

HOW MANY UNDOCUMENTED IMMIGRANTS LIVE IN UTAH
A DIRECT MEASURE

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ABSTRACT:

Utah became a “New Destination” for foreign immigrants in the 1990s, and in-migration continued in the following decade. It is extremely difficult to obtain information on the undocumented component of the in-migration, despite their importance. For example, their presence will have a differential effect across the different areas of health care and health maintenance and thus information on the numbers and characteristics is an important input to health care policy and planning.

This paper uses the unique Utah Population Data Base to develop a direct estimate of the number of undocumented in the state in 2009. By combining that information with national demographic measures of the undocumented, it is estimated that there are between 38,696 and 55,603 undocumented immigrants in Utah. This is far less than the widely accepted number of 110,000.

Several cross checks with independently developed estimates are carried out in the paper, confirming the validity of the estimates obtained.

INTRODUCTION

Measures of the number of undocumented immigrants at the national level, and even more so at the level of states, are circuitous and complex, replete with inferences and approximations. Passel and Cohn (2008) provide a detailed description of the most common approach, the “residual methodology.” As noted in Jameson and Hanks (2009), the uncertainties surrounding these estimates make it exceptionally difficult to estimate the various effects that undocumented have on the wider society, particularly the health care system. Though they are relatively healthy and much younger than the population average, they have particular health care needs. They are less likely to have the full range of vaccinations that are routinely administered to U.S. children. The young men are more often in hazardous occupations such as construction and materials handling and are thus more prone to accidents. Passel and Cohn (2009) found that 25 percent were in farming, 17 percent in construction and seven percent in transportation and material moving. The women are more likely to be of child bearing age and thus would benefit from pre-natal care and from obstetrical services during childbirth. The undocumented are much less likely to have private health insurance and thus are more likely to access emergency care facilities. Passel and Cohn (2009) estimate that more than half of the unauthorized immigrants (59 percent) have no insurance; 45 percent of their unauthorized children have no insurance, as well as 25 percent of their citizen children. So their presence will have a differential effect across the different areas of health care and health maintenance and thus information on the numbers and characteristics is an important input to health care policy and planning.

Utah provides a unique opportunity to address the inadequacies of current approaches to counting the undocumented and to arrive at a direct estimate of the undocumented population. The Driver License Division (DLD) data contained in the Utah Population Database (UPDB) provide a direct means of identifying undocumented persons who reside in Utah. They self-identify as a means of obtaining a document that allows them to drive legally and to insure their vehicles. Since 2005 this has been the Driving Privilege Card (DPC); before that, after 1999, it was a Driver License (Stewart and Jameson, 2009).

While these data eliminate one of the major problems with other measures of the undocumented, they have obvious shortcomings as well. They only capture undocumented who apply for a driver document, who are 15 ½ years of age or older, who have obtained an Individual Tax Identification Number (ITIN) from the IRS, and who are willing to carry a document that identifies their immigration status. These individuals obtain the DPC in order to drive legally, since its use as an identification document has been restricted since 2005 (Stewart and Jameson, 2009). As a result, if we wish to move from the specific count of undocumented that we can extract from the data to an estimate of the total undocumented population of the state of Utah, we too will need to make approximations and inferences.

This paper has two goals. First, it provides a description of a large segment of the undocumented population residing in the state in 2008. Since this is based on information about actual undocumented persons, it should provide a reliable description that can be used in assessing their role in the state and the process of integration that they are involved in, including their specific health needs. It can also provide a check on the indirect estimates that are usually the basis for understanding, debate, and policy.

The second goal is more ambitious and more open to question and discussion. We will use the data that we have available to obtain an estimate of the total undocumented population in the state in 2008. We will document the assumptions and inferences and will provide as many cross-checks with other estimates as possible. Since our starting point is the specific identification of a portion of the undocumented, to the best of our knowledge, this is a unique advantage. As a result our results must be taken into account, for they can provide another vantage point for estimating the number of undocumented in this state and gaining greater information on their many interactions with the health care system of the state, as well as the other elements of the wider society.

Let us begin with a more detailed description of the data and how an undocumented person enters the database.

THE DATABASE: A DESCRIPTION AND ASSESSMENT

The UPDB receives DLD data annually; the data used in this study were received on April 29, 2009. Evaluation of the database indicated that the most direct measure of the undocumented in the data file was the number of holders of Driving Privilege Cards at that point. There were 38,696 persons whose license was coded as a DPC and whose license status was coded as “VALID.”² There were also 16,907 persons with a DPC flag with a different license status, e.g. “learner” or “denied,” giving a total of 55,603 persons who appeared in the DLD data as applying for a DPC. Although these records will provide the main focus of our investigation, there are other elements of the UPDB that can be used to provide checks on our estimates of the undocumented. For example, we will also use information taken from the Department of Health Vital Records for live births in the state between 2000 and 2007 (Korinek and Smith 2008).³ These data will provide one check on the validity of our estimate of the size of the undocumented population as described in the Appendix A. In addition, information from the Bureau of the Census American Community Survey on the number of foreign born will allow another consistency check in Appendix B.

Let us examine in more detail the DLD data that we have available, in order to place this number in context and to indicate its value. Table 1 provides an overall summary of the data. The 1,709,297 persons with valid licenses in Utah in 2009 are 86.7 percent of the total population of the state 16 and over, based on the U.S. Census (2009) estimate of 1,972,123 in this category on July 1, 2008. If we were to assume for illustrative purposes that the valid DPC holders were 86.7 percent of the adult undocumented, we would obtain an estimate of the undocumented population 16 years old and older of 44,632. To be sure there are many reasons to expect that the DPC holders would be a smaller share of the undocumented population, i.e. lower coverage of ITIN’s for undocumented than that of social security numbers for natural born, disincentives to declaring one’s undocumented status, or use of an illegally obtained social security number to get a driver license. Nonetheless, the number of DPC holders is far less than half Passel and Cohn’s (2009) estimate of Utah’s total undocumented (110,000 with a range of 100,000 to 200,000). This does raise questions about those estimates.

We should address one other issue at the start: these data are collected for administrative purposes, rather than as part of a research study. Thus attention to detail on definitions and on administrative meanings is quite important. In addition, as with any

data, there will be miscodings and omissions.⁴ We have been able to clean the data for our purposes in many cases. For example, in the full data file, there were 33,872 records with a duplicate identifier, most likely because of a data entry error on one of the records. We kept only the record that had the most complete information and dropped the other duplicates. A comparison of the number of DPC holders with a separate measure of undocumented status, a social security number beginning with the digit “9,” can also illustrate the complexities. There are 38,696 valid non-US born DPC holders, who did not enter the country on a visa. There are 38,463 persons with valid DPC’s whose social security number reported in the DLD records begins with “9,” indicating that they obtained their driving document with an ITIN.⁵ Almost the entire difference is accounted for by 228 records that are missing the social security number. In addition, ten of the DPC holders had a social security number not starting with a “9”.⁶ The implication is that reliance on the DPC in counting the undocumented is warranted. This is reinforced by well-documented problems with social security numbers. For example, a national audit of the validity of Social Security numbers (Social Security Administration 2006) found the highest percentage of errors was in the records for foreign born U.S. citizens (7.7 percent), followed by non-resident aliens, such as the undocumented (7 percent).

In any case, this extended treatment suggests that we can and should rely on the DPC flag as our best indicator of an undocumented person. Thus it will be the central building block for our estimate. The next section uses this information to provide a description of the undocumented.

GENERAL DESCRIPTION OF THE UNDOCUMENTED

Let us turn to Table 1 to see some of the characteristics of the persons in the driver license data, especially those who have self-declared that they are undocumented. It is important for the reliability of our estimates that the general characteristics of the DLD database be quite similar to the characteristics of the adult population of the state. The male share of both is the same 50.5 percent, and the median age is the same, 39.5 years. So there is no obvious indication that drivers are atypical of the adult population of the state. As noted above, the census figures suggest that 86.7 percent of adults in the state have a valid driving document. This may actually understate the coverage. Fully 89.4 percent of all mothers who gave birth in Utah between 2000 and 2007 had a driver license or DPC at some point in time, though not necessarily at the time of the birth (Korinek and Smith 2008).

Our discussion will start with DPC holders whose status is “valid,” column 2 in Table 1. These 38,696 persons are undocumented persons living in the state in 2009. This number will be our starting point for the smaller estimate of the number of undocumented. Column 3 describes an additional 16,907 persons with DPC’s that are not valid. For example, 6,089 of that group have DPC’s that have expired, perhaps because they left the state. As a result, it is less certain that they should be included in the estimate of the undocumented. Nonetheless, our higher estimate will assume that all of them are undocumented persons living in Utah. This will give a starting point of 55,603 undocumented adults for our higher estimate.

When we compare the two groups of undocumented with the full database, we can see that the DPC holders are much more heavily male, 65-68 percent compared with 50.5 percent in the full sample. They are also generally younger; 32.3 years is the median

age of the valid DPC holder and 30.5 years of the others, whereas the median age is 39.5 years in the full sample. Both of these descriptors correspond with what we expect of immigrants into a new destination such as Utah, whose main attraction has been the job market, rather than family networking and unification.

Many records in the database do not contain a birth country. There are 1,378,436 of the 1,709,297 valid document holders with a birth country listed, or 81 percent. Only 68 percent of the valid DPC holders have a listed birth country. Of those 88 percent are from Mexico, though Mexican-born persons constitute just 41.2 percent of the foreign born drivers with a birth country noted. The 116,378 foreign born drivers are 8.4 percent of valid holders with a birth country. This compares to the 2000 Census estimate of 7.9 percent of the state's population being foreign born and 2008 estimates of 8.3 (U.S. Bureau of Census 2008; MPI Data Hub 2009). This once again suggests a close correspondence between the driver license data and the overall state population composition.

One indicator of how the Utah driver license program “integrated immigrants” is the date that they first became known in the UPDB. Only 1.4 percent of either DPC group had appeared in the UPDB prior to House Bill 36, which allowed undocumented to obtain driver licenses in 1999. This compared with 59.9 percent of the total population who had an earlier presence. This is certainly a testimony to the role of the program in integrating the undocumented into Utah society in some measure.

We have very partial information on the migration pattern of the undocumented in the database. Almost 17 percent of the undocumented surrendered a driver license issued elsewhere, including in a foreign country, upon obtaining their Utah document. This was lower than the 23 percent of the full sample, though closer than one might expect; for someone living previously in a state that didn't provide a driver license option for undocumented would not have a license to surrender unless they surrendered an old foreign license. As might be expected, they had moved primarily from a foreign country, 42 percent, compared with 2.3 percent of the full database. The share of movers who came from California was quite similar between the undocumented and the full sample, 19.5-28% compared with 24.6%.

Finally, the undocumented are more likely to have lapsed licenses, 24 percent compared with 20 percent of the full sample. This may be the result of the requirement that the DPC be renewed yearly, or it may be an indicator of higher mobility.

The purpose of this section of the paper has been to describe the characteristics both of Utah's drivers and those drivers who have self-identified as undocumented. This effort is useful in itself and can aid in understanding the role of the undocumented and their relation with the wider society that is Utah. The data on age, sex, and mobility have definite implications for policy, including health policy.

The second goal of the paper is to move from this description to an estimate of the total undocumented population in the state. To that we now turn.

MEASURING THE TOTAL UNDOCUMENTED POPULATION

The starting point for this effort is the earlier conclusion that for the most part, the data in the driver license data base do not differ notably from other demographic descriptions of the state. And the general patterns that they represent for the

undocumented are consistent with what would be expected from this group of immigrants into the state.

Given this starting point, we turn now to using these data to construct a measure of the undocumented in the state. We will base our estimate on the holders of DPC's currently. We will include the 568 DPC holders whose first known date in the UPDB was prior to 1999, since they could well have entered the database through a birth or other health event. We will include those with lapsed but valid DPC's, since that status does not indicate that they have left the state. We will also include those with "valid" DPC's whose license date is prior to 2008, since again there is no reason to assume that they are no longer in the state. Both of these inclusions will bias our estimate to the high side. Further, we will use the holders of non-valid DPC's to get the upper limit on estimates of the undocumented; their inclusion will increase the starting count of undocumented from 38,696 persons who have valid DPC's to 55,603 persons who have received a DPC since the program began in 2005.

The first issue that must be dealt with is the likely "undercount" occasioned by undocumented persons not obtaining the ITIN they would need to obtain a DPC. There are a number of factors that suggest the ITIN coverage is quite high among this group. To that we now turn.

- THE USAGE OF ITIN'S BY NON-RESIDENT ALIENS

We know that as of 2009 there were at least 38,696 undocumented persons in Utah, the holders of valid DPC's. Since the DPC was instituted in 2005, there have been 55,603 self-declared undocumented. Of course this is an understatement of the total number of undocumented whose most recent estimate by Passel and Cohn is 110,000 (2009). Our data do not include children under 15 ½ nor undocumented persons who used a false social security number to obtain a driver license. Nonetheless, the major source of underestimate is certainly that not all undocumented wish to drive and not all undocumented will have the ITIN necessary to obtain a DPC. If 86.7 percent of the undocumented had licenses, as is the case with the total population, we would estimate that the total adult undocumented population was between 44,632 and 64,132 persons. What can we say about the likelihood of an undocumented person having an ITIN? This number is required for all foreign nationals who need to file tax returns with the IRS, but do not qualify for a SSN. Since, technically, the ITIN cannot be used for any non-tax uses, the requirements to get an ITIN are less rigorous, not requiring an in-person application and with 13 different forms of acceptable identification.

At the outset of the driver license program in Utah, there was a concerted effort to help undocumented apply for ITIN's in order to obtain a license. A Social Security audit (Social Security Administration 2002) indicated that 9 percent of the national ITIN's in this period were being issued in Utah. The number had increased from 2,356 in 1998, two percent of the national total, to 6,599 in 2001, or 9 percent.⁷ At that time one of the documents that could be used was a letter from the Department of Motor Vehicles, indicating that the person needed the ITIN in order to obtain a driver license, and Utah had clearly been proactive in providing such letters and encouraging undocumented to obtain ITIN's. This suggests that there was excellent ITIN coverage of the undocumented population through 2002 when the audit led to more stringent screening.

Since that time, nationally the ITIN has become much more common. The IRS has noted a rapid increase in the issue of ITIN's from 530,000 in 2001 to 1.8 million in 2007 (IRS, 2009). The number of tax returns in which Non-resident aliens are included increased from 763,000 to 1.083 million between 2007 and 2008. And the Social Security Administration has 46.5 million records for non-U.S. citizens out of its total of 435 million records, or over 10 percent (2006). So there is active and increasing use of ITIN's. Since this is the document required for a DPC, we can assume that the DPC's issued provide significant coverage of the undocumented adult population.

The major adjustment that most measures of the undocumented make is for the "undercount" of these notoriously difficult to locate individuals. That ranges from 10 percent to 25 percent (Jameson and Hanks 2009). We already are able to obtain a range of estimates by using the license status of the undocumented. Our high estimate, 55,603, makes the unrealistic assumption that everyone who has had a DPC since 2005 has remained in the state, even if their DPC is no longer valid. This number is 43 percent greater than the low estimate, 38,696, based on those with a valid DPC in 2008-2009. So, rather than attempting to make an adjustment for the share of the undocumented with driving privilege cards, we will use the two DPC numbers as our starting point for the estimate of Utah's undocumented population. In the tables below, we will do the calculations for both the high and the low numbers of DPC holders.

- **THE DIRECT ESTIMATE OF UTAH'S UNDOCUMENTED POPULATION**

The most extensive estimates of the undocumented in the U.S. have been done by Passel and Cohn for the Pew Hispanic Center (Passel 2005, 2006; Passel and Cohn 2008, 2009). They use an indirect estimate based on the 2000 Census and the Current Population Surveys, and in so doing derive a number of demographic descriptors of the undocumented population. We noted above that our estimates will be much less than their point estimate of 110,000. Nonetheless, we will draw on their descriptors of the national undocumented to adjust our direct count of the undocumented toward a population estimate for Utah's undocumented.

As seen in Table 1, between 64.7 and 68.4 percent of Utah's DPC holders are male compared with 60.6 percent of the adults undocumented at the national level (Passel and Cohn 2009). This is consistent with Utah as a "new destination," more likely to attract young males to its relatively buoyant economy. We start from our DPC numbers, broken down by sex and then use Passel's figures (2006) to ascribe marital status. The results appear in Table 2. Passel (2006) estimated that, nationally, one of five female undocumented is single, or a "solo" individual. Given that there are between 13,660 and 19,003 adult female DPC holders in Utah, we estimate that between 2,732 and 3,801 female DPC holders are single, using the 20 percent figure. We assume that the female undocumented who aren't single are married to undocumented men to allow us to estimate the number of "undocumented families." If every undocumented male is married to an undocumented female in the sample, then between 14,108 and 21,399 of the male population are single. We note that in Passel's estimates approximately half of all undocumented men are in United States without family. In Utah as seen in Table 2, that percentage jumps to between 56 and 58 percent, again consistent with expectations for a new destination.

The next two steps are designed to estimate the number of undocumented children since they are absent from the driver license data. The first calculation divides the undocumented couples according to their expected household composition. This is reported in Table 3. We assume that the children live in families with two parents. We assume that the 10,928 to 15,202 undocumented families in Utah have the same makeup as the national average in order to estimate the number of children. Table 3 presents the number of households in each of four categories specified by Passel: couples with no children, couples with US citizen children only, couples with alien children only, and couples with children of mixed citizenship. Using Passell's share estimates and applying them to our DPC numbers allows estimates of the number of undocumented couples in each category (Table 3, Column 2).

Next we need to estimate the number of children. Passel (2005) estimates that there are 4.7 million children of the unauthorized from 2.685 million undocumented households with children. That means an average 1.75 children in the couples with children. Utah's average family size is the largest in the nation. However, there is no reason to expect undocumented households to follow the Utah pattern as opposed to the national pattern. Indeed, given that Utah is a "new destination," with immigrants both younger and more male than the national averages, we would expect the family size to be smaller.

Nonetheless, we use the 1.75 children per couple with children figure in our calculations. Look first at the low estimate. There are 10,928 undocumented couples in Utah, which implies that there are 8,852 couples with children. Using the 1.75 figure, there are 15,490 children in Utah with undocumented parents. Of these children, the Table 3 calculations indicate that 5,546 of them are also undocumented, so they must be added to the 38,696 undocumented to give a new estimate of 44,243 undocumented persons in the state in 2009. On the other hand, if the high estimates are correct, 12,314 of the 15,202 undocumented couples in Utah have children. So there would be 21,548 children in Utah with undocumented parents. Of these children, 7,715 are also undocumented, so they must be added to the 55,603 undocumented to give a new estimate of 63,318 undocumented persons in the state in 2009. Table 3 summarizes these estimates.

Close to two-thirds of the children born to undocumented parents are U.S. citizens. This shows how important it is to integrate these immigrants so that their children may have the same benefits as native children, since they will presumably live in the U.S. as citizens. Much the same can be said of the undocumented children, who are also likely to spend their lives in the U.S.

One additional check on the number of undocumented children can be developed from the age pyramid in Passell and Cohn (2009). They found that nationally approximately 8.65 percent of the undocumented males are under 15 and 10.88 percent of undocumented females are under 15. The average is 9.76 percent. This suggests that there are between 4,318 and 6,180 undocumented children under the age of 15 in Utah, if our estimate of undocumented adults is correct. These numbers compare with our estimates of 5,546 to 7,715 undocumented children. Our estimates, which are based on DPC holders, are some 20 percent greater than those implied by the age pyramids. This consistency gives support to our estimates of the undocumented population, indicating that the direction of error is toward an overestimate of the undocumented.

CONCLUSION

Based on the self-declaration of undocumented in Utah made in order to obtain a Driver Privilege Card, we have provided a description of an important segment of the adult undocumented population in the state in 2008-2009. Our estimate provides specific detail that can be helpful to policy-makers dealing with health needs and economic issues surrounding the undocumented.

We then moved to an estimate of the total undocumented population in the state, starting from the DPC holders and adding to those numbers estimates of numbers of persons who would not have been captured in the DLD. We estimated that the undocumented population in 2008 is between 44,242 and 63,318. To match the Passel and Cohn (2009) estimate of 110,000 we would need to adjust our numbers up by factors of 1.74 or 2.49. Of course our greatest unknown is the number of undocumented who do not have DPC's. We have shown that both the history of ITIN issuance in Utah and the increasing use of ITIN's nationally suggest that there is extensive use of ITIN's in the undocumented community. Given this, we suggest that the numbers estimated for Utah using the residual measure are likely to far overstate the number of undocumented actually in the state at this point in time. In addition, the internal checks that we have carried out suggest that the estimates are consistent with what would be expected from age profiles and other sources. Appendix A provides a check based on the total number of live births in the state, which again is remarkably consistent with our estimates. Appendix B examines the database records that contain country of birth in a comparison with the American Community Survey estimate of the foreign born in Utah. Again, the database provides plausible estimates of the foreign born and so gives results that are consistent with independent surveys.

APPENDIX A

CONSISTENCY OF ESTIMATES WITH ACTUAL LIVE BIRTHS IN UTAH

The Utah Population Database contains information on all births in the state. It has extensive information, derived from birth certificates, on health indicators of mother and child. For our purposes, it also includes demographic information that is linked with the other records of the UPDB, such as the driver license data. Korinek and Smith (2008) have worked with these data in studies of pre-natal care and low birth weight.

We have noted some of the characteristics of the data above. For example, 89.4 percent of the mothers who gave birth had a driver license, a DPC, or a social security number that began with 9 at some point in time. This compared with 86.7 percent in the full database with these characteristics.

There were 392,232 singleton live births between 2000 and 2007 in Utah. Of those 56,372 were to mothers who were foreign born, 14.4 percent of the total. This is higher than the share of foreign born in the state population of 10.3 percent. This is to be expected since these immigrants, legal and undocumented, are likely to be relatively young and therefore to fall more heavily into the child bearing years.

Korinek and Smith (2008) found that 13,869 births during that period were to mothers who were foreign born and had either a DPC or a social security that began with 9. Table 3 in the text estimates the number of children that undocumented couples have. The number of citizen children is estimated at between 9,944 and 13,833. Since the children in the UPDB vital statistics are born in Utah, they are all U.S. citizens. There were 13,869 children in this category, remarkably close to the high estimate from the estimate based on the driver license data, 13,833 (Table 3, column 3). This number was based on the count of all those who had obtained a DPC, even if it were no longer valid. We expect many of those whose DPC is no longer valid to have moved out of the state, presumably with their children. Thus the actual number of citizen children living with undocumented parents in Utah will certainly be lower than the high estimate, and closer to the estimate we obtained based on those who have valid DPC's, 9,944 (Table 3, column 2).

The consistency of the estimate that we derived for citizen children of undocumented with the actual count of children born in the state to undocumented mothers provides support for the estimates that we have obtained.

APPENDIX B
CONSISTENCY OF ESTIMATES WITH CENSUS DATA ON FOREIGN BORN

The Census and the American Community Survey that is replacing the Census long form asks the birth place of the respondent. We now have available the ACS data up through 2008, and the sample size is becoming large enough to allow estimates at the state level even for a small state such as Utah. We can use that number to compare with the implied number of foreign born in our data base. The major discrepancy is the large number of individual records that do not have a birth country listed. In the full database, there are 782,690 records missing birth country out of a total of 2,860,572, or 27.4 percent. In the 2008 data download, of those with valid documents, 330,861 of 1,709,297 records or 19.4 percent do not have a birth country.

In this Appendix we count the number of valid driver record holders that we know were foreign born and then examine the relation of that number to the ACS estimate. We start from the records that have a foreign place a birth listed and then add to that the numbers of other records whose characteristics strongly suggest they were foreign born,. For example, we can assume that all the DPC holders who do not have a birth place listed were foreign born. The resultant calculation is below.

	Adjustments	Estimate of Foreign Born
Number of Foreign Born Valid Holders, 2008		116,378
Number of DPC Holders w/o Birth Country	20,789	137,167
Number of Others who Moved from a Foreign Country	4,117	141,284
Number of Foreign Born Children in Immigrant Families (ACS)-under 18	20,104	161,388
Number of Foreign Born Children in Non-immigrant Families ⁸	8,204	169,592
10% Adjustment for adults without Driver Document	1,413	171,005
Required Adjustment for Missing Birth Country to Correspond with ACS Foreign Born Estimate	55,435	226,440
Implied Share of Missing Birth Country Records that were Foreign Born	16.7%	

We can supplement our data with the ACS data on children under 18. The count 20,104 foreign born children in immigrant families, i.e. families with one foreign born parent. In addition, they estimate 8,204 foreign born children in non-immigrant families.⁹

Adding these two quantities gives us a specific count of 169,592 persons who are foreign born. There are several added adjustments that should be made to account for undercounts in our data. We know that about 10 percent of Utahns do not have driver licenses, so if we assume that share is the same among the foreign born, there should be another 1,413 adults(10% of 141,284). This raises the estimate to a total of 171,005. This still leaves a discrepancy of 55,435 persons between our count and the ACS count of the foreign born. There is no direct way that we can close this gap. However, certainly a major factor in generating it is the absence of birth country in a large number of DLD records. For example, we know that 12,341 of the Valid DPC holders, 38,696, do not have a birth country, though they were all foreign born. This is 32% of those records. The share of the non-valid DPC holders without a birth country is higher yet, 50.0%. This suggests that foreign born persons are less likely to have a birth country recorded on their document. As noted in the table above, if we assume that 16.7% of the foreign born do not have their birth country recorded, our estimate of the foreign born corresponds with the ACS estimate. This appears a quite reasonable assumption.

So once again, the conclusion is that the database that we are using provides an excellent representation of the Utah population because of its correspondence with data that allow us a cross check. This provides added support for the estimates of the undocumented that the main paper has obtained.

**TABLE 1
SUMMARY OF 2009 DLD DATABASE RELEVANT TO UNDOCUMENTED**

	DPC HOLDERS: VALID	DPC HOLDERS: NOT VALID	TOTAL-DLD : VALID	CENSUS DATA FOR UTAH
TOTAL	38,696	16,907	1,709,297	1,972,123 ¹
PERCENT MALE	64.7 percent	68.4 percent	50.5 percent	50.5 percent ¹
MEDIAN AGE	32.3 YEARS	30.5 YEARS	39.5 YEARS	39.5 YEARS ¹
FOREIGN BORN (OF WHICH, MEXICAN BORN)	26,355 ² (87.7 percent)	8,459 ² (86.8 percent)	116,378 ^{2,3} (41.2 percent)	226,440 ⁴ (46 percent)
FIRST KNOWN PRE-1999	568=1.4 percent	24=1.4 percent	1,024,732=59.9 percent	
MOVED FROM	6,689=17 percent	2,835=16.7 percent	409,627=23.9 percent	
--OF WHICH FOREIGN	2,811=42.9 percent	1,467=51.7 percent	9,468=2.3 percent	
--OF WHICH CALIF	1,842=28 percent	552=19.5 percent	100,853=24.6 percent	
LAPSED LICENSE	9,851=24.8 percent	3,302=19.5 percent	349,188=20.4 percent	

1. Total population 16 years and older. US Bureau of Census. Annual Population Estimates, Table 2.
2. The numbers and percentages are of those with birth country listed. In the full sample, 19 percent have no birth country; in the DPC sample, 31 percent have no birth country.
3. There are 330,861 valid license holders who have no birth country listed in the DLD file.
4. MPI (2009).
5. Perlich, Pam. "Utah's Demographic Transformation," p. 22. Percent of foreign born.

**TABLE 2
UNDOCUMENTED ADULT COMPOSITION IN UTAH**

	Lower	Estimate		Higher	Estimate	
	Single	Married	Total	Single	Married	Total
Males	14,108	10,928	25,036	21,399	15,202	36,601
Females	2,372	10,928	13,660	3,800	15,202	19,002
Total	16,480	21,865	38,696	25,199	30,404	55,603

**TABLE 3
UNDOCUMENTED FAMILIES IN UTAH: CHILDREN**

Ave. Children: 1.75 when present	National Percentage (Passel 2006)	Low Estimate: Citizen Children	High Estimate: Citizen Children	Low Estimate: Undocumented Children	High Estimate: Undocumented Children
Couples with No Children	19 percent 2,076-2,889	0	0	0	0
Couples with Only US Citizen Children	45 percent 4,918-6,841	8,605	11,971	0	0
Couples with Only Alien Children	22 percent 2,404-3,344	0	0	4,207	5,853
Couples with Children of Mixed Citizenship	14 percent 1,530-2,128	1,339	1,862	1,339	1,862
Total	100 percent 10,928-15,202	9,944	13,833	5,546	7,715

**TABLE 4
HIGH AND LOW ESTIMATES OF UNDOCUMENTED IN UTAH**

	Low Estimate	High Estimate
Males	25,036	36,601
Females	13,660	19,002
Children	5,546	7,715
Total	44,242	63,318
Required Adjustment to Reach 110,000	2.49	1.74

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² We have removed the records that showed the USA as the birth country. These DPC holders were likely persons who chose not to have a social security card but who did have ITIN’s so as to pay their taxes due. There were 185 valid DPC holders who listed their birth country as the USA, and of these, 145 were born in Utah. We also dropped records of persons who had a death date recorded and records that had visas but had to use an ITIN.

³ Korinek (2009) provides a detailed description of the live birth data, particularly of the mothers.

⁴ This is a common problem in administrative records. For example, the Social Security Administration (2006) estimates that their identifiers contain incorrect information on 17.8 million of 435 million records. This is a 4.1 percent error rate.

⁵ In the database as a whole there were 98,355 individuals whose DLD social security number started with 9. Of them, 96,700 first entered the database after 1998, when the law allowed an ITIN to be used for a driver license. A number of ITIN’s were only used to obtain state issued ID’s, 21,363, prior to 2005. They could be used for between five and ten years so there is no indication in the database of further activity by these persons.

⁶ In addition, each record has another social security number tied to the individual from all records in the UPDB, such as birth certificates or hospital records. There are 35,924 person records in the UPDB with a “9” entered here, compared with 38,696 individuals with DPC’s. There are 229 records missing this identifier, leaving 2,543 records that have a different initial social security number. A number of these are likely to be miscodings, but many of these individuals will have appeared in the database under a different social security number. They may have naturalized and not changed their driver license, or they may have used a child’s social security number for some health related activity, while using the ITIN to obtain their driver document. An assessment of the DLD data indicates that for 2,449 of the 2,543 records, their “first known date” was prior to 2005; so if they are still using a DPC in 2009, they are almost certainly undocumented, since the DPC requires yearly renewal.

⁷ Although these are “non-work” social security numbers, the same audit found that 54 percent of the recipients reported earnings of \$36.1 million in the period. Between 1998 and 2001, more than half of the ITIN’s were sent to addresses that received more than one ITIN. This probably suggests some level of fraud, though it is very common for undocumented men to live together to share rental expenses (Social Security Administration, 2002).

⁸ The ACS indicates that 12.5% of the foreign born population of the state is 17 years old or less and is thus underrepresented or missing in our data.

⁹ Our data do not allow us to make comparable estimates. Our estimates of 5,576 to 7,715 foreign born children of undocumented parents seems consistent with the ACS estimates of foreign born children. For example, our high estimate of 55,603 undocumented would suggest that they are 24.6% of the total foreign born. If their children were 24.6% of foreign born children, they would imply that there were between 22,636 and 31,490 foreign born children.