20]. Thus, the total cost for training 165,000 Iranian-born college graduates in 1997 would have been more than $4.6 billion, a considerable savings for the USA and a huge loss for Iran[21]. Iranian-born immigrants with post-graduate degrees provide even more savings for the American society, and the case can be made for Iran-educated Iranian-American physicians: Iran’s state-run medical schools provide free education for those who pass the national “concours”; while the cost of medical school at the University of Florida system for the 2005-2006 academic year was a whopping $259,781 (Lederman, 2009).

Educational, professional and cultural profiles of Iranians in the USA
A dominant theme both in scholarly works and in newspaper articles and blogs about Iran’s brain drain particularly those who have come to the USA, is their high levels
of education. For example, in 1998 immigrants of Iranian ancestry in the USA only trailed Egyptians as having the highest levels of education (Table I). In addition, persons of Iranian ancestry far surpass the overall US population in terms of their educational achievements. As is demonstrated in Table II, data for 2000 and 2007 indicate that Iranian immigrants with a bachelor’s or higher degrees who have been admitted to the USA are maintaining a constant 33 percent gap with the rest of population. To be sure, this is not the case of a nation with people of superior intelligence and learning abilities. Rather, similar to some other Asian nations the secret lies in Iran’s educational system particularly at the high school level which “places a premium on science and exposes students to subjects Americans don’t encounter until college”. This tradition is extended to undergraduate programs whereby students learn subjects that are normally taught at the graduate level in American universities (Molavi, 2008).

Similar to some other developing nations, this rather-exceptional level of skills and education among Iranian immigrants is an indication of Iran’s approach to educational programs and appreciation of scientific research and development. For example, a recent report by the research firm Science-Metrix that examines the extent of growth in scientific and technological research in the past two decades has concluded that while the aggregate scientific output in the fields of inorganic and nuclear chemistry, nuclear and particle physics, and nuclear technology has increased by 34 percent at the world level, that of Iran has increased by 84 percent with Iran and Turkey “leading the pack” among all countries in the Middle East (Archambaud, 2010, p. 5). Another report by the University of Hong Kong compares growth and/or decline of biomedical research for various countries, indicating remarkable advancement by Iranian researchers in this area that has improved the country’s global ranking from 51 in 2000 to 26 in 2009. Certainly, Iran’s scientific achievements in the past three decades cannot be discounted,

<table>
<thead>
<tr>
<th>Ancestry</th>
<th>Bachelor’s degree or higher</th>
<th>Graduate degree or higher</th>
</tr>
</thead>
<tbody>
<tr>
<td>Egyptian</td>
<td>60.4</td>
<td>25.6</td>
</tr>
<tr>
<td>Iranian</td>
<td>56.2</td>
<td>26.0</td>
</tr>
<tr>
<td>Nigerian</td>
<td>52.9</td>
<td>26.3</td>
</tr>
<tr>
<td>Russian</td>
<td>49.0</td>
<td>24.3</td>
</tr>
<tr>
<td>Turkish</td>
<td>40.9</td>
<td>22.1</td>
</tr>
</tbody>
</table>

**Source:** US Census Bureau (1990a)

<table>
<thead>
<tr>
<th>Educational attainment (highest level)</th>
<th>1990</th>
<th>2000</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bachelor’s degree or higher</td>
<td>56.2</td>
<td>57.2</td>
<td>24.4</td>
</tr>
<tr>
<td>Graduate degree or higher</td>
<td>26.0</td>
<td>27.5</td>
<td>8.9</td>
</tr>
</tbody>
</table>


**Table I.**
Top five ancestry groups with highest levels of education in the USA, 1998 (percent)

**Table II.**
Highest educational attainment levels for persons of Iranian ancestry in the USA, 1990-2007 (percent)
as they with no doubt have multiplier effects within the Iranian scientific and academic community (Figure 1[22]).

The expected outcome of Iranian immigrants’ high level of educational achievement in the USA has been their strong and prominent presence in both the academia and corporations. For example, The Iranian Studies Group (ISG) at the Massachusetts Institute of Technology compiled a list of 50 Iranians in senior leadership positions in Fortune 500 companies and other corporations with $200 million or more in assets and value. The names include General Electric, AT&T, IBM, Verizon, Intel, Cisco, Motorola, Oracle, Nortel Networks, Lucent Technologies, and eBay. In 2004 the Fortune magazine also ranked Pierre Omidyar, E-Bay’s Iranian American founder and chairman as the “second richest American entrepreneur under age 40” (McIntosh, 2004). Iranian Americans also have a strong presence in management and professional-level occupations (Table III).

Iranian-Americans’ presence in the American academic circles is also significant. Using census data for 1997 Torbat (2002, p. 285) estimates that there were close to 4,000 Iranian professors who taught and conducted research in American colleges and universities. Later, in 2004 the ISG reported that more than 500 Iranian American professors were teaching and conducting research at “top-ranked” universities. The long list included MIT, Harvard, Yale, Princeton, Carnegie Mellon, the University

Figure 1.
Ranking by number of biomedical articles for selected countries, 2000 and 2009

Source: Clinical Trial Magnifier (2009), Vol. 2 No. 12, p. 72
of California system (Berkeley, UCLA, etc.), Stanford, the University of Southern California, Georgia Tech, University of Wisconsin, University of Michigan, University of Illinois, University of Maryland, California Institute of Technology, Boston University, and George Washington University (McIntosh, 2004).

The leading Iranian-American organizations and several web sites run by Iranian expatriates often boast of star qualities and conspicuous presence of highly educated Iranian-Americans in the business, academic and scientific circles. Sometimes the media and freelance Iranian journalists also tell tales of “head hunting” or “snatching” of Iranian students or graduates from top Iranian universities by the alleged agents of top-ranking universities or corporations in the USA or Europe. Initially, head hunting emerged in the late 1960s in response to a global demand for the most talented and educated individuals who can manage knowledge-intensive industries. With their clients being organizations and not job candidates, headhunters by definition are “third-party agents” in the corporate business circles “who are paid a fee by employers for finding job candidates for them” (Finlay and Coverdill, 2002, p. 2). Related to Iran, in his account of the dynamics of brain drain Molavi (2008) provides the following anecdotal example:

Never far behind, Western tech companies have also started snatching them [educated Iranians] up. Silicon Valley companies from Google to Yahoo now employ hundreds of Iranian grads, as do research institutes throughout the West. Olympiad winners are especially attractive; according to the Iranian press, up to 90 percent of them now leave the country for graduate school or work abroad.

Supporting above claims, in 2009 a weekly magazine of Iran’s Agency for Management and Planning (Sazeman-e modiriyat va BarnameRizi-e Iran) reported that out of 125 Iranian students that had participated in international Olympiads 90 students were studying in American universities (Tale’ii, 2010). But not all educated Iranians are recruited by head hunters. The case of emigration of faculty and graduates of one prestigious university in Iran to the USA, Canada and Australia, namely, the Sharif University of Science and Technology (SUST) in Tehran is a good example. In my personal interviews with several graduate students from Sharif University who are in PhD or post-doctoral engineering programs at the University of Iowa, they also considered the “head hunting” practices more as a myth rather than a reality. Furthermore, they indicated that almost all graduates from Iran’s elite universities directly contact faculty in American universities with whom they share similar research interests; adding that getting admitted in American universities is an arduous task requiring hard work and high quality research, often with little or no encouragement and incentive offered by the host country[23]. Funded by the Iranian Government as a public university, SUST is considered as one of the top three institutions of higher education

<table>
<thead>
<tr>
<th>Occupation type</th>
<th>1990(^a)</th>
<th>2000(^b)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Management, professional and related occupations</td>
<td>41.9</td>
<td>51.8</td>
</tr>
<tr>
<td>Sales and office occupations</td>
<td>35.0</td>
<td>27.5</td>
</tr>
<tr>
<td>Service occupations</td>
<td>9.3</td>
<td>9.0</td>
</tr>
</tbody>
</table>

Source: \(^a\)US Census Bureau (1990a, b), Foreign Born Population (Torbat, 2002, p. 282); \(^b\)US Census Bureau, 2000 (Hakimzadeh and Dixon, 2006)
in Iran[24]. Known for its world-class programs in the fields of science and engineering, SUST graduates are being sought after and recruited by top-ranking universities particularly in the USA. In a report titled The Star Students of the Islamic Republic Molavi (2008) traces SUST’s track record to few years back:

In 2003, administrators at Stanford University’s Electrical Engineering Department were startled when a group of foreign students aced the notoriously difficult PhD entrance exam, getting some of the highest scores ever. That the wiz kids weren’t American wasn’t odd; students from Asia and elsewhere excel in US programs. The surprising thing, say Stanford administrators, is that the majority came from one country and one school: Sharif University of Science and Technology in Iran.

Although in 2010 SUST was ranked 549 in the world among top 600 universities, its admirers often boast of the statement made by Bruce Wooley, the former Chair of Electrical Engineering Department at Stanford University who once announced that “without a doubt the finest university in the world preparing undergraduate electrical engineers is Sharif University of Technology in Tehran” (Molavi, 2008)[25]. Students from SUST and other top universities in Iran have also gained a reputation as being “superstars” in International Olympiads, often “taking home trophies in physics, mathematics, chemistry and robotics” (Molavi, 2008).

Emergence of “diasporic nationalism”
A distinct characteristic of the post-Fordist immigrant population is its peculiar form of nationalism and attachment to the source country’s culture and identity, clearly setting them apart from pre-1970 period immigrants. More clearly, the post-Fordist phase of global economy’s need for a highly mobile skilled labor force transcends extreme nationalistic sentiments that prescribe unconditional allegiance to the source country on one hand; and the conventional assimilationist theories that assume and predict immigrants’ mechanical acceptance and adoption of host society’s cultural values and consequent detachment from their home country’s cultural traditions on the other (Park and Burgess, 1921; Gordon, 1964). Instead, immigrants have substituted a new and more flexible form of international cultural identity while navigating the host society’s new cultural environment for a more rigid political-ideological identity that is based on recognition of clear center-periphery divide. Accordingly, Iranian immigrants in the US and elsewhere have become part of this global diaspora who collectively share certain cultural values and ideals[26]. This is supported by two recent opinion polls of Iranian-Americans in 2008 and 2009, whereby more than half of respondents indicated that their ethnic heritage is a very important factor in defining their identity in the USA. The majority of diasporic Iranian-Americans are also concerned about Iran’s social and political environment indicated by their support of human rights and democracy (Table IV)[27]. In his assessment of assimilationist theories and their relevance to the new phase of globalization Rizvi (2005, p. 184) provides an interesting insight:

The popular idea of brain drain appears to link, in an essentialist way, each person’s identity to one and only one nation, to which individuals are expected to display loyalty. Whether this idea is sustainable in an era of globalization is highly questionable, as it is the notion that it is only possible to make a contribution to the development of a nation by being located within its physical boundaries. This is a fundamentally misguided way of looking at transnational mobility in the global era.
As an indication of this new trend, Iranian-Americans in the last decade have formed several organizations that are mostly supported by educated and professional middle- and upper-class Iranians and are geared toward promotion of Iranian culture and national and ethnic pride, and pursuing economic and political interests. The latest of such effort was a campaign launched by the Public Affairs Alliance of Iranian Americans (PAAIA) aimed at mobilizing Iranian-Americans to participate in the 2010 census. In an interview the organization’s director considered the campaign “as much a matter of pride as it is an effort to gain information about the Iranian-American community”. She further stated that:

[…] even Iranian Americans who grew up in the United States will go to the trouble of filling in “Iranian” instead of simply checking the “White box” including the second generation Iranians – the majority of whom have been born and raised in the United States (America.gov., 2010).

Thus, unlike other protected ethnic groups that often use their “minority” status as a protective shield against the majority groups' discriminatory practices, Iranians do not consider themselves a “minority” yet insist on preservation and promotion of their “Iranianess” as part of their diasporic identity. Mostofi’s (2003, pp. 688-9) observation of Iranian-Americans in southern California provides a good example:

Iranianess, as a diasporic creation, has not maintained nationalistic characteristics in the sense that it does not correlate with the contemporary nationalism expressed in Iran. In diaspora, the flag, national anthem, and political consciousness are all drastically different than those in Iran. Iranian immigrants have not only become US citizens, but they are also outside the realms of Iranian nation-state authority. Thus, Iranianess can be understood as a collective identity that is devoid of a physical location (like a nation) but that incorporates the memories of a homeland along with its geography and history, as well as the process of immigration and experiences in a new country.

**Conclusion**

In this paper, I have examined the issue of brain drain as it pertains to Iranian immigrants in the last three decades, a period which David Harvey (1991) has identified as the “post-Fordist flexible accumulation” phase of globalization. I have tried to document the complexity of center-periphery relations which direct and often dictate the parameters for a global brain drain. There is no question that socio-economic and political conditions in the sending country play a significant role in the emigration

<table>
<thead>
<tr>
<th>Issue</th>
<th>2008</th>
<th>Response level (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Importance of their ethnic heritage in defining their identity</td>
<td>Very important (56)</td>
<td>Very important (55)</td>
</tr>
<tr>
<td>Level at which they follow news from Iran</td>
<td>Very closely (41)</td>
<td>Very closely (50)</td>
</tr>
<tr>
<td>The most important issue related to US-Iran relations</td>
<td>1. Promotion of human rights and democracy in Iran (70)</td>
<td>1. Promotion of human rights and democracy in Iran (72)</td>
</tr>
</tbody>
</table>

**Source:** Table constructed based on information in Zogby International (2008, pp. 13-22, 2009, pp. 17-20)

**Table IV.**

Attachment of Iranian Americans to their home country, 2009
of educated and skilled individuals. But it would be a simplistic and ahistorical analysis if we assume that decisions by both individuals and government/institutional agents in the sending country are made independent of global forces, as the latter often put limitations on and dictate the course and direction of migration in the periphery. For example, during the colonial era migration patterns were mostly dictated by colonial powers’ need to expand the colonies as well as maintain social order in the center. Thus, except for forced migration of the African slave populations migration was mostly from center countries to the colonies and not vice versa[28]. The post-Second World War period’s anti-colonial movements and wars of independence in many colonies resulted in a new form of social disintegration and population mobility, as the indigenous ruling elite and certain members of the intelligentsia and government bureaucracies that helped to maintain dependency relations with the center (dependent elite) were forced to immigrate to the center. Since the newly established governments were usually incapable of delivering what they initially promised, this first wave of emigration from post-independence/post-revolution countries in the periphery has often been followed by consecutive waves. Externally, colonial powers’ national and global interests are often at odds with the policies and ideological direction of post-revolution nations in the periphery, which leads the former to impose punitive economic and political restrictions on the latter and to court and at times encourage the dissident populations to leave. Some classic examples related to the American colonial interests are Cuba after 1959, Vietnam after 1975, and Iran after 1979 (Chaichian, 2008a, Epilogue). Needless to say, despite similarities in migration patterns, internal socio-economic, political, and cultural dynamics and incentives to emigrate are unique to each nation.

Arguably Iran is no longer located in the periphery, and in the last two decades it has been able to elevate her status and join the countries in the semi-periphery[29]. This is signified by Iran’s level of advancement in scientific research and development, industrial design and production, as well as relative ability and autonomy to navigate in a complex web of international political and economic relations. This means that as a country in transition Iran should be less susceptible to domineering colonial and imperial core-periphery relations. However, the USA and other European nations have used direct and indirect political pressures such as severing diplomatic ties with Iran, providing financial and ideological support for anti-regime opposition groups to expedite regime change, and the threat of military strikes and/or outright plans to invade and occupy the country in order to bring the non-complying Iranian regime to submission. It is within the above-described context that Iran’s consecutive “waves” of emigration should also be examined. Related to brain drain, on the surface it appears that internal factors in Iran have been the main variables that have encouraged emigration of the educated elite. But the preceding analysis suggests that they often operate under the influence of global economic, political and ideological pressures. It is also important to recognize the fact that receiving nations always have the final say in the numbers, conditions, and qualifications of those who are admitted regardless of individual decisions to emigrate and or social conditions in the sending countries.

Notes
1. Organization for Economic Cooperation and Development.
2. The top five countries in granting asylum in 2003 were Pakistan (1.1 million); Iran (985,000); Germany (960,000); Tanzania (650,000); and the USA (452,000).
3. This argument is very similar to the developmentalist ideology of the Fordist-Keynsian period, which on the surface sympathizes with the nations in the periphery, but does not acknowledge the new reality of the post-1970s new phase of globalization as formulated by David Harvey.

4. Colonization of North American territories is a prime example, whereby even up until the end of Second World War the majority of immigrants originated from European countries.

5. This group is commonly known as the “comprador bourgeoisie”.


7. This ideological tendency has resurfaced several times since the cultural revolution years; the latest being the statement made by the current Science and Technology Minister, Kamran Daneshjou, that “the country’s universities have no need for ‘secular’ professors, and educators who do not subscribe to the Islamic worldview have no place in Iran’s universities” (Radio Zamaneh, 2010).

8. For related data see Iranian Refugees’ Alliance Inc. (2008).

9. As Martin and Hoefer (2009, p. 3) report, this is in spite of the fact that in the aftermath of September 11, 2001 fewer refugees have been admitted to the USA “due partly to changes in security procedures and admission requirements”.

10. For an interesting account of the Iranian refugee situation in 2009 in the aftermath of controversial presidential election and violent street protests and confrontations see Stecklow and Fassihi (2009).

11. One of Iran’s prestigious medical schools prior to revolution was Shiraz University in the southern city of Shiraz that was modeled after American schools where all instruction was in English. Although aimed at educating Iranian doctors to serve in Iran (a post-colonial strategy by the USA to help Iran’s development during the “Fordist-Keynsian” period), the plan backfired and according to Ronaghy et al. (1972), Joorabchi, 1973) “fully one-half the student body graduating from Pahlavi University in the years 1961 and 1962 eventually emigrated to the United States”. By 1970 more than 1,000 Iranian physicians, mostly with a specialty were practicing in the USA alone. At the same time, of a total of 7,800 practicing physicians in Iran only 2,087 had a specialty (Joorabchi, 1973, p. 44).

12. Mullan’s data do not include any Iranian IMGs for the other three countries, an indication of their low/insignificant numbers.


14. Although anecdotal, my own observation in a recent trip to Iran supports Dabashi’s statement: “In December 2009 I was invited to give a talk to a group of students at Tehran University and asked for a show of hands about their interest to study abroad, particularly in the United States – the response was almost unanimously affirmative!”.

15. Adopted from the French word “concours” that means “examination”.


18. In some state-run universities students are issued highly subsidized low-cost food tokens for daily meals, but that is the extent of their cost for higher education.
19. According to Lederman (2009) to calculate transcript costs “the total number of credit hours students take are multiplied by the cost per credit hour, and then divided by the number of degrees awarded”.

20. I adjusted the 2006 figure for a 2 percent inflation rate per year in reverse, arriving at the calculated cost of $28,072 for 1997.

21. In 2004 the Iranian Government estimated that brain drain’s annual cost for the Iranian economy was about $38 billion (Iran Daily, 2005b).

22. However, the findings by Science-Metrix group are disputed inside Iran. For instance, Mohammad Yalpani, a Chemistry Professor at Sharif University is quoted as questioning the ethical violation of publishing scientific papers and their quality, as “some articles are published multiple times under different titles, and none of the published articles have any industrial applications either in Iran or abroad” (Mardomak, 2010b).

23. I conducted personal interviews at the University of Iowa campus in Iowa City, Iowa (February 20, 2010), and students wished to remain anonymous. This was a small “snowball” sample and hence should not be considered as representative of all SUST graduates in the USA. Of the 18 Iranian students enrolled at the University of Iowa at the time of my interview seven were Sharif University graduates (six male and one female), all in their mid-to-late 20s.

24. The other two are the University of Tehran and the Isfahan University of Technology.

25. For a ranking of top universities in the world in 2010-2011 visit the QS World University Rankings: www.topuniversities.com/university-rankings

26. Safran (1999, p. 365) defines “diaspora” as expatriate minority communities who: (1) have been dispersed from a specific original “center” to two or more “peripheral”, or foreign, regions; (2) they retain a memory, vision, or myth about their original homeland-its physical location, history, and achievements; (3) they believe that they are not – and perhaps cannot be fully accepted by their host country and therefore feel partly alienated and insulated from it; (4) they regard their ancestral home as their true, ideal home and as the place to which they or their descendants would (or should) eventually return – when conditions are appropriate; (5) they believe that they should, collectively, be committed to the maintenance or restoration of their original homeland and to its safety and prosperity; and (6) they continue to relate, personally or vicariously, to that homeland in one way or another, and their ethno-communal consciousness and solidarity are importantly defined by the existence of such a relationship.

27. This study however does not distinguish between Iran born immigrants and those who have been born in the USA.

28. Colonization of North American territories is a prime example, whereby even up until after Second World War the majority of immigrants originated from European countries.

29. I have earlier defined the core-periphery concepts in the theoretical section.

References


Further reading

About the author
Mohammad A. Chaichian is Professor and Coordinator of Sociology and International Studies programs at Mount Mercy University. He is the recipient of the Feld Chair Award for Excellence in Teaching and Community Service (2008-2010). He has published numerous articles on contemporary Iran, immigration issues, race relations, and urban political economy; and has authored two books, White Racism on the Western Urban Frontier: Dynamics of Race and Class in Dubuque, Iowa (2006, Africa World Press); and Town and Country in the Middle East: Iran and Egypt in the Transition to Globalization (2008, Lexington Books). Currently, he is working on his third book Empire and the Wall that focuses on the significance of building walls to either avert racial-ethnic or gender-based conflicts, or subjugate and control the colonized populations during various historical phases of globalization. He has also conducted workshops and given talks about racial segregation in South Carolina and Iowa, as well as racial-ethnic conflicts in the Middle East particularly related to the Palestinian-Israeli relations. Mohammad A. Chaichian can be contacted at: mchaich@mtmercy.edu

To purchase reprints of this article please e-mail: reprints@emeraldinsight.com
Or visit our web site for further details: www.emeraldinsight.com/reprints