Partial Legalization and Parallel Markets: The Effect of Lawful Migration Channels on Unlawful Migration at the US Southwest Border, 2011–2023

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December 2023

— Incomplete extended abstract, not for circulation or citation —

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Abstract

There is limited evidence on the effect of *partial* legalization of black-market activity on remaining parallel-market activity. In theory, licit markets can serve as substitutes or complements for parallel, illicit markets. A useful laboratory arises at the US Southwest border, where the regulation of migration occurs in a setting of large-scale, measurable illicit market activity alongside the licit market. I study the full universe of 10,891,565 initially inadmissible migrants encountered at the Southwest border between October 2011 and July 2023. Increases in lawful channels for inadmissible migrants arriving at the border cause a decline in unlawful border crossing sustained for several months. That is, partial legalization substitutes for the parallel market. This deterrent effect of lawful channels explains between 7 and 12 percent of the overall variance in unlawful crossings between 2011 and 2023.

*JEL Codes F22, J61, K42. Data and assistance were kindly provided by the Transactional Records Clearinghouse (TRAC) at Syracuse University. I am grateful for helpful interactions with Samantha Power, Gordon Hanson, Olivier Blanchard, Samuel Bazzi, Marcela Escobari, Lant Pritchett, and Thomas Ginn, though I alone am responsible for the statements and analysis in this paper. I acknowledge support from TRAC at Syracuse, the Peterson Institute for International Economics, and Open Philanthropy. Any views expressed herein are those of the author alone and do not represent any other person nor any organization, private or public, including those with which I am affiliated.

1 Introduction

Many legal markets exist alongside black markets for similar or identical goods, known as parallel markets. Regulators often wish to know how partial legalization—increasing the scope of the regulated legal market—might act as a substitute or complement for the parallel market. Economists and legal scholars have considered this question in parallel markets including foreign exchange, digital media, wildlife products, antiquities, narcotics, tobacco, and several others.[1] Any direct substitution effect of partial legalization on the parallel market can be offset by scale effects that act through, for example, prices or networks. But opportunities to test such predictions are rare. It is inherently difficult to measure black market activity.

This paper considers the effects of partial legalization of cross-border migration. It presents evidence on the effects of expanding lawful channels for migration on unlawful migration at the US Southwest border. Crossing into the United States from lower-income, less secure countries to the south is a costly investment with typically large, sustained effects on the returns to human capital (Schultz 1961; Sjaastad 1962; Clemens et al. 2019). Lawful and unlawful crossing of the border by broadly similar migrants occur simultaneously and in close proximity. Lawful crossing is restricted and regulated; unlawful crossing is extensively interdicted, monitored, and thus measured. The border is thus a useful setting in which to study how regulations on licit activity shape illicit activity.

I test this effect using monthly time series data on the full universe of 10,891,565 initially inadmissible migrants encountered by US Customs and Border Protection (CBP) at the Southwest border between October 2011 and July 2023. Inadmissible migrants are, with immaterial exceptions, non-US nationals 1) who cross the border unlawfully, without inspection, between government-run Ports of Entry, or 2) who cross the border lawfully, but when inspected at a Port of Entry they lack documents—such as a visa—to authorize entry.[2] Access to lawful cross-

[1] Examples include studies on the relationship between market regulations and parallel markets in foreign exchange Dornbusch et al. (1983); on digital media by Aguiar and Waldfogel (2018); on wildlife products by Hsiang and Sekar (2019), Santiago-Ávila et al. (2020), and Dang Vu et al. (2022); on antiquities by Beltrametti and Marrone (2016); on alcohol by e.g. Dills (2004) and surveyed by Hall (2010); on narcotics by DiNardo and Lemieux (2001), Becker et al. (2006), and Auriol et al. (2023b); on gambling by Albanese (2017); on tobacco by Merriman (2010), Kulick (2017), and Bate et al. (2020); on organ transplants by Mendoza (2010); on child adoptions by Marquez (2000); on firearms by Braga (2017); and on various other goods and services by *inter alia* Polterovich (1993), Cameron (2003).

[2] The full definition of 'inadmissible alien' in US law (8 USC §1182) contains numerous exceptional reasons why

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ing is tightly restricted. But a substantial share of inadmissible migrants who cross lawfully receive permission from CBP officials to migrate into and remain in the United States. Expansion of these lawful migration channels constitutes partial legalization of the migration flow, not depenalization, because the use of these limited channels is lawful.

I first explore in theory why the effect of lawful channels on unlawful migration can be ambiguous. I build a simple two-stage nested discrete choice dynamic programming model of the decision to migrate. In the first stage (outer nest), migrants choose whether to migrate from their country of origin to the border. In the second stage (inner nest), they choose whether to cross the border using constrained lawful channels or costly unlawful channels. Expanding lawful channels can have an obvious substitution effect in the inner nest (Becker 1968; Draca and Machin 2015), but also an offsetting scale effect in the outer nest. For example, partial legalization could affect the scale of overall migration by affecting the price of complementary inputs like travel and smuggling services (Gathmann 2008). Partial legalization could also complement the scale of overall migration via networks, expanding the resources and information by which prior migrants can assist later migrants (Munshi 2003; Elsner et al. 2018; Cascio and Lewis 2023). If scale effects dominate, lawful channels could even expand the parallel market for unlawful migration—as has been observed in other black markets (e.g. Hsiang and Sekar 2019). The potential for similar effects in migration have been the subject of recent policy debate.[3]

I then empirically test the overall effect of lawful channels by estimating the response of monthly unlawful crossings to an impulse in monthly releases of migrants who cross lawfully, using Local Projections (Jordà 2005, 2023). I find that a one percent increase in lawful migration channels causes a decline in unlawful crossing that begins 1–2 months later and grows over time, causing

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foreign nationals without a visa can be deemed admissible (e.g. at the discretion of the Attorney General), and those with a visa can be deemed inadmissible (e.g. drug traffickers). But quantitatively, the vast majority of inadmissible migrants at the US Southwest border are inadmissible due to lacking a valid visa. Crossing the border without inspection is illegal *per se*—a felony (8 USC §1325); crossing the border with inspection at a Port of Entry is not illegal *per se*, regardless of documentation status.

[3]Migration policy analysts frequently claim that releasing inadmissible migrants to live and work in the United States acts as a "pull factor" increasing the volume of migration to the border, including for unlawful crossing. For examples see Executive Office for Immigration Review, Department of Justice, and U.S. Citizenship and Immigration Services, Department of Homeland Security, 2022, "Procedures for Credible Fear Screening and Consideration of Asylum, Withholding of Removal, and CAT Protection Claims by Asylum Officers", *Federal Register* 87: 18078–18226, pages 18119, 18120, 18127 *passim*; US Dept. of Homeland Security, 2020, "Asylum Application, Interview, and Employment Authorization for Applicants", *Federal Register* 85: 38532–38628, at 38596 *passim*; and Charles D. Stimson, Hans A. von Spakovsky, and Lora Ries, 2020, "Assessing the Trump Administration's Immigration Policies", Washington, DC: Heritage Foundation.

a 0.2–0.3 percent decline in unlawful crossings 5–10 months later. The deterrent effect of expansions in lawful migration channels explains between 7 and 12 percent of the historical variance in unlawful crossings from 2011 through 2023. This result is robust to a range of specifications including alternative lag structures, time-series estimators, endogenous and exogenous controls, and time periods. In this setting, I find that partial legalization at the margin substantially substitutes for the parallel market.

Prior empirical research on the effect of lawful migration channels on black-market migration is limited. Researchers have instead highlighted the effect on unlawful migration from enforcement against unlawful migration itself (Hanson 2006; Hanson et al. 2023)—such as increased patrol effort, punitive consequences, or physical barriers.[4] Several recent studies have considered the effect of partial legalization on legalized migrants themselves and on natives (Pinotti 2017; Kuka et al. 2020; Battaglia 2023), or on subsequent lawful migration (Cascio and Lewis 2023). But comparatively few empirical tests have investigated how parallel *unlawful* migration is shaped by expansions of *lawful* migration, despite the advance of theoretical models implying such an effect (e.g. Auriol and Mesnard 2016; Devadoss and Luckstead 2018; Simon et al. 2018; Kovak and Lessem 2020; Devadoss et al. 2020; Auriol et al. 2023a). In rare empirical tests, Amuedo-Dorantes and Bucheli (2023) find that a dummy variable for limits on access to US Ports of Entry for lawful crossing in a given Border Patrol sector is associated with greater apprehensions of migrants crossing the border unlawfully in that sector. Czaika and Hobolth (2016) find that European countries with greater asylum rejection rates receive more irregular migrants.

The paper proceeds as follows. Section 2 describes the policy context for lawful and unlawful migration at the US Southwest border. Section 3 presents a model of the offsetting substitution effect and scale effect of lawful migration channels. Section 4 discusses the data and empirical method. Section 5 presents the core empirical results, and Section 6 discusses their robustness and interpretation. Section 7 concludes.

[4] Empirical work on the effect of border patrol effort includes Hanson and Spilimbergo (1999); Hanson et al. (2002); Dávila et al. (2002); Orrenius (2004); Cornelius and Salehyan (2007); Angelucci (2012); Bohn and Pugatch (2015); Massey et al. (2016). Evaluations of punitive consequences for migrants include Donato et al. (1992); Orrenius and Zavodny (2003); Amuedo-Dorantes et al. (2013); Bazzi et al. (2021); Hoekstra and Orozco-Aleman (2021). Evaluations of physical barriers include Allen, Dobbin and Morten (2019); Feigenberg (2020).

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