Labour Economics 35 (2015) 53–62

Contents lists available at ScienceDirect

Labour Economics

journal homepage: www.elsevier.com/locate/labeco

Guest workers in the underground economy

Slobodan Djajić [a,*], Alice Mesnard [b]

[a] The Graduate Institute, 11A, Avenue de la Paix, CH-1202 Geneva, Switzerland
[b] City University (London), IFS and CEPR, United Kingdom

HIGHLIGHTS

- We model the links between a guest-worker program and the stock of undocumented migrants in an economy.
- We show how earnings and the stock of undocumented labor are affected by policies.
- Lengthening work-permit duration decreases the stock of undocumented workers and has an ambiguous effect on their wage.
- Expanding the flow of guest workers decreases the wage of undocumented workers and has an ambiguous effect on their stock.

ARTICLE INFO

Article history:
Received 12 August 2014
Received in revised form 25 March 2015
Accepted 5 April 2015
Available online 11 April 2015

JEL classification:
F22

Keywords:
Temporary migration
Undocumented workers
Underground economy

ABSTRACT

Guest-worker programs have been providing rapidly growing economies with millions of foreign workers over the last couple of decades. With the duration of stay strictly limited by program rules in some host countries and wages paid to guest workers often set at sub-market levels, many migrants choose to overstay and seek unauthorized employment. The model we develop examines how the wage of illegal aliens and the flow of guest workers transiting to undocumented status are affected by the rules of the program, enforcement measures of the host country, and market conditions facing migrants at home and abroad. Lengthening the duration of official work permits is found to decrease the stock of undocumented workers, but it has an ambiguous effect on their wage. An expansion in the allowed inflow of documented guest workers has a negative impact on the wage of undocumented workers and an ambiguous effect on their stock.

1. Introduction

Rapid economic growth and demographic factors have combined to create shortages of low-skilled labor in many economies. Germany and other Western European countries addressed this problem in the 1960s and 70s by establishing guest-worker programs. In the Middle East, temporary migration schemes have expanded to the point where foreign guest workers in some of the states on the Arabian Peninsula accounted for 80–90% of the workforce in 2004 (see Kapiszewski, 2006). Over the last two decades, growth in East Asia has also generated significant shortages of low-skilled workers. The response of the authorities in South Korea, Taiwan, Hong Kong, Singapore, Brunei, Japan, and Malaysia was to establish programs for the recruitment of temporary foreign workers (sometimes classified as trainees) from other, relatively poorer Asian economies such as Nepal, Bangladesh, Indonesia, Sri Lanka, Thailand, India, Pakistan, the Philippines, and Viet Nam. Since these programs offer wages to guest workers that are considerably higher than the wages prevailing in the source countries of program participants, there is typically no difficulty in attracting migrants.[1] The problem is making sure they go back home when their work permit expires. In fact large numbers of guest workers remain abroad illegally in order to accumulate additional savings by working in the underground economy.[2] What makes clandestine employment particularly attractive is that in many cases it offers a higher wage and more flexible conditions of employment when compared with the official guest-worker programs. Surveys of Thai contract workers as well as of undocumented migrants employed in the more advanced countries of East Asia, indicate that wages of undocumented workers in Japan, South Korea,

* Corresponding author. Tel.: +41 22 908 5934; fax: +41 22 733 3049.
E-mail address: slobodandjajic@yahoo.com (S. Djajić).

[1] See the Human Development Report (2009).
[2] See, e.g., Hahn and Choi (2006), Millbank (2006) and Abella (2009).

http://dx.doi.org/10.1016/j.labeco.2015.04.002
0927-5371/

and Taiwan can exceed the wages of foreign contract workers by 50% or more, depending on the occupation.[3] The other side of the coin is that undocumented workers face strict deportation measures if apprehended by the authorities. Japan, Singapore, South Korea, Taiwan, Malaysia, Saudi Arabia, United Arab Emirates, and other GCC states are well known for their strict enforcement of laws pertaining to residency of foreign nationals. In addition to apprehension and deportation, an illegal alien sometimes faces corporal punishment, a fine and even a jail sentence. Table 1 provides an indication of the role that guest-workers play in these economies and the attitude of the host-country authorities towards illegal immigrants. Column 1 describes the inflows of contract workers in 2010–2011 from a select group of source countries (SGSC), consisting of Nepal, Bangladesh, Indonesia, Sri Lanka, Thailand, India, Pakistan, the Philippines, and Viet Nam. Column 2 gives the total *stock* of foreign labor from all sources, including migrants with rights to permanent residence, such as Peruvians and Brazilians of Japanese ancestry in Japan, while Column 3 shows the size of the total labor force of the host country.

One would expect that there is a strong connection between the guest-worker programs through which the migrants enter the economy and the equilibrium wage and employment of clandestine labor in the underground economy. The main contribution of our paper is to provide a theoretical analysis of these links. More specifically, our purpose is to address some of the key questions that arise in this context: How do the rules of the guest-worker program affect the propensity of foreign contract workers to overstay and become illegal aliens? What is the role of employer sanctions, worksite inspections, and deportation policies in controlling the stock of undocumented workers? What is the relationship between the conditions facing documented guest workers and the market for undocumented labor? How do wages of clandestine workers respond to the policies in place? These and other related questions are of major importance to a growing number of countries that rely heavily on guest workers to meet shortages in their market for low-skilled labor. The literature on temporary migration is only beginning to address them.

The connection between temporary migration of contract workers and illegal immigration was examined for the first time in the context of a theoretical model developed by Epstein et al. (1999). They study the problem facing a documented guest worker who has to decide whether or not to run away from his employer and overstay in the host country for an extra year if he receives an offer of undocumented employment. Their analysis is conducted within a framework where the authorities require the employer to post a bond for each imported worker, with the bond forfeited if the migrant does not leave the country when the permit expires. Subsequent works by Schiff (2007, 2011) focus on the links between illegal and guest-worker migration from a macroeconomic perspective, with the goal of analyzing the policies required to attain the optimal proportion of documented to undocumented workers employed in the economy. The article by Djajić and Michael (2013) is in a similar vein, although the focus is on the host-country problem of setting the optimal duration of the permit issued to guest workers.

Djajić (2013) takes a somewhat different approach by examining the conditions under which foreign contract workers have sufficiently strong incentives to return home once their work permit expires, while Djajić and Vinogradova (forthcoming) examine the question of how long is it optimal for a guest worker to overstay in the host country when the incentives for voluntary return at the end of the contract happen to be inadequate. That analysis is conducted taking the labor-market conditions of the host country as given. The present paper goes a step further to specify the structure of the market for undocumented labor and determine endogenously the equilibrium stock of illegal aliens and their wage rate. An important feature of the model is that it relates these key endogenous variables to the characteristics of the guest-worker program and a wide range of immigration policy instruments of the host country. Our positive approach therefore stands in contrast with the existing literature, which focuses on defining the optimal policies while neglecting the complex links between the official temporary migration programs and the clandestine labor market.

In terms of its approach, our work is also closely related to the recent contribution by Camacho et al. (2013). They study how fiscal and migration policies affect both illegal migration and the size of the informal economy. A distinctive feature, however, is that they do not model the interactions between a guest-worker program and the clandestine labor market, which are at the center of our analysis. They focus instead on the role of fiscal policy as a factor influencing whether firms choose to operate in the formal sector or informally, in which case they can tap the market for undocumented workers. One of the key findings of Camacho et al. (2013) is that illegal immigration and the level of informal activity depend non-monotonically on the tax rate imposed on the firms.

Thus the focus of our paper is on the market for low-skilled undocumented foreign labor in an economy with a guest-worker program of the type used to bring contract workers to the advanced and emerging economies of East Asian over the last two decades. Section 2 defines the problem facing an individual program participant and examines the conditions under which it pays to overstay and seek clandestine employment. Both the rules of the guest-worker program and a wide range of immigration policies and enforcement measures influence the behavior of foreign workers. Relevant policies in the East Asia setting include the quota on the number of guest-workers admitted each year, the wage they are offered under the terms of the program, the duration of their work permit, the proportion of their official wage withheld to guarantee contract completion and return to the source country, deportation measures and fines imposed on those who overstay, and the penalties imposed on employers of undocumented aliens. Section 3 considers the problem facing employers of undocumented foreign workers and derives the demand schedule for clandestine labor. Section 4 examines the implications of changes in policy instruments on the market wage of clandestine labor and the stock and flow of undocumented workers. Finally, Section 5 concludes the paper with a summary of the model's main policy implications.

2. Return or overstay?

Let us assume that under an exogenously given quota, the host country admits each year G low-skilled workers from a source country on a temporary basis. The work permits are valid for τ years and nonrenewable.[4] They offer migrant workers the opportunity to earn the wage $\overline{W}$, which is greater than the wage, W, that these same workers can earn in their country of origin. We take both $\overline{W}$ and W as given. Participants are assumed to have a time horizon of T years. The undiscounted lifetime earnings of a guest worker who obeys the rules of the program and returns home after serving for τ years as a contract worker in the host country are thus given by

$$Y = \overline{W}\tau + W(T-\tau). \tag{1}$$

[3] See Jones and Pardthaisong (1999), Sobieszczyk (2000), Hahn and Choi (2006), and Park (2012). When foreign workers are classified as trainees, the difference can be much greater. Ihlwan (2005) reports that a trainee in South Korea who transited from a contractual employer to work as a painter in the underground economy was able to increase his earnings by a multiple of 8. The fact that undocumented migrants in East Asian economies can earn more than official guest workers or trainees is in sharp contrast with what is observed in Western advanced countries, where undocumented status typically implies *lower* earnings. More will be said on this in Section 3 below.

[4] The maximum duration of stay for a low-skilled migrant (trainee) is, for example, three years in Japan, four years in Singapore and Cyprus, five years in Israel, and two 3-year stays (with the first stay followed by a mandatory return to the country of origin), for a maximum of six years, in South Korea and Taiwan (see Asis, 2006; Abella, 2009; GAO, 2006; IOM, 2010).