



Migration,  
Diasporas and  
Citizenship

## SOCIAL TRANSFORMATION AND MIGRATION

National and Local Experiences in South Korea,  
Turkey, Mexico and Australia

Edited by Stephen Castles,  
Derya Ozkul and Magdalena Arias Cubas



*Migration, Diasporas and Citizenship Series*

Series Editors: **Robin Cohen**, Former Director of the International Migration Institute and Professor of Development Studies, University of Oxford, UK and **Zig Layton-Henry**, Professor of Politics, University of Warwick, UK.

Editorial Board: **Rainer Baubock**, European University Institute, Italy; **James F. Hollifield**, Southern Methodist University, USA; **Jan Rath**, University of Amsterdam, The Netherlands

The Migration, Diasporas and Citizenship series covers three important aspects of the migration process. Firstly, the determinants, dynamics and characteristics of international migration. Secondly, the continuing attachment of many contemporary migrants to their places of origin, signified by the word 'diaspora'. And thirdly, the attempt, by contrast, to belong and gain acceptance in places of settlement, signified by the word 'citizenship'. The series publishes work that shows engagement with and a lively appreciation of the wider social and political issues that are influenced by international migration.

*Also published in Migration Studies by Palgrave Macmillan*

Bridget Anderson and Isabel Shutes (*editors*)

MIGRATION AND CARE LABOUR

Theory, Policy and Politics

Fiona Barker

NATIONALISM, IDENTITY AND THE GOVERNANCE OF DIVERSITY

Old Politics, New Arrivals

Loretta Bass

AFRICAN IMMIGRANT FAMILIES IN ANOTHER FRANCE

Michaela Benson and Nick Osbaldiston

UNDERSTANDING LIFESTYLE MIGRATION

Theoretical Approaches to Migration and the Quest for a Better Way of Life

Daniel Conway and Pauline Leonard

MIGRATION, SPACE AND TRANSNATIONAL IDENTITIES

The British in South Africa

Rosie Cox (*editor*)

SISTERS OR SERVANTS

Au Pairs' Lives in Global Context

Saniye Dedeoglu

MIGRANTS, WORK AND SOCIAL INTEGRATION

Women's Labour in the Turkish Ethnic Economy

Catrin Lundström

WHITE MIGRATIONS

Gender, Whiteness and Privilege in Transnational Migration

Amanda Klekowski von Koppenfels

MIGRANTS OR EXPATRIATES?

Americans in Europe

Eric Morier-Genoud

IMPERIAL MIGRATIONS

Colonial Communities and Diaspora in the Portuguese World

Dominic Pasura  
AFRICAN TRANSNATIONAL DIASPORAS  
Fractured Communities and Plural Identities of Zimbabweans in Britain

Helen Schwenken and Sabine Ruß-Sattar  
NEW BORDER AND CITIZENSHIP POLITICS

Louise Ryan, Alessio D'Angelo and Umut Erel (*editors*)  
MIGRANT CAPITAL  
Networks, Identities and Strategies

Evan Smith and Marinella Marmo  
RACE, GENDER AND THE BODY IN BRITISH IMMIGRATION CONTROL  
Subject to Examination

Holly Thorpe  
TRANSNATIONAL MOBILITIES IN ACTION SPORT CULTURES

Vron Ware  
MILITARY MIGRANTS  
Fighting for YOUR Country

---

**Migration, Diasporas and Citizenship**  
**Series Standing Order ISBN 978-0-230-30078-1 (hardback)**  
**and 978-0-230-30079-8 (paperback)**  
*(outside North America only)*

You can receive future titles in this series as they are published by placing a standing order. Please contact your bookseller or, in case of difficulty, write to us at the address below with your name and address, the title of the series and the ISBN quoted above.

Customer Services Department, Macmillan Distribution Ltd, Houndmills, Basingstoke, Hampshire RG21 6XS, England

---

# Social Transformation and Migration

National and Local Experiences in  
South Korea, Turkey, Mexico and Australia

Edited by

Stephen Castles

*Research Chair in Sociology, University of Sydney, Australia*

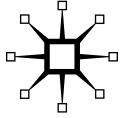
Derya Ozkul

*University of Sydney, Australia*

Magdalena Arias Cubas

*University of Sydney, Australia*

palgrave  
macmillan



Editorial matter and selection © Stephen Castles, Derya Ozkul and Magdalena Arias Cubas 2015

All chapters © Respective authors 2015

All rights reserved. No reproduction, copy or transmission of this publication may be made without written permission.

No portion of this publication may be reproduced, copied or transmitted save with written permission or in accordance with the provisions of the Copyright, Designs and Patents Act 1988, or under the terms of any licence permitting limited copying issued by the Copyright Licensing Agency, Saffron House, 6-10 Kirby Street, London EC1N 8TS.

Any person who does any unauthorized act in relation to this publication may be liable to criminal prosecution and civil claims for damages.

The authors have asserted their rights to be identified as the authors of this work in accordance with the Copyright, Designs and Patents Act 1988.

First published 2015 by  
PALGRAVE MACMILLAN

Palgrave Macmillan in the UK is an imprint of Macmillan Publishers Limited, registered in England, company number 785998, of Houndsmills, Basingstoke, Hampshire, RG21 6XS

Palgrave Macmillan in the US is a division of St Martin's Press LLC, 175 Fifth Avenue, New York, NY 10010.

Palgrave is the global academic imprint of the above companies and has companies and representatives throughout the world.

Palgrave® and Macmillan® are registered trademarks in the United States, the United Kingdom, Europe and other countries

E-ISBN: 978-1-137-47495-7

This book is printed on paper suitable for recycling and made from fully managed and sustained forest sources. Logging, pulping and manufacturing processes are expected to conform to the environmental regulations of the country of origin.

A catalogue record for this book is available from the British Library.

A catalog record for this book is available from the Library of Congress.

# Contents

<i>List of Figures and Maps</i>	viii
<i>List of Tables</i>	ix
<i>Preface</i>	x
<i>Notes on Contributors</i>	xii
<b>Introduction</b>	<b>1</b>
1 International Human Mobility: Key Issues and Challenges to Social Theory <i>Stephen Castles</i>	3
<b>Part I Methodological Challenges</b>	<b>15</b>
2 Towards a Multi-scalar Methodology: The Challenges of Studying Social Transformation and International Migration <i>Rebecca Williamson</i>	17
3 The Virtues and Challenges of Comparative Analyses of Immigration, Migrant Settlement and Transnationalism <i>Kevin M. Dunn and Alanna Kamp</i>	33
4 The Temporalities of International Migration: Implications for Ethnographic Research <i>Shanthi Robertson</i>	45
<b>Part II Case-study Insights: South Korea</b>	<b>61</b>
5 The Political Economy of Immigration in South Korea <i>Dong-Hoon Seol</i>	63
6 An Overview of International Migration to South Korea <i>Hye-Kyung Lee</i>	81
7 From Salt Fields to 'Multicultural Village Special Zone': The Transformation of a Migrant City in South Korea <i>Chulhyo Kim</i>	97

<b>Part III Case-study Insights: Turkey</b>	<b>113</b>
8 Migration Realities and State Responses: Rethinking International Migration Policies in Turkey <i>Ahmet İçduygu and Damla B. Aksel</i>	115
9 Turkey's Neoliberal Transformation and Changing Migration Regime: The Case of Female Migrant Workers <i>Mine Eder</i>	133
10 Migration Flows in Turkey's Neoliberal Era: The Case of Kumkapı, Istanbul <i>Derya Ozkul</i>	151
<b>Part IV Case-study Insights: Mexico</b>	<b>167</b>
11 From Casa Blanca to Tulsa: A Social Transformation Analysis of Mexican Migration in an Era of Neoliberal Globalization <i>Magdalena Arias Cubas</i>	169
12 The Return of Migrants in the USA to Mexico: Impacts and Challenges for Zacatecas <i>Rodolfo García Zamora, Alondra Ambriz Nava and Patricia Herrera Castro</i>	185
13 Unravelling Highly Skilled Migration from Mexico in the Context of Neoliberal Globalization <i>Raúl Delgado Wise</i>	201
<b>Part V Case-study Insights: Australia</b>	<b>219</b>
14 'In the beginning all is chaos . . .': Roaming the Dystopic Realm in Australian Multiculturalism <i>Andrew Jakubowicz</i>	221
15 Multiculturalism at the Margins of Global Sydney: Cacophonous Diversity in Fairfield, Australia <i>Elsa Koleth</i>	237
16 The Political Economy of the Social Transformation of Australian Suburbs <i>Jock Collins</i>	255
17 Law as an Agent of Social Transformation: Trends in the Legal Regulation of Migration <i>Mary Crock and the IMPALA Consortium</i>	269

18	Generations and Change: Affinities Old and New <i>Ellie Vasta</i>	283
	<b>Conclusion</b>	<b>299</b>
19	International Migration in an Era of Neoliberal Social Transformation <i>Magdalena Arias Cubas, Derya Ozkul and Stephen Castles</i>	301
	<i>Appendix: Descriptive Statistics of the Explanatory Variables</i>	313
	<i>Index</i>	315



# 13

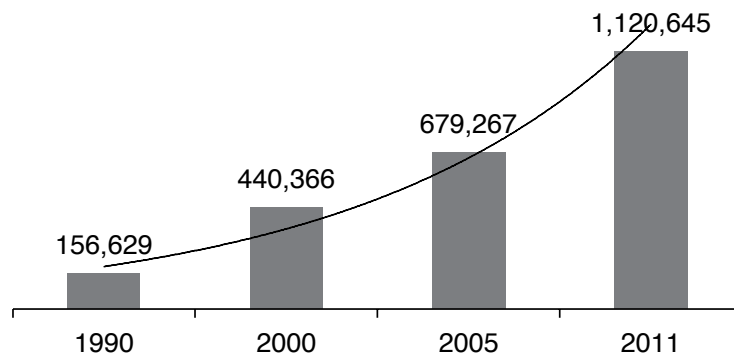
## Unravelling Highly Skilled Migration from Mexico in the Context of Neoliberal Globalization

*Raúl Delgado Wise*

### Introduction

Mexican migration to the USA has experienced unprecedented growth since the implementation of neoliberal reforms in Mexico in the 1980s and 1990s. The signing of the North American Free Trade Agreement (NAFTA) further accentuated the phenomenon to the degree that it turned Mexico into the number one country of emigrants in the world. This seemingly inexhaustible expulsive force brought with it profound qualitative transformations in the migratory phenomena associated with processes of deep social transformation. One of these, which has received relatively little attention in the literature, has to do with highly skilled labour migration which, in the last two decades, has shown a pace of growth greater than that of Mexican migration in general (see Figure 13.1). This makes Mexico the second-ranked country in the world in terms of sending highly skilled migrants to the USA, the first-ranked to the rest of Latin America and the sixth-ranked to the rest of the world.

The purpose of this chapter<sup>1</sup> is to analyze this phenomenon from a comprehensive and critical-analytical perspective. We are interested, above all, in uncovering the role played by *brain power* originating in Mexico – and in general that of the countries of the South – in the process of restructuring of the systems of innovation that were deployed within the framework of neoliberal globalization and at the hand of large multinational corporations. From this analytical perspective, it is possible to deepen our understanding of the nature and characteristics of highly skilled labour migration, in contrast to the dominant perspective that decontextualizes its analysis and restricts it to a supposed transition from *brain drain* to *brain circulation* and an eventual *brain gain* favouring the countries of origin.



*Figure 13.1* Growth of Mexican highly skilled migration (Bachelor's, Master's, Professional and PhD degrees) to the USA 1990–2011

*Source:* SIMDE UAZ. Estimate based on US Census Bureau (1990, 2000) and the American Community Survey (US Census Bureau, 2005, 2011).

Our central hypothesis is that the export of scientific and technological capabilities (*brain power*) consists of a higher phase in the restructuring strategy promoted by northern governments and large multinational corporations with the aim of lowering their labour costs through the resource of the inexpensive labour force from peripheral or emerging countries and regions. This situation, rather than resulting in positive social transformations in the migrants' countries of origin, has led to the emergence of new forms of unequal exchange and dependency along the South–North axis.

### **Workforce export and the dynamics of Mexico–US integration**

For our purposes, it is important to draw attention to a few essential features of the economic integration process underway between Mexico and the USA which has developed largely over the past three decades. This process, notable for the implementation of neoliberal reforms in the country and the signing and activation of NAFTA, is characterized by a triple movement.

#### **First movement: the dismantling and reinsertion of the Mexican economy**

An unavoidable feature of the course followed by neoliberalism in Mexico is the accelerated dismantling of the productive, commercial and service apparatus in the country oriented towards the domestic market, which was turned around and reoriented towards the international market. This turn of the rudder made possible, in a relatively short time, the conversion of the Mexican economy into the principal exporter in Latin America and the 12th worldwide. At first glance, this is not only a transformation into a new exporter role but, rather, an unprecedented pursuit of a new exporting dynamic consisting of some 80 per cent manufactured goods – of which almost

40 per cent are classified as embodying technological progress (Delgado Wise and Márquez, 2007).

The latter point has served the interests of the architects of the Washington Consensus in labelling the Mexican case as a paradigmatic 'success' story in the implementation of neoliberal reforms and an example of the benefits of 'free trade' (Iglesias, 2001). This, however, is nothing more than a distorted reflection of one vision of reality. To reveal the real character of Mexican exports, one must understand that, for the most part, this rests upon two pillars:

- The maquiladora industry, made up of assembly factories associated with a strategy of productive, commercial and services relocation by large multinational corporations, principally of US origin, which seek to take advantage of the low labour costs prevalent in Mexico.<sup>2</sup> This kind of 'industry' is characterized by a very high proportion of imported inputs.
- The *disguised* maquiladora, which refers to export manufacturing plants with productive processes that are relatively more complex than the maquiladora, as is the case in the automotive and electronics sectors, but whose operation is carried out under a system of temporary importation similar to the maquiladora industry.

Both the maquiladora and the *disguised* maquiladora are characterized by a lack of forward and backward linkages with the rest of the national productive, commercial and service apparatus, for which they shape *enclave economies*. Similarly, both are subjected to the dynamics of labour uncertainty and feature significant wage differences with regard to US manufacturing: 1/10 in the case of the maquiladora and 1/7 in the *disguised* maquiladora (Cypher and Delgado Wise, 2011). The high degree of imported components in these activities, which represents between 75 and 80 per cent of the total manufactured exports, means that their contribution to the Mexican economy is essentially reduced to a miniscule salary flow, that is, the value of the workforce incorporated into the exports (Cypher and Delgado Wise, 2011). Therefore, behind the mirage of an advanced platform of manufactured exports, what the country really exports through the products of the maquiladora and the *disguised* maquiladora is a workforce – even though these Mexican workers never leave the country (Tello, 1986). It is, to put it in more precise terms, a modality of *indirect export* of the workforce.

If one adds to this indirect export of labour the direct export of the labour produced through migration, the true make-up of Mexican exports and the nature of the export model imposed upon the country reveal their actual significance. In effect, more than an advanced model of manufactured export, in reality, what has been implemented in the country is a *cheap labour-force export-led model*. Such a development not only represents a step backwards in the export programme of the country, but also implies a frontal attack on the conditions of life and work for the majority of Mexicans (Delgado Wise and Cypher, 2007; Delgado Wise and Márquez, 2007).

### **Second movement: the creation of a boundless reserve army of labour**

The toll of neoliberal restructuring has been detrimental to the majority of the Mexican population: 2.1 million jobs were created in the country between 2000 and 2010, whereas some 9.5 million people were potentially looking for work (OECD/CEPAL, 2011). This resulted in an excessive growth in the reserve army of labour which, in this period, reached a height of 7.5 million workers, of whom 1.5 million were unemployed, 3.9 million fell into the ranks of informal workers and 2.1 million were international migrants. This situation, which represented a stark scenario for the country, was aggravated by the runaway crisis in the USA from 2008 and by the massive deportations by the administration of President Obama which, according to official statistics from the US Department of Homeland Security, amounted to 2 million deportations in the last five years (Golash-Boza, 2013).

Furthermore, as a corollary of the excess labour supply integral to the dynamic of neoliberal restructuring in Mexico, one witnesses the persistence of poor-quality and low-paid jobs. According to data from the National Institute of Statistics, Geography and Informatics (INEGI, 2013), 60 per cent of Mexican workers were in the informal sector in 2012, while 66 per cent of waged and salaried workers saw incomes of less than 1.7 dollars per hour, and 85 per cent worked either more than 40 hours per week or less than 35. One can also add that in the shadow of this attack against the Mexican working class, the ever-more-porous boundaries with organized crime lie at the root of the grim processes of social disintegration. In this regard, it is worth acknowledging, for instance, the large number of organized crime murders in Mexico since 2006 (Molzahn et al., 2012).

### **Third movement: unleashing forced migration**

Under the export model of cheap labour, migration from Mexico to the USA has shown an exponential growth. This growth was made more acute with the arrival of NAFTA. The heights reached by this migratory phenomenon are expressed eloquently in the following: in 2012, the Mexican-origin population residing in the USA was estimated at a little more than 32 million people, between emigrants – documented or not – born in Mexico (12 million) and US citizens of Mexican heritage (20 million). This is the largest diaspora in the world, located in a single country – in this case the largest country of immigrants in the world.

Mexican migration to the USA has also experienced qualitative changes with regard to levels of schooling, ethnic and gender composition, increased duration of migrant flows, and so on. However, the most important characteristic is that this migration takes on, with increasing force, the nature of a forced displacement (Márquez and Delgado Wise, 2011). In this sense, those who join in the migratory streams are, for the most part, people who have

literally been expelled from their territories (i.e. who abandon their places of origin out of necessity, with the hope of attaining some way to live or opportunities for social mobility beyond the country's borders). The conditions in which these displacements occur carry with them multiple risks and hazards all along the difficult migratory journey – particularly for less-skilled migrants – including the persistent exposure to conditions of labour instability and social exclusion at their destinations. Further, international migrants are being increasingly subjected to policies and practices of criminalization, racial profiling and discrimination, which not only create vulnerable and segregated populations, but also often put the migrants' very lives at risk. The fact that more than half of Mexican migrants can be categorized as undocumented or irregular (Passel and Cohn, 2011) has significant implications in terms of stigmatization and social vulnerability. The forced returns that are the result of massive deportations and the US economic crisis aggravated the situation described above.

It is important to note that by virtue of the hemispheric extension of the policy of economic integration promoted by the US government, Mexico has become the largest migratory transit corridor in the world. This involves, like the movement of its citizens to the USA, a flow of forced migration, coming particularly from Central America, which is subjected to ever-increasing conditions of vulnerability. In this context, the growing number of victims on Mexican territory represents a very serious and embarrassing episode in the annals of the nation's history, one that cannot and should not be avoided (Casillas, 2012; Castillo, 2005).

### **Restructuring of the systems of innovation under the neoliberal aegis**

The context in which skilled migration occurs, particularly that originating in peripheral or emerging countries, is notable for a profound restructuring of innovation systems on a global scale, with the USA at the head and having the large multinational corporations acting as core agents. Four overarching aspects are characteristic of this restructuring process:

- Increasing the *internationalization and fragmentation of research and development activities*. In contrast to the traditional innovation processes 'behind closed doors' in research and development departments that suckle at the breast of large corporations, this trend is known as *open innovation*. This refers to the sharing of knowledge-intensive corporate functions with the growing participation of external partners, such as suppliers, clients, sub-contractors, and universities, and results in the creation of 'ecosystems' or networks of innovation (OECD, 2008).
- The creation of scientific cities – such as *Silicon Valley* in the USA and the new *Silicon Valleys* inaugurated in peripheral or emerging regions,

principally in Asia – where collective synergies are created to accelerate innovation processes (Sturgeon, 2003). At its root, as Saxenian (1996, 2002) noted, this represents a new paradigm, which departs from the old ‘closed’ models of research and development embedded in large corporations and opens the way to a *new culture of innovation* based on flexibility, decentralization and partnerships, under various modalities, with new and ever more numerous players that interact in local and transnational spaces. Within the latter, innovation platforms that are set up in peripheral countries operate as extensions of the established platforms in the core countries, taking advantage of low salaries, tax exemptions and other kinds of advantage, which lend them a character of *scientific maquiladoras* (Gallengher and Zarsky, 2007).

- The development of new methods of controlling research agendas (through risk capital, partnerships and subcontracting, among others) and of appropriation of the products of scientific endeavours (through the acquisition of patents) by large multinational corporations, through so-called *strategic investment*. It is interesting to observe how, while 76 per cent of the patents at universities and about half of the total patents in recent years registered in the USA were attributed to foreign inventors, 93 per cent of those were granted to multinational corporations (Galama and Josek, 2008; National Science Board, 2012; Partnership for a New American Economy, 2012; United States Patent and Trademark Office, 2012).
- An expansion along the South–North axis of the highly skilled workforce, in particular in the areas of science and engineering, and the increasing recruitment – via partnerships, outsourcing and offshoring – of that workforce from peripheral countries (Batelle, 2012). In fact, the evolution of this restructuring dynamic has crystallized in a *new geography* of innovation and of the scientific and technological research and development associated with it. Since 2011, the USA has been overtaken by China, Japan, South Korea and India as the principal investor in research and development, and it is anticipated that in 2023, China will individually surpass the USA along that line (Battelle, 2012). With regard to scientific-technological capacities (*brain power*), according to the American Community Survey (US Census Bureau, 2011), one in every three Master’s degrees and one in every two PhDs in science and engineering in the USA were awarded to foreigners – principally from peripheral or emerging countries. In addition, notably in China and the European Union, the ranks of PhD holders in these knowledge fields are growing faster than in the USA (Freeman, 2008; Galama and Josek, 2008).

It is worth emphasizing that this restructuring dynamic has made it possible for large multinational corporations to employ a growing contingent of scientific-technological workers from the South, transferring risks and responsibilities and capitalizing on apparent benefits through an increased

acquisition of patents. Under this new scheme, they have produced an unprecedented commercialization and monopolization of scientific work, with a short-term view that discards any social concern, and where the physical and indirect emigration of highly skilled workers from peripheral or emerging countries plays an increasingly important role.

### Dimensions and characteristics of highly skilled migration from Mexico migration to the USA

Mexico is the top country in Latin America and sixth overall in the world in terms of the volume of highly skilled migrants it sends to OECD countries (Dumont et al., 2010). The number of Mexican professionals with a Bachelor's, Associate's, Master's or Doctoral degree who reside in the USA grew to 1.1 million, which puts Mexico in the second place among this category of immigrants to the USA (see Figure 13.2). At the postgraduate level, the Mexican contingent – although relatively small compared to China or India – more than doubled in the last decade, reaching, in 2011, a total of 129,027 with a Master's degree and 12,026 with a PhD. This figure is equivalent to 17 per cent of all the postgraduates in the country (Tuirán and Ávila, 2013a). To these numbers, according to data drawn from the American Community Survey, we can add 2.5 million professionals of Mexican origin born in the USA, of whom 328,298 hold a Master's degree and 26,050 have earned a PhD. If we compare these figures with the highly skilled population residing in Mexico, the proportion of Master's degrees and PhDs of Mexican origin in the USA (immigrants and those born there) show – surprisingly and significantly – that they make up 55.2 per cent and 29.7 per cent of the total,

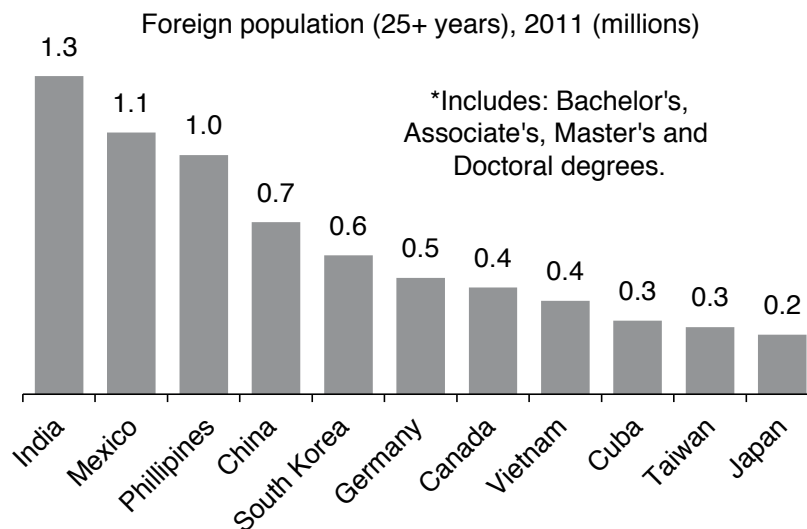


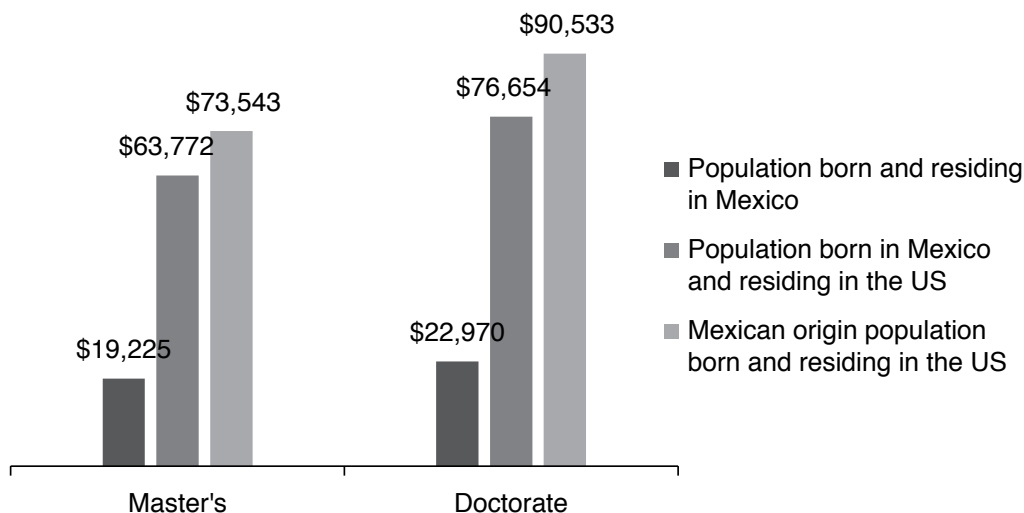
Figure 13.2 Highly skilled immigrants in the USA by country of origin

Source: SIMDE UAZ. Estimates based on the American Community Survey (US Census Bureau, 2011).

respectively. To these numbers, another 60,000 highly skilled 'temporary-migrant' Mexicans can be added (Rodríguez, 2009).

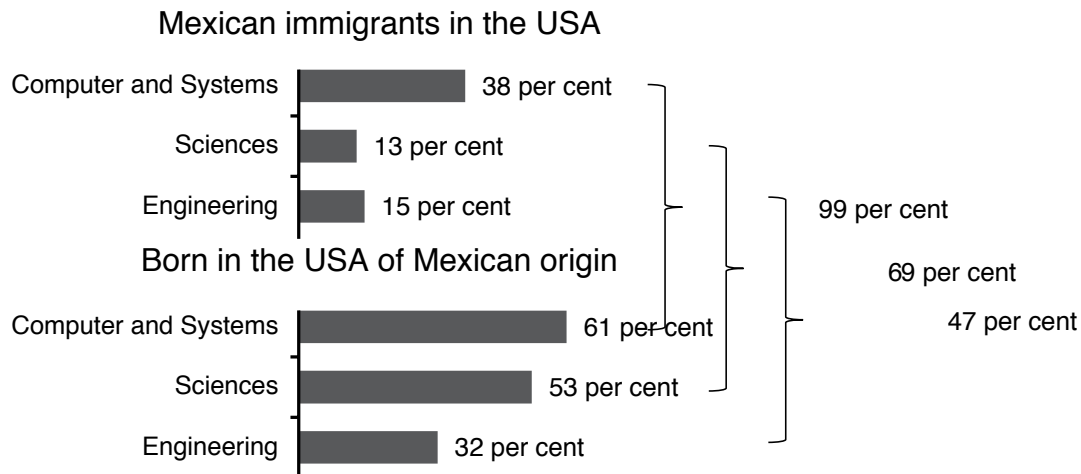
Looking beyond these figures, it is necessary to highlight that only 54.7 per cent of Mexican high-skilled immigrants are employed in professional or managerial activities in the USA (at the postgraduate level the proportion rises significantly to 74.3 per cent) and that their incomes, including those of the professionals of Mexican origin, tend to be lower than the remainder of native-born citizens and immigrants. At the postgraduate level, the income picture for Mexicans and for the population of Mexican origin in the USA follows the same pattern. Nonetheless, it is sufficient to note that in comparing these incomes with those received in Mexico, the situation is even more critical (see Figure 13.3).

To the preceding we can add the low degree of higher-education coverage that characterizes the country (e.g. 30 per cent of those aged between 19 and 23 years) notwithstanding the ostensible increase that postgraduate education has had in the last decade, which underlines not only the limited creation of a highly skilled workforce, but also a growing loss, waste and squandering of talents for national development. The situation takes on particular relevance when one considers the proportion of Mexican postgraduates in computing and systems analysis, sciences, and engineering among those Mexicans resident in the USA (immigrants and those born there) compared with those who reside in Mexico. For each 100 Mexican postgraduates in computing and systems analysis, sciences and engineering residing in Mexico, there are respectively 99, 66 and 47 postgraduate Mexican residents (immigrants and those of Mexican origin) in the USA (see Figure 13.4).



*Figure 13.3* Monthly income (in Mexican pesos) of the population with a Mexican postgraduate education and of Mexican origin resident in Mexico and the USA, 2010  
*Source:* SIMDE UAZ. Estimates based on the American Community Survey (US Census Bureau, 2011).





*Figure 13.4* Relative weight of the population of Mexican origin with a postgraduate education in sciences and engineering resident in the USA compared with that resident in Mexico, 2010–11

*Source:* SIMDE UAZ. Estimates based on INEGI (2010) and American Community Survey (US Census Bureau, 2011).

In contrast to the Mexican migration experience in general, which is almost (98 per cent) completely concentrated in the USA, highly skilled migration, while principally oriented to that country, exhibits a notable geographic diversification towards countries in Europe, Asia and Oceania. The Institute of Mexicans Abroad has promoted the creation of a network of skilled Mexicans abroad, which currently counts 27 chapters and has a presence in 12 countries.

### The fallacy of brain circulation

In the academic and political discussion on skilled migration, the concept of ‘brain drain’ has been abandoned, replaced by the notion of ‘brain or talent circulation’ (Meyer, 2011; Saxenian, 2006). From this perspective, the pessimism and concern about South–North skilled emigration has been transformed into a rampant optimism that substitutes the notion of gain for that of loss. This view is based upon the supposition that knowledge is, in itself, beneficial for all and that contact with highly skilled compatriots abroad generates synergies that drive development in the country of origin, regardless of where, how, in what situation and for whom they work. Knowledge, as much as research agendas, is viewed as neutral and, in a similar vein, the question of intellectual property – that is, the appropriation of the products of scientific endeavour – is undervalued or simply ignored. Further, the unbridled euphoria around the ‘circulation of talent’ and the creation of outreach programmes with the ‘skilled diaspora’ arise from the assumption

that innovation creates, through incubation processes, its own ties with the productive, commercial, financial and service sectors in countries of origin.

None of the assumptions upon which the optimism of the supporters and followers of the 'brain or talent circulation' concept are grounded fit with the reality of contemporary capitalism. This does not mean, however, that the notion of 'talent circulation' should be totally discarded. On the contrary, to explicitly identify its suppositions and to seek the mechanism by which it could be attained, particularly for the benefit of the country of origin's development, constitutes a useful reference point for the design of coherent public policies for innovation systems properly contextualized and tied to the country of origin, with direct pathways towards the productive, commercial and service sectors. A central element in this perspective is the establishment of a national patent system that allows for the appropriation of the fruits of scientific work, accompanied by incentives to drive strategic research lines that address the priorities and possibilities of national development.

In the Mexican case, the following facts and considerations allow for a better appreciation of the dimensions and characteristics of this problem:

- After China, Mexico is the country with the highest growth rate in doctoral programmes in the world: 17.1 per cent between 1998 and 2006 (Cyranoski et al., 2011).
- Postgraduate educational programmes in the country grew in number to 8,522, of which 5,865 were at Master's level, 1,773 were at 'Professional degree' level and 884 were PhDs. These programmes were offered by 1,423 institutions, of which 1,134 are private and 289 are public. Just over half (56 per cent) of the doctoral programmes belong to the National Registry of Quality Postgraduate Studies in CONACYT (the National Council on Science and Technology), in contrast to the Master's programmes, of which only 16 per cent are qualified at that level and where the greatest number of programmes are offered by private institutions (Sánchez Soler et al., 2012). This highlights the important role that public education still has at the upper level of education in the country, notwithstanding the growing trend towards privatization.
- The membership growth of the National System of Researchers (the programme that includes active researchers with a PhD in Mexico who work in universities or research centres) from 12,086 in 2006 to 18,554 in 2012, which also includes 700 members residing abroad, in no way compensates for the exodus of highly skilled emigrants from the country, given that, in 2012, the number who returned amounted to no more than 93 individuals (Sánchez Soler et al., 2012).
- In 2010, Mexico was awarded 14,576 patents, of which 93.5 per cent belonged to foreign applicants (Villa Rivera, 2012). Similarly, the country is situated among those most dependent upon foreign technology in the world (Red de Indicadores de Ciencia y Tecnología -Iberoamericana e Interamericana, 2011).

- In contrast to the previous accounting, which itself alludes to the practical non-existence of a National System of Innovation, it is worth noting that Mexico is the top country in Latin America in terms of the outward migration of inventors (Miguélez and Carsten, 2013).

Clearly then, the Mexican case not only fulfils the assumptions of the so-called circulation of talents, but also gained enormous wealth from the investment in higher education – particularly at the postgraduate level, implemented since the 1990s (Gandini and Lozano, 2012). In effect, without taking into account issues of quality – above all at the Master's level where, as we have seen, there has been a private institution *boom* in programme offerings – it is certain that the growth of Mexican postgraduate programmes had no direct correlation with transformations in the labour market, due to the structural limitations derived from the cheap labour-force export-led model prevalent in the country. In this context, the ties – limited as they are – between scientific-technological development and the domestic economy tend to become even more dislocated and blurry, severely restricting the national demand for a highly skilled workforce. This situation translates into an excess supply of professionals and scientific and technological personnel, leading to a significant waste of talent (*brain waste*) and a growing increase in highly skilled emigration (*brain power*) to the USA and other destinations. If one considers, moreover, that salary incomes and labour opportunities for this segment of the population – although relatively lower than those of citizens and other groups of immigrants – tend to be greater in the USA (and other countries) than in Mexico, it is easy to see that the exodus of Mexican talent will continue to grow.

To this we can add the rising proportion of Mexican migrants who undertake their postgraduate studies in the institutions of the country's northern neighbour (approximately 50 per cent of the postgraduates residing in the USA) and who, for the most part, were financed with public and/or private Mexican funding (Tuirán and Ávila, 2013b). This segment of the population, like those who received training in Mexico and reside abroad, is unable to find favourable conditions in terms of salaries and/or professional development, or to find a way to return or form ties from abroad with initiatives and projects that would contribute to national development. It is not unusual, in that sense, that barely 5.6 per cent of the total number of returnees between 2005 and 2010 corresponded to highly skilled migrants (Tuirán and Ávila, 2013b).

### **Conclusions: the emergence of a new mode of dependency and its challenges**

The restructuring of innovation systems in the framework of neoliberal globalization constitutes a privileged vantage point for the analysis and understanding of the significance and implications of highly skilled migration,

as much for the countries of origin and destination as for the key subjects involved: multinational corporations, universities, research centres and the migrants themselves. From this perspective, it is evident that notions of *brain drain*, *brain circulation* and *brain gain* as supposedly explanatory analytical categories for the phenomenon are unworkable and superficial.

Returning to the use of the notion of labour-force export to characterize the export-led model implemented in Mexico, it remains clear that the dynamics of the restructuring of innovation systems referred to previously are etched into this dynamic. In fact, it takes the form of an *advanced or superior stage* of that process that operates on two fronts: the direct export via migration of the highly skilled labour force and the indirect export via the implementation of *scientific maquiladoras*. The latter aspect is still relatively recent in the Mexican case. In this regard, Gallagher and Zarsky (2007) revealed that foreign direct investment in information technologies to the so-called Mexican *Silicon Valley* did not create a hotbed of innovation capable of generating multiplying effects on the Mexican economy and operated, rather, under the mode of an enclave economy.<sup>3</sup>

In a deeper sense, it is necessary to caution that the export of the labour force represents a new mode of *unequal exchange* on the North–South axis (and, in our case, between Mexico and the USA). Understanding this is crucial to revealing the processes of surplus transfer implied in the strategic and structural framework woven around the global commodity chains that are at the foundation of the asymmetric reinsertion and subordination of the Mexican economy to that of the USA. It is important to keep in mind that most of the debate on unequal exchange was, and remains limited to, an analysis of the international division of labour that places the periphery in the role of source for raw materials and the developed countries as the providers of industrialized products. And, although this division remains for a significant number of peripheral countries, it has stopped being exclusively a feature of North–South relations. Some recently industrialized peripheral countries – principally in Asia – ever-more-frequently play the role of providers of industrialized goods. Even more important is the fact that to this classic mode of unequal exchange, a new factor has been added, under the aegis of the neoliberal globalization which is progressively taking centre stage: the export, direct and indirect, of the labour force.

To enter into the analysis of this modality, with its dual fronts, it is important to note that the use of mechanisms of unequal exchange is more disadvantageous to the periphery than that implied in the exchange of raw materials for manufactured goods. On the one hand, the indirect export of the labour force, associated with the participation of peripheral nations in adding value to global commodity chains, carries with it a net transfer of profits abroad. This represents an extreme form of unequal exchange, which implies a transfer of practically the total economic surplus generated by the labour force employed in the *maquiladoras* or assembly plants.

This mechanism, which reasserts the logic of the export enclave, inhibits any economic growth and development derived from the exportation process which, under the guise of manufactured exports, the peripheral nation performs. In fact, its key contribution to the process of national accumulation is limited to a meagre income flow – taking advantage of the enormous wage differentials between countries, in our case between Mexico and the USA – and, in the best of cases, to a small multiplier effect by way of consumption. Furthermore, the installation and operation of assembly plants in peripheral countries are accompanied by subsidies and extended tax exemptions – the weight of which is endured by the social capital of the country in question – as well as collateral damages like the narrowing, differentiation and increased precariousness of the labour markets and environmental degradation (Cypher and Delgado Wise, 2011). Another aspect of the indirect export of the labour force, which has begun to gather momentum in the context of peripheral or emerging countries, is the creation of joint scientific-technological complexes, linked to the restructuring of innovation systems in some of the more developed countries, with the USA in the lead role. By way of these complexes, which function under subcontracting arrangements, associations or other forms of partnership, intangible benefits are transferred abroad that have a value and a strategic significance beyond the net profits accruing from the *maquila* and assembly plants. We refer to the transfer of development and progress capabilities, which take the form of competitive advantages and competences to generate extraordinary profits.

On the other hand, the direct export of the labour force via labour migration implies a transfer of the anticipated future benefits that arise from the costs of training and the social reproduction of the workforce that emigrates. These costs – as the case of Mexico has shown – are not compensated for by the flow of remittances (Delgado Wise et al., 2009). In demographic terms, this implies a transfer of the demographic dividend of peripheral countries located in an advanced state of demographic transition – that is, of the population of productive age that supports the population of pre-working age and seniors. In a more profound sense, this transfer implies the loss of the most important resource for capital accumulation in the country of origin – its labour force. Furthermore, the export of the highly skilled labour force exacerbates the problem, seriously reducing the country of origin's capacity to innovate for its own benefit and drive technology-intensive development projects.

To analyze these new modes of unequal exchange presents the theoretical, methodological and empirical challenges which require changes to the perception and characterization of the categories typically used to interpret contemporary capitalism. Nonetheless, without disregarding the significant contributions of the Economic Commission for Latin America and the Caribbean (ECLAC) to advance our understanding of this phenomenon (above all in regard to the central role played by scientific and technological

progress), it is important to bring to bear Marxist theories of unequal exchange in its dual aspects: in a strict and broad sense, they provide a solid and fertile basis upon which to advance the conceptualization of the emergent modes of unequal exchange implied in the export of the labour force. On the one hand, unequal exchange in the strictest sense places income differentials derived from barriers to population mobility (i.e. the differentials in the rates of surplus value) at the centre of the analysis, and on the other, unequal exchange in the wider sense adds to those differentials emanating from the diverse organic compositions of capital (i.e. the differentials in scientific and technological progress of the countries involved). We take into consideration that the internationalization of capital in the framework of neoliberal globalization seeks incessantly to lower labour costs – including those relating to the highly skilled labour force – and to maximize the transfer of surpluses between peripheral and developed countries, precisely in the taking advantage and deepening of wage differentials.

This leads us to conclude that the export of the highly skilled labour force originating in peripheral or emerging countries, far from constituting an option in which everyone wins – as the currently-in-vogue notion of talent circulation posits – represents *a new mode of dependency* that is particularly devastating and predatory. Based on this scenario, the great challenge for Mexico consists in countering the dynamics that separate highly skilled migrants and professionals of Mexican origin who reside in the USA and other parts of the world from the processes of national development, in order to build an alternative project capable of taking on the prevailing systemic order for the benefit of the working classes.

## Notes

- 1 A previous version of this chapter was published in 2013 as Working Paper No. 1 in the International Development Series of St Mary's University, Canada.
- 2 At the heart of the restructuring plan of large multinational corporations under the neoliberal aegis is the displacement of parts of the productive and commercial processes, and of services, towards peripheral countries and regions in function of the enormous income differences on a global scale, that is, the global labour arbitrage. See, for example, Foster et al. (2011) and Delgado Wise (2013).
- 3 For some authors, the Guadalajara region, in Mexico's Western-Pacific area, constitutes the country's *Silicon Valley* due to the presence of 12 manufacturers of original equipment, 16 providers of electronic manufacturing services, dozens of design centres and more than 700 companies that manufacture electronics (Manterola, 2008).

## References

- Battelle (2012) *2013 Global R&D Funding Forecast* (Columbus, OH: Battelle) [http://www.rdmag.com/sites/rdmag.com/files/GFF2013Final2013\\_reduced.pdf](http://www.rdmag.com/sites/rdmag.com/files/GFF2013Final2013_reduced.pdf), accessed 14 February 2014.

- Casillas, R. (2012) 'La mundialización del delito: redes de tráfico y trata de personas en México', *Nueva Sociedad*, 241, 122–32.
- Castillo, M. A. (2005) 'Fronteras, migración y seguridad en México', *Alteridades*, 15, 51–60.
- Cypher, J. and Delgado Wise, R. (2011) *Mexico's Economic Dilemma: The Developmental Failure of Neoliberalism* (Lanham, MD: Rowman and Littlefield).
- Cyranoski, G., Gilbert, N., Ledford, H., Nayar, A. and Yahia, M. (2011) 'The PhD factory: the world is producing more PhDs than ever before. Is it time to stop?', *Nature*, 472:7343, 276–9.
- Delgado Wise, R. (2013) 'The migration and labor question today: imperialism, unequal development, and forced migration', *Monthly Review*, 65:2, 25–38.
- Delgado Wise, R. and Cypher, J. (2007) 'The strategic role of Mexican labor under NAFTA: critical perspectives on current economic integration', *Annals of the American Academy of Political and Social Science*, 610:1, 119–42.
- Delgado Wise, R. and Márquez, H. (2007) 'The reshaping of Mexican labor exports under NAFTA: paradoxes and challenges', *International Migration Review*, 41:3, 656–79.
- Delgado Wise, R., Márquez, H. and Rodríguez, H. (2009) 'Seis tesis para desmitificar el nexo entre migración y desarrollo', *Migración y Desarrollo*, 6:12, 27–52.
- Dumont, J.-C., Spielvogel, G. and Widmaier, S. (2010) *International Migrants in Developed, Emerging and Developing Countries. An Extended Profile* (Paris: OECD).
- Foster, J. B., MacChesney, R. W. and Jonna, J. (2011) 'The global reserve army of labor and the new imperialism', *Monthly Review*, 63:6, 1–15.
- Freeman, R. B. (2008) 'The new global labor market', *Focus*, 26:1, 1–6.
- Galama, T. and Josek, J. (2008) *US Competitiveness in Science and Technology* (Santa Mónica: RAND Corporation).
- Gallagher, K. and Zarsky, L. (2007) *The Enclave Economy: Foreign Investment and Sustainable Development in Mexico's Silicon Valley* (Cambridge, MA: MIT Press).
- Gandini, L. and Lozano, F. (2012) 'La migración mexicana calificada en perspectiva comparada: el caso de los profesionistas con posgrado en Estados Unidos, 2001–10', in Ramírez, T. and Castillo, M. A. (eds) *México ante los Recientes Desafíos de la Migración Internacional* (Mexico, DF: CONAPO) 87–126.
- Golash-Boza, T. (2013) *Mapping the Shift from Border to Interior Enforcement of Immigration Laws during the Obama Presidency*. Social Scientists on Immigration Policy Blog, 25 January. [http://stopdeportationsnow.blogspot.ca/2013/01/mapping-shift-from-border-to-interior\\_7232.html](http://stopdeportationsnow.blogspot.ca/2013/01/mapping-shift-from-border-to-interior_7232.html), accessed 27 February 2013.
- Iglesias, E. (2001) *Las Remesas como Instrumento de Desarrollo: Una Conferencia Regional*. [http://www.revistainterforum.com/pdf/121001\\_DiscursosIglesia.pdf](http://www.revistainterforum.com/pdf/121001_DiscursosIglesia.pdf), accessed 7 January 2010.
- INEGI (2010) *Censo de Población y Vivienda 2010* (Mexico: Instituto Nacional de Estadística, Geografía e Informática) [www.inegi.gob.mx](http://www.inegi.gob.mx), accessed 25 May 2014.
- INEGI (2013) *Encuesta Nacional de Ocupación y Empleo (ENOE). Tabulados e Indicadores de Ocupación y Empleo* (Mexico: Instituto Nacional de Estadística, Geografía e Informática) [www.inegi.gob.mx](http://www.inegi.gob.mx), accessed 7 January 2014.
- Manterola, M. A. (2008) 'Jalisco: el milagro "Silicon Valley" de México', *Revista Electroindustria*, <http://www.emb.cl/electroindustria/articulo.mvc?xid=878&tip=7>, accessed 7 January 2010.
- Márquez, H. and Delgado Wise, R. (2011) 'Una perspectiva del sur sobre capital global, migración forzada y desarrollo alternativo', *Migración y Desarrollo*, 9:16, 3–42.
- Meyer, J.-B. (2011) 'La sociología de las diásporas del conocimiento', in Luchilo, L. (ed.) *Más Allá de la Fuga de Cerebros: Movilidad, Migración y Diásporas de Argentinos Calificados* (Buenos Aires: Universidad de Buenos Aires) 91–114.

- Miguélez, E. and Carsten, F. (2013) *Measuring the International Mobility of Inventors: A New Database*. Working Paper 8 (Geneva: World Intellectual Property Organization).
- Molzahn, C., Rios, V. and Shirk, D. A. (2012) *Drug Violence in Mexico: Data and Analysis Through 2011* (San Diego: Trans-Border Institute) <http://justiceinmexico.files.wordpress.com/2010/07/2012-tbi-drugviolence.pdf>, accessed 20 March 2014.
- National Science Board (2012) *Science and Engineering Indicators Digest* (Arlington, TX: The National Science Board).
- OECD (2008) *Open Innovation in Global Networks* (Copenhagen: Organisation for Economic Co-operation and Development).
- OECD/CEPAL (2011) *Perspectivas Económicas de América Latina 2012. Transformación del Estado para el Desarrollo* (Paris: OECD).
- Partnership for a New American Economy (2012) *Patent Pending. How Immigrants are ReInventing the American Economy*. Report from the partnership for a new American economy, <http://www.renewoureconomy.org/patent-pending>, accessed 7 January 2014.
- Passel, J. and Cohn, D'V. (2011) *Unauthorized Immigrant Population: National and State Trends, 2010* (Washington, DC: Pew Hispanic Center) <http://www.pewhispanic.org/files/reports/133.pdf>, accessed 7 January 2010.
- Red de Indicadores de Ciencia y Tecnología -Iberoamericana e Interamericana (2011) *Indicadores de Patentes. Tasa de Autosuficiencia* (Buenos Aires: Centro de Estudios sobre Ciencia, Desarrollo y Educación Superior) <http://db.ricyt.org/query/AR,BO,BR,CA,CL,CO,CR,CU,DO,EC,ES,GT,HN,HT,JM,MX,NI,PA,PE,PT,PY,SV,TT,US,UY,VE,AL,IB/1990%2C2011/TAUT>, accessed 7 January 2014.
- Rodríguez, R. (2009) 'Migración de personal altamente calificado de México a Estados Unidos: una exploración del fenómeno', *Revista Electrónica de Investigación Educativa*, 11:2, 1–34.
- Sánchez Soler, M. D., Herrera, J. and Ponce, L. (2012) 'II simposio de becarios y ex becarios del CONACYT' (Strasbourg: European Parliament) Edición Europa. PowerPoint presentation, PNPC, CONACYT, 29–30 November.
- Saxenian, A. L. (1996) *Regional Advantage: Culture and Competition in Silicon Valley and Route 128* (Boston, MA: Harvard University Press).
- Saxenian, A. L. (2002) *Local and Global Networks of Immigrant Professionals in Silicon Valley* (San Francisco: Public Policy Institute of California).
- Saxenian, A. L. (2006) *The New Argonauts: Regional Advantage in a Global Economy* (Boston, MA: Harvard University Press).
- Sturgeon, T. J. (2003) 'What really goes on in Silicon Valley? Spatial clustering and dispersal in modular production networks', *Journal of Economic Geography*, 3:2, 199–225.
- Tello, C. (1986) 'La economía Mexicana: hacia el tercer milenio', *Nexos*, 226 (July), 47–55.
- Tuirán, R. and Ávila, J. L. (2013a) 'Migración calificada México–Estados Unidos: desafíos y opciones de política' Paper presented at the conference 'Hacia una Agenda de Investigación sobre Migración y Desarrollo para el Futuro de México', 10 April (Zacatecas: Autonomous University of Zacatecas).
- Tuirán, R. and Ávila, J. L. (2013b) 'La migración calificada entre México–Estados Unidos. Desafíos y opciones de política', *Migración y Desarrollo*, 11:22, 43–63.
- United States Patent and Trademark Office (2012) *Patenting by Organizations*. [http://www.uspto.gov/web/offices/ac/ido/oeip/taf/topo\\_12.pdf](http://www.uspto.gov/web/offices/ac/ido/oeip/taf/topo_12.pdf)
- US Census Bureau (1990) *Census Data* (Washington, DC: US Census Bureau) <http://www.census.gov/main/www/cen1990.html>, accessed 20 March 2014.
- US Census Bureau (2000) *Census Data* (Washington, DC: US Census Bureau) <http://www.census.gov/main/www/cen2000.html>, accessed 20 March 2014.



- US Census Bureau (2005) *American Community Survey* (Washington, DC: US Census Bureau) <http://www.census.gov/acs/www/>, accessed 14 February 2014.
- US Census Bureau (2011) *American Community Survey* (Washington, DC: US Census Bureau) <http://www.census.gov/acs/www/>, accessed 14 February 2014.
- Villa Rivera, J. E. (2012) 'Estado actual de la ciencia, la tecnología y la innovación en México'. PowerPoint presentation, CONACYT, [http://academiadeingenieriademexico.mx/archivos/v\\_congreso/conferencias/dr\\_jose\\_enrique\\_villa\\_rivera-ciencia\\_y\\_tecnoloia.pdf](http://academiadeingenieriademexico.mx/archivos/v_congreso/conferencias/dr_jose_enrique_villa_rivera-ciencia_y_tecnoloia.pdf)