

Managing immigration: |

A review of some past projections

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Abstract

International migration may not be amenable to expert knowledge and projections are often unreliable. Three examples of projections suggest failures regardless of scale, timeline or method: trend mechanics failed to anticipate the rapid rebound in temporary visas after the socioeconomic shocks of 2001, alternate assumptions generated wildly differing projections of visas under Congressional deliberation in 2006, and all theories/projections failed to anticipate recent declines in Mexico-to-US migration. While near term projections are required for planning the complex machinery to manage migration, medium-to-long range projections may inform but should not drive migration policy. Rather, admission policies should incorporate principals of self-regulation that prioritize domestic markets.

Keywords: Managing immigration, admission policies, projections, US.

Introduction

It is commonly observed that demographic projections are more stable than other phenomenon because there is a built-in inertia to population processes. Mortality and fertility have historically changed rather slowly and in a linear fashion. During the early phases of economic development even rural to urban migration behaves fairly predictably, but that does not extend to international migration. International migration is similar to other socioeconomic phenomenon and is more difficult to project. Employment-related migration tends to cycle with economic conditions, but it also evinces breaks in trend—which may signal new equilibrium characteristics going forward for which there are no prior theories.

This article presents three different types of projections each of which is made with a different methodology.¹ Projections of US temporary (aka non-immigrant) visas using fairly simple but widely used trend projections are examined. While fully failing to project steep rebounds in the total number of temporary visas issued following the 2001 recession, the projections were within the ballpark in capturing the first couple of years of turnaround. Next, a set of projections made to evaluate legislatively proposed visas are compared. Different assumptions and the inclusion or omission of current migrants led to widely different figures. Next, projections of Mexico to US migration made in the early 2000s are shown, along with some of the evolving

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¹ See also Michael Teitelbaum in this special edition.



theories about what drives that flow—all failed to anticipate the drop in migration that occurred in the past handful of years.

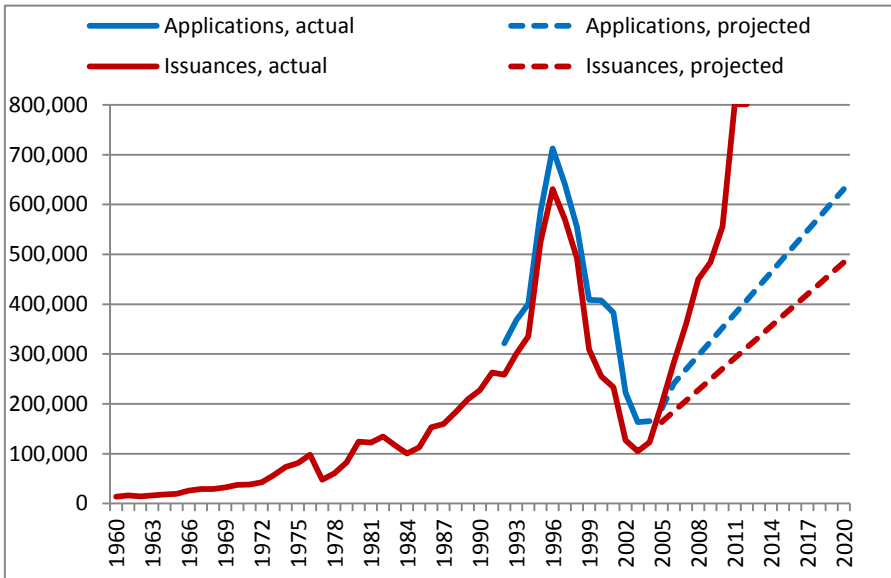
Projecting demand for temporary visas

The United States admits millions of temporary visitors, students and workers each year. In the wake of September 9/11 those numbers dropped sharply but could be anticipated to rebound, perhaps returning to the rapid growth seen during the late 1990s (US Government Accountability Office 2006). Yet; visa processing required more administrative time and the time to process visa applications increased and this created problems for the migrants and related security challenges. Projecting “visa demand,” the number of individuals abroad who apply to Department of State for visas to enter the United States, was seen as a step toward anticipating shifts of personnel and funding for managing the visa system.

A team of specialists approached the challenge with different methods (Krepps, Lowell, Flores and Rom, 2005). A pooled cross-sectional and time-series econometric model, not used for projection, was estimated to better understand the social and economic drivers of total visa demand. There was an evaluation of changes in visa demand at various consulates around the world. The analytic outcome of interest was future visa applications and issuances, i.e., total temporary visas of which three-quarters are issued to tourists and businessmen; and the balance to students, temporary workers and miscellaneous other classes.

Projections were made using univariate time-series methods that forecast trends based on past data points and can incorporate nonlinear and cyclical projections. The estimates were focused on 20 large volume and fast growth nations which represented about 75 percent of visa demand as of 2004. Figure 1 shows two of these countries. There was a sharp drop in visa demand from China in 2001 although not as sharp as the drop seen in Brazil because, at the time, Chinese visa use was much more limited than that of Brazil. Clearly, these declines were associated with the uncertainty affecting travellers after 9/11, as well as, the 2001 economic recession. The immigration policy of the US government; nevertheless, was heavily criticized at the time. It was asserted that changed policies, designed to improve national security, were the major factor driving visa numbers down. Some stakeholders decried adverse impacts on tourism, others on professional travel, and yet others on international student enrolments. In fact, there was little systematic change to visa policies although closer adherence to existing regulations, such as requiring all applicants be interviewed by counsellor officers, slowed visa processing (Yale-Loehr, Papademetriou and Cooper 2005). Research has found that changes in policy was not the major driver of declining visas issued to tourists or foreign students (Neiman and Swagel 2009; Lowell and Khadka 2010).

Figure 1. Brazilian temporary visas: actual (1960-2012) and projected (2005-2020) applications and issuances



Visa numbers rebounded as the economy improved: how well did the projections anticipate the rebound in visa demand? Figure 1 shows that the projections were, in fact, not far off from actual one or two years out from their starting point in 2004, but after that they missed the sharp increase in visas that occurred in Brazil and China. The Government Accountability Office (GAO) evaluated the State Department efforts to anticipate future visa numbers and concluded that the contractor used defensible methods but that by 2007 the “study’s projections have already been proven to underestimate growth in demand” (US Government Accountability Office, 2007). It advised that State consider employing operations research methods and optimization modelling techniques. That was a reasonable recommendation and accumulated experience with such an approach would likely lead to improved projections.²

But can visa demand be reliably forecast and, if so, over what periods of time? On a nation-by-nation basis the range of confounding factors is substantial. For example in Brazil the visa upswing in prior cycles averaged about 23 percent annually while the downward swing varied from -51 to -14 percent annually: hardly the stuff of easy projection. There are no visa data for China before 1980 from which to extrapolate and, regardless, no one anticipated the

² The GAO’s recommendation, nevertheless, was focused on projecting wait times for visa processing and not the number of visa applications *per se*, i.e., that is the GAO recommended implementing “statistical techniques to analyse and minimize wait times.” The US Department of State lists wait times for its consular offices and currently reports that averaging processing time is less than three weeks (US Department of State, nd).

sizeable upsurge of Chinese visas of all types. Consider that in 2005 China's 22,000 foreign students were 9 percent of all student visas issued and today China's 189,000 students are 39 percent of the US total.³

Projecting immigration in congressional legislation

The current Senate's Group of Eight in the US Congress is attempting to pass immigration reform in 2013, the first attempt since failed efforts in 2006 and 2007. The Senate's 2006 legislation (S2611) was passed by the Senate following heated debate but the House of Representatives never passed parallel legislation. The Senate's discussion was well on its way when the Heritage Foundation's projection that S2611 would generate very large numbers of immigrants hit the Senate like a "perfect bombshell" (Lowell and Bump 2006b).

The Heritage Foundation projected the S2611 legislation would lead to 66 million additional immigrants by the year 2026 and it estimated significant associated costs. The Congressional Budget Office (CBO) was instructed by the Congress to weigh in and it came up with a significantly lower figure of 24 million immigrants and lower costs. Then the National Foundation for American Policy (NFAP) projected 29 million additional immigrants over the next two decades. The latter two estimates substantially cooled the discussion. But were any of these projections comparable (Lowell and Bump 2006b)?

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The Heritage projections took the all of the visa numbers as proposed and extrapolated them into the future. That was likely to generate large numbers because the legislation aimed to legalize a population of close to 12 million undocumented residents, while increasing employment-based migration at least fivefold. Heritage also applied S2611 automatic escalators to temporary migration on highly skilled H-1B visas. And the Heritage Foundation included in its total 19 million individuals who are already resident or who would have been admitted at prevailing levels of admission. The NFAP, in contrast, did not count the current population or those who would be admitted under prevailing legislation so it is not comparable to the Heritage projection. For the purposes of scoring the future costs of the legislation, it makes sense to include the existing unauthorized population along with the total future flow of immigrants. Both the Heritage and the Congressional Budget Office did so, while the NFAP chose to emphasize the number of immigrants that S211 would generate in addition to existing population and trends.

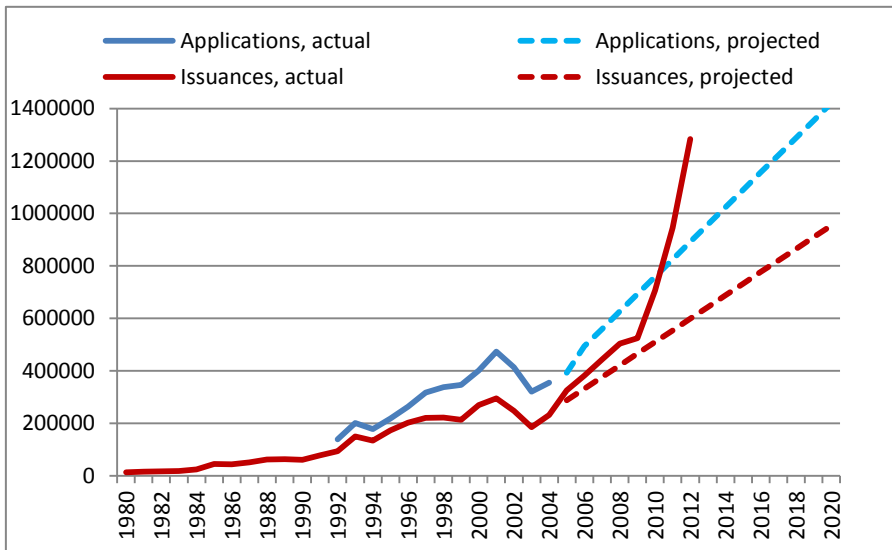
The estimates also differ because they are based on different assumptions about how to make projections of the visas. The Heritage Foundation assumed that the visas created in S2611 would actually be used; this was a projection of some "optimal" number of visas that S2611 *could* generate. Both the NFAP and CBO assumed more of a "realistic" growth in numbers, i.e., that

³ The consequences of the Chinese student enrolments extend to workforce development and to the consideration of policymakers who are currently planning to streamline foreign graduates into the S&E workforce.

all of the visa numbers implied in the S2611 legislation would not be used. The NFAP assumed rather low levels of family reunification would occur. The CBO assumed that there would be a brake on the number of visas because the immigration bureaucracy would not be able to process all possible visa applications.

One can make the case that the Heritage Foundation directly informs Congressional decision making because its projections take the implied visa numbers in S2611 seriously. Why would Congress set visa caps that it believed would not be reached? That vitiates the point of a visa cap. At the same time, the CBO's projections might be viewed as being logical because its goal is to project actual costs (not numbers of immigrants per se); and permanent visas had been lower than the statutory caps during certain years because applications were not all processed. Yet, the CBO assumptions are not fully informative because it offers no analysis of the sensitivity of costs to the different immigration levels under debate.⁴

Figure 2. Chinese temporary visas: actual (1980-2012) and projected (2005-2020) applications and issuances



⁴ It is also the case that the CBO did not model the braking effect of bureaucratic incapacity which would have been a useful exercise. If there were some metric for assuming the required per-visa cost for efficient visa management, then the Administration could set visa prices/fees accordingly. Of course, that in turn would invalidate the application of a braking effect of bureaucratic incapacity. It should be noted that the Immigration and Naturalization Service, which did not process all employment-based visas in the early 1990s; nevertheless, did ramp up its capacity to successfully process millions of legalization applicants in the late 1980s and naturalization applicants in the early 1990s.

Stakeholders in the science and engineering fields were particularly interested in the potential impacts of S2611. Projections by the Institute for the Study of International Migration (ISIM) focused on just computing and engineering workers (C&E). It included in its assumptions a significant rate of annual outmigration, rates of mortality, rates of labour force participation, and the cumulative addition of S2611's transitional visas, but it did not include family reunification or fertility multipliers (Lowell 2006a). The ISIM projections were “optimal” as it projected that most of the visas available in S2611 would be used (although not all at once and not all possible automatic escalators). The projections compared the total S2611 C&E visa numbers against a projection of the future C&E workforce. As Figure 2 shows, foreign C&E workers could have exceeded by about 20 percent the size of the workforce projected by the US Bureau of Labour Statistics (BLS) for 2017.

All of which highlights a few observations. Congress should entertain projections of what legislation could generate: it matters significantly in terms of fiscal costs, as well as, workforce impacts. It is not surprising that stakeholders make differing assumptions, but it is disconcerting that the actors do not make the rates/assumptions used in their projections more transparent, highlighting the assumptions that may make them differ from other projections, and fail to make a range of estimates or benchmark them (Lowell and Bump 2006b).⁵ So in the final analysis it is unclear that such a wide range of projections will be taken seriously by anyone.⁶

Mexican emigration to the United States

Mexican emigration to United States has been a subject of intense interest for a long time, especially in the wake of the Immigration Reform and Control Act (IRCA) of 1986, and the North American Free Trade Agreement (NAFTA) of 1994. Both IRCA and NAFTA intended to reduce northward migration, particularly unauthorized migration. That both were failing was evident by the mid- 1990s. Theories on what was driving the migration were of modest help in understanding trends and failed to anticipate either the historic inflow of the 1990s or the more recent decline in Mexican emigration.

Most academics were initially sceptical that IRCA's enforcement regime would affect migration at all. The dominant perspective was that Mexican migration was driven by cumulative causation, that the consolidation of migrant networks would drive migration at high levels far into the future (Massey and

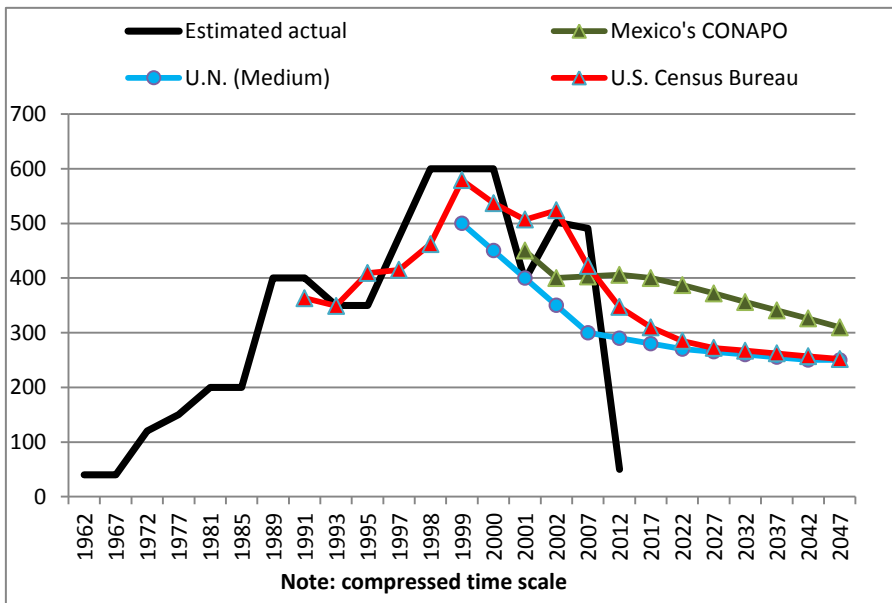
⁵ Stakeholders, of course, have philosophical and financial biases associated with biased projections. In principle, that should not be the case for the CBO or ISIM but the other organizations are known to favour of either increased or reduced immigration. Stakeholders, nevertheless, benefit from credulity and transparency/comparability of projections would benefit all involved.

⁶ The Heritage Foundation's projections of the Senate bill currently under debate have, indeed, been widely disparaged as over estimating costs. The alternative projections, nevertheless, are so much less that they court equal disbelief: it is difficult to countenance the assertion that low-wage workers with high rates of poverty will be mostly cost-free to the nation's fiscal balance.

Zenteno 1999). Somewhat downplayed was the legalization of 2.3 million Mexicans that stabilized households in the United States and expanded migration networks. Additionally, the booming 1990s economy increased Hispanic employment and earnings. Then observers thought that as border enforcement increased the costs crossing into the United States, it had changed the history of circular migration from Mexico leading more emigrants to stay in the United States.

Official projections at the outset of the 2000s built-in some decline in Mexican emigration mostly in the second decade of the century, but explicitly incorporated the assumptions of cumulative causation. As Figure 3 shows, the US Census Bureau and the United Nations projected Mexican emigration peaking early in the last decade and then declining but still remaining high through the middle of the coming century. Both of these projections employ standard demographic techniques; they apply assumed rates of fertility, mortality and rates of migration into the future. Mexico's national council on population (CONAPO), on the other hand, used an econometric model which produced yet higher projections.⁷ None anticipated the sharp decline that actually occurred in the first decade.

Figure 3. Estimates of Net Mexican Migration by the U.S. Census Bureau, Mexico's CONAPO, and the United Nations



⁷ Mexico's CONAPO projections rely on independent variables that drive the projection, but they have the disadvantage of requiring the multiple projections of all right-hand side or independent variables.

A long-term scenario by a team of Mexican and US scholars; nevertheless, had projected that Mexican migration might decline half way into the first decade of this century (Binational Study 1997). It would do so because formal employment in Mexico was projected to increase to a level that would generate sufficient jobs for the cohorts of youth coming to working age. Unauthorized migration from Mexico has declined after mid-decade, but arguably not quite for the reasons the Binational scholars projected. Mexican employment growth has been somewhat stronger but not as strong as was projected and, due to higher than anticipated Mexican fertility, population growth was much more buoyant.

It was increasingly evident; nevertheless, that Mexican emigration was at least slowing. Toward the end of the decade some argued that enforcement was a primary reason and that Mexicans were returning to Mexico (Camarota and Zeigler 2009). But good data on return was as yet unavailable, as was complete data on migration flows. One prevailing theory was that the emigration slowdown was a result of the poor US economy, and decreasing inflows of job seekers, particularly after the collapse of construction in 2008 (Passel and Suro, 2004; Passel and Cohn 2009; Johnson and Hill 2011). The flow of total Mexican migration appears, indeed, to fluctuate with Mexican-born employment rates in the United States at least through 2004.⁸ Unfortunately, Mexican emigration began to decline starting in 2005 and well before the steep 2008 decline in employment rates; US economic demand cannot be a primary driver.

Another proposition on the new trends is that levels of legal permanent immigration as well as temporary worker migration have offset unauthorized migration (Massey 2011). A further proposition is that the Mexican labour force is absorbing some workers especially in agriculture (Martin and Taylor 2013). Yet another proposition is that enforcement has been more effective in discouraging migration than most observers have credited (Roberts et al. 2013). All of these may be true, to a greater or lesser degree; however, they are post-hoc explanations and none readily explain the timing of the recent decline. It is useful to speculate on the possibility of future trends, albeit there are multiple scenarios and it is difficult to choose one over the other (Chiquiar and Salcedo 2013).

Conclusions

Migration like other social phenomena may not be amenable to expert knowledge and projections will be less than reliable (Taleb 2007). The theories that have been used to predict trends appear to substantiate scepticism. The

⁸ The implicit comparison is between rates of unemployment that, when high, should be associated with decreases in migration. The employment rate is 100 minus the rate of unemployment, in other words, its cyclic pattern is the reverse of the unemployment rate. That makes the employment rate easier to visually compare with changes in migration because both vary in the same direction.

examples of projections described here suggest a failure of projections regardless of scale, timeline or method of projection. Still, projections are required for planning the complex machinery to manage migration, as well as, a myriad of planning exercises that migration impacts.⁹ So projections will be part of the toolkit of any commission or group charged with advising or managing migration, even if the projections they employ require frequent reappraisals. Short-range projections of one to a few years out may be more reliable, but the imprecision of long-range projections argues against a firm reliance on what they imply today for putative conditions 10-20 years from now. That, in turn, argues for the use of more creative, or realistic, tools to manage migration. At least for employment-based migration, visa supply might be married to demand by evaluating multiple indicators with flexible caps, through auction markets, pricing visas appropriately by assessing fees and requiring high wages, shaping employers' hiring pools by applying points to potential workers, and pre-screening employers for eligibility to employ foreign workers. Projections should help inform planning, but like so many other phenomenon markets will likely perform better in allocating visas to actual demand.

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⁹ It is often observed that the multiplier effects of family reunification was completely unanticipated by the framers of the Immigration Act of 1965. At the time there were no projection exercises. If there had been, perhaps, things might either have turned out differently or we would better understand today why the increased immigration was unanticipated.

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