

THE EFFECT OF ACCULTURATION AND ASSIMILATION ON THE INCOME OF IMMIGRANT FILIPINO MEN IN HAWAII

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1. Introduction

On December 20, 1906, fifteen male Ilocanos from northern Luzon arrived in Honolulu and were assigned to work on the Olaa sugar plantation on the island of Hawaii. These Filipino contract workers were the first contingent of the last major group of foreign workers recruited to work in Hawaii. Preceding the Filipinos in large numbers were the Chinese (1852), Japanese (1868), Portuguese (1878), and Koreans (1903). Smaller contingents of contract laborers, some arriving earlier and some later, came from areas as diverse as the continental United States, Mongolia, Puerto Rico, Spain, Italy, Poland, Austria, Germany, Norway, Russia, Siberia, and Oceania. Over the period from 1850 until 1930, approximately 400,000 workers and dependents migrated to Hawaii.¹

Large-scale systematic recruitment of Filipinos began in 1909 when restrictive U.S. immigration regulations prevented the further recruitment of Chinese, Japanese, and Korean workers.² By 1930, 63,052 Filipinos were residing in Hawaii and comprised 17.1 per cent of Hawaii's total population. The depression of the 1930s significantly reduced the flow of Filipino immigrants to Hawaii.³ However, active recruitment of Filipino labor resumed after World War II to alleviate a labor shortage in Hawaii's sugar and pineapple plantations until free immigration was virtually halted by the U.S.

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¹ For an informative economic history of the sugar industry in Hawaii and the associated demand for foreign labor, see Lind (1938) and Morgan (1948). For a brief history of Filipino immigration to Hawaii, see Melendy (1977).

² For a history of U.S. immigration policy and its impact on Filipino immigration to the U.S., see Keeley (1971) (1973), Keeley and Fox (1974), and Chiswick (1978b).

³ In fact, emigration exceeded immigration so that by 1940, the number of Filipinos residing in Hawaii dropped to 52,569. (See Lind, 1970, p. 28).

as a result of Philippine independence in 1946. Thereafter, the Philippines was given a small quota. By then, however, labor requirements on Hawaii's sugar and pineapple plantations were declining and foreign recruiting became unnecessary.

The 1965 amendments to the U.S. Immigration and Nationality Act abolished the national origins quota system and produced a dramatic surge in Asian immigration to the U.S. These amendments produced a second wave of Filipino immigration to Hawaii. Between 1965 and 1974, the annual flow of immigrants to Hawaii more than tripled.⁴ In 1965, for example, 447 of 1,721 immigrants admitted to Hawaii or 26 per cent of the total were Filipinos. By 1974, the total number of immigrants admitted to Hawaii rose to 6,549, with Filipinos accounting for more than half the total.⁵

The present ethnic composition of Hawaii's population reflects its unique history. Decline of the native population, combined with differential rates of migration from many countries and high rates of interracial marriage, has produced a demographic situation in which most of the residents are either migrants or descendants of migrants. No ethnic group enjoys a numerical advantage. Filipinos are the fourth largest ethnic group in Hawaii with nearly 11 per cent of the total population.⁶

How have recent Filipino immigrants fared relative to Hawaii-born Filipinos in Hawaii? This paper investigates the effects of acculturation and assimilation on the incomes of immigrant Filipino men in Hawaii by comparing income profiles of immigrant and native-born Filipino men. Our analysis parallels studies by Chiswick⁷ for the U.S. and United Kingdom (1978a, 1978b, 1978c, 1979, 1980), and is based on an extension of the human capital earnings model developed by Mincer (1974). Specifically, we attempt to verify Chiswick's hypotheses for Filipinos in Hawaii. In his analyses of immigrant adjustment, Chiswick hypothesized that incomes of immigrant men are likely to be lower than incomes of native-born men of the same ethnicity initially, as immigrants have less human

⁴ Immigrant Services Center (1977, p. 7). In 1974, Hawaii received 8.27 immigrants per thousand population, the highest rate in the nation and 4.4 times the U.S. average.

⁵ Filipinos comprise the third largest group of legal aliens admitted into the U.S. Hawaii receives nearly 14 per cent of them.

⁶ Caucasians comprise 25.7 per cent; Japanese, 25.2 per cent; native Hawaiians, 16.7 per cent; Chinese, 4.8 per cent; Portuguese, 3.4 per cent; and Koreans 1.2 per cent. See Alu Like (1978).

⁷ See also Long (1980) and Tandon (1978).

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capital specific to the destination labor market than native-born persons of the same schooling and age. But subsequent to migration, and for years after that, immigrants acquire training and experience specific to their adopted country, and their incomes are likely to rise faster than incomes of native-born. Finally, as immigrants have more motivation and ability, their incomes eventually catch up to and may even surpass those of the native-born.

2. The Specification

Following Chiswick, we employed the human capital income equation to examine the determinants of income for native-born and immigrant Filipino men in Hawaii. For native-born Filipino men, the natural logarithm of annual income in dollars ($\ln Y$) is regressed against a set of explanatory variables in the following specification:

$$\ln Y = a_0 + a_1 ED + a_2 EXP + a_3 EXPSQ + a_4 MS + a_5 NI + a_6 \ln WKS \quad (1)$$

where:

- ED : years of schooling completed
- EXP : years of potential labor market experience
(=AGE-ED-6)
- EXPSQ : (EXP)²
- MS : 1 if the respondent is married
: 0 otherwise
- NI : 1 if the respondent lives on the Neighbor Islands
: 0 otherwise (respondent lives on Oahu)
- $\ln WKS$: natural logarithm of weeks worked in 1974.

The coefficient a_1 can be interpreted as the rate of return to schooling. Labor market experience is captured in the variables EXP and EXPSQ, where experience is measured as the number of years since age six that the respondent was not in school. The quadratic term EXPSQ is included to capture the concavity of the income profile. Incomes typically rise initially with experience, peak, and then fall. MS captures the differential effect of marital status on incomes. NI is a proxy for residence in rural vs. urban areas.⁸ Finally, $\ln WKS$ is entered as a control variable to standardize for weeks worked across individuals. Consistent with theory and previous empirical studies of a similar nature, we expect $a_1 > 0$, $a_2 > 0$, $a_3 < 0$, $a_4 > 0$, $a_5 < 0$, and $a_6 > 0$.

⁸In 1970, for example, while population density per square mile exceeded 1,000 on Oahu, on the other islands it was never more than 54 per square mile. In 1977, per capita personal income averaged \$7,890 for Oahu compared with \$6,590 for the Neighbor Islands. See Bank of Hawaii (1979).

To model the effects of pre-migration education and experience and post-migration assimilation and acculturation on the incomes of immigrant Filipino men, the human capital income equation is extended as follows:

$$\ln Y = b_0 + b_1 ED + b_2 EXP + b_3 EXPSQ + b_4 MS + b_5 NI + b_6 \ln WKS \\ + b_7 YSM + b_8 YSMSQ + b_9 CTZ$$

where:

- YSM : years since migration to Hawaii
 YSMSQ : (YSM)²
 CTZ : 1 if the respondent is a citizen
 : 0 otherwise

In this specification, b_1 is the return to pre-migration education, b_2 and b_3 measure the effect of pre-migration experience, b_7 and b_8 the differential effect of post-migration vs. pre-migration experience, and b_9 the effect of citizenship on income. Following previous empirical evidence, we posit that $b_7 > 0$, $b_8 < 0$, and $b_9 = 0$.

The data to estimate equations (1) and (2) were obtained from the 1975 U.S. Office of Economic Opportunity (OEO) census update survey for Hawaii.⁹ For each group, the observations were limited to males, ages 18 to 65, not in school, in the military, or retired, who worked at least one week in the preceding year.

3. Empirical Results

Table 1 presents the mean values of the variables in equations (1) and (2). As Table 1 indicates, the average annual income of immigrant Filipino men was \$9,344 compared to \$10,865 for Hawaii-born Filipino men, a difference of approximately 15 per cent. Part of the income differential may be attributed to skill differences. Hawaii-born men had more education and worked more weeks per year than immigrant men. However, immigrant men had more labor market experience and were more likely to be married and living on Oahu.

Table 2 displays the estimated (OLS) human capital income equations for native-born and immigrant Filipino men, as well as a pooled regression for both groups combined.

⁹The survey is a systematic, stratified, random sample of 5.6 per cent of all households in Hawaii and has a sample error of less than 5 per cent.

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Table 1 — Mean Values for Hawaii-Born and Immigrant Filipino Men

	Hawaii-Born	Immigrant
Y	10,854	9,344
lnY	9.14	9.00
ED	11.66	8.44
Pre-Migration	—	7.40
Post-Migration	—	1.04
EXP	18.85	29.41
Pre-Migration	—	12.31
Post-Migration	—	17.10
MS	.81	.86
NI	.42	.37
lnWKS	3.86	3.84
YSM	—	18.14
CTZ	—	.49
n	387	683

Table 2 — Income Equations for Hawaii-Born and Immigrant Filipino Men

	Hawaii-Born Men	Immigrants	Pooled*
Constant	5.16980	5.66992	5.07125
ED	.06905 (6.08)	.02182 (3.91)	.07411 (6.56)
EXP	.04547 (6.63)	.02276 (4.28)	.04873 (7.41)
EXPSQ	-.00083 (5.35)	-.00043 (4.84)	-.00085 (5.65)
MS	.35196 (5.23)	.23163 (4.23)	.27506 (6.46)
NI	-.10516 (2.22)	-.21505 (5.81)	-.17397 (5.95)
lnWKS	.64748 (7.84)	.67092 (11.02)	.66938 (13.61)

Table 2 (Continued)

	Hawaii-Born Men	Immigrants	Pooled*
FOR			.57721 (3.15)
(CTZ) (FOR)		.03849 (0.96)	.03447 (0.86)
(YSM) (FOR)		.02311 (5.12)	.02229 (4.95)
(YSMSQ) (FOR)		-.00026 (3.20)	-.00025 (3.04)
(ED) (FOR)			-.05206 (4.13)
(EXP) (FOR)			-.02760 (3.38)
(EXPSQ) (FOR)			.00044 (2.58)
R ²	0.45	0.36	0.40

*Note: The variable FOR = 1 for foreign born; 0 if Hawaii-born.

We used a test developed by Oaxaca (1974) to determine if the coefficients of variables in the equation for Hawaii-born men are significantly different from comparable coefficients in the equation for immigrant men. Results indicate that the equations are significantly different at the 1 per cent level and that the variables ED, EXP, and EXPSQ are the principal sources of difference.¹⁰ Immigrant men have a significantly lower rate of return to education¹¹ and a flatter income-experience profile relative to Hawaii-born men.¹² These differences are also reflected in the pooled equation.

¹⁰The coefficient of NI was also significantly different. The variable, however, was not included in the pooled specification as it was not significant when income equations of Hawaii-born men and immigrants from other races were compared and we had no *a priori* reasons to suspect that it should be. We attribute this result to the sampling distribution of the estimates.

¹¹The significantly lower rate of return to education among immigrant Filipinos may in part be attributed to the poor quality of education received in the Philippines. See the World Bank report (1976) for evidence.

¹²Chiswick's (1979) results suggest, however, that returns to education and experience are lower for U.S. born Filipino men than immigrant Filipino men, while the reverse is true for other ethnic groups in the U.S.

Our results are consistent with findings by Chiswick and others. All the coefficients have the right signs, and except for CTZ, are significantly different from zero. CTZ is not significantly different from zero when YSM is held constant. That is, the possession of U.S. citizenship is not in itself an economic advantage once we control for years of residence in Hawaii.

The variable FOR in the pooled equation can be interpreted, following Carliner (1980), as an index of motivation. Consistent with theory, our results indeed show immigrant Filipino men to have more motivation than Hawaii-born men, *ceteris paribus*.

The effects of assimilation and acculturation on immigrant incomes are captured in the variables YSM and YSMSQ. Their signs are, respectively, positive and negative and significant as expected. This indicates that, all else the same, incomes of immigrants rise, although at a decreasing rate, with years of residence in Hawaii. The rise in incomes subsequent to migration is 2.3 per cent after one year, 10.9 per cent after 5 years, 20.5 per cent after 10 years, and 35.6 per cent after 20 years.

Also of interest is the differential effect of labor market experience on income between Hawaii-born and immigrant Filipino men. Consider an immigrant with 15 years of experience ($EXP = 15$) and 5 years of residence in Hawaii ($YSM = 5$). The percentage effect of an additional year of experience in the country of origin ($\partial \ln Y / \partial EXP$) is 1.0 percent. For the Hawaii-born male with the same experience, it is 2.1 per cent. In short, skills acquired in the Philippines are less productive than those acquired in Hawaii. However, the percentage effect of an additional year of labor market experience in Hawaii [$(\partial \ln Y / \partial EXP) + (\partial \ln Y / \partial YSM)$] for the foreign-born is 3.0 per cent compared to 2.1 per cent for the Hawaii-born male with the same number of years of experience. Thus, immigrant incomes rise faster with age, once they have arrived, than for the native born. This means that, given sufficient time (i.e. if the foreign-born men migrate at an early enough age), the incomes of immigrants would catch up to and eventually surpass incomes of native-born men, *ceteris paribus*. These are encouraging results for Filipino immigrants in Hawaii.

However, the more common observation of their relative economic progress is gained by comparing age-income profiles for two typical Filipino men: one an immigrant and the other Hawaii-born.

The representative Filipino immigrant takes on median characteristics for his group. He is 23.5 years old at the time of migration. He has 4.5 years of formal schooling, 13 years of labor market experience prior to migration, and acquires no additional education after arriving in Hawaii. We assume that the representative Hawaii-born Filipino man is of the same age as the immigrant, but possesses 11.5 years of schooling and 6 years of labor market experience. For the sake of convenience, we assume also that both men are married and living in Oahu, work the same number of weeks per year ($\ln WKS=3.85$) and continue working until age 65. For each individual, we compute incomes over his life cycle, using parameters in the pooled equation in Table 2.

Our calculations show that one year following his arrival in Hawaii, the immigrant's income is 23.2 per cent less than that of the Hawaii-born man. After five years of residence in Hawaii (age=28.5), the income differential grows to 25.5 per cent. The gap further widens to 26.9 per cent after 10 years (age=33.5) and 27.1 per cent after 15 years (age=38.5). However, after 20 years of residence (age=43.5), the income differential narrows to 26.6 per cent. At retirement (age=65) it falls to 12.7 per cent. Thus, while the initial income differential between immigrants and Hawaii-born men is reduced by nearly one-half at retirement age, the income profiles of immigrants and Hawaii-born Filipino men never cross. Moreover, they diverge rather than converge until both reach middle age.

The explanation for the disparity and divergence in incomes between the two typical Filipino men is suggested by Schwartz (1976) who argues that certain types of jobs offer inherent opportunity for greater upward economic mobility as experience is gained over time, and that the more education an individual has, the more such jobs are open to him. The argument is consistent with the general observation that the earnings function of more educated persons typically dominates the earnings function of the less educated persons.¹³

Comparing native-born and immigrant Filipino men in Hawaii, Table 1 indicates that native born men have significantly more years of formal schooling (11.7 years) on the average than immigrant Filipino men (8.4 years). Even this is deceptive. Among Hawaii-born Filipino men, 71 per cent have completed 12 years of formal schooling or better, compared to 30.5 per cent for immigrant men. More

¹³ See also Becker (1964).

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strikingly, nearly half the immigrant men completed only 4 years of schooling or less. Not surprisingly, 41.9 per cent of the immigrant men were found in menial occupations (32.5 per cent as agricultural labor and 9.4 per cent in service jobs) compared to 22.4 per cent (13.3 per cent and 9.1 per cent respectively) for Hawaii-born men. To the extent that menial jobs inherently offer less opportunity for economic advancement with additional experience, the slower rise of incomes for immigrant Filipino men relative to Hawaii-born men subsequent to migration can be rationalized.

4. Conclusion

In this paper, we investigated the relative economic progress of Hawaii-born and immigrant Filipino men using data from the 1975 OEO Census update survey for Hawaii. We found that immigrants have lower incomes than Hawaii-born men of the same age (and schooling) soon after they arrive in Hawaii. Consistent with findings elsewhere, our results show that the incomes of foreign-born men rise faster than the incomes of Hawaii-born men of the same age and with the same amount of education and experience. The more common observation, however, is that, given the same age, incomes of native-born men are higher than those of foreign-born men. Moreover, their income-profiles diverge until they reach middle age and begin to converge thereafter. The divergence is explained by the fact that their low level of educational achievement confines a much larger proportion of the immigrant men in menial occupations that offer inherently less opportunities for upward economic mobility. This explanation, however, remains tentative until a longitudinal analysis of the occupational mobility of immigrants and native-born men is conducted for Filipinos in Hawaii.

REFERENCES

- Alu Like, Inc. (1978), *Native Hawaiian Profile, State of Hawaii, 1975*, Honolulu: Alu Like, Inc.
- Bank of Hawaii (1979), *Hawaii '79*, Honolulu: Bank of Hawaii.
- Becker, G.S. (1964), *Human Capital: A Theoretical and Empirical Analysis with Special Reference to Education*, New York: National Bureau of Economic Research.
- Carliner, G. (1980), "Wages, Earnings, and Hours of First, Second, and Third Generation Males," *Economic Inquiry*, 1: 87-102.
- Chiswick, B.R. (1978a), "The Effect of Americanization on the Earnings of Foreign-Born Men," *Journal of Political Economy*, 86: 897-922.
- Chiswick, B.R. (1978b), "Immigrants and Immigration Policy," in *Contemporary Economic Problems 1978*, ed. W. Fellner, Washington, D.C.: American Enterprise Institute.
- Chiswick, B.R. (1978c), "An Analysis of Earnings Among Mexican Origin Men," *1977 Proceedings of the American Statistical Association, Business and Economics Statistics Section*, pp. 222-231.
- Chiswick, B.R. (1979), "The Economic Progress of Immigrants: Some Apparently Universal Patterns," in *Contemporary Economic Problems 1979*, ed. W. Fellner, Washington, D.C.: American Enterprise Institute.
- Chiswick, B.R. (1980), "The Earnings of White and Colored Male Immigrants in Britain," *Economica*, 47: 81-87.
- Immigrant Services Center (1977), *Immigrants in Hawaii, 1965-1975*, Honolulu: Commission on Manpower and Full Employment. Also for the years 1976-1980.
- Keeley, C.B. (1971), "Effects of the Immigration and Nationality Act of 1965 on Selected Population Characteristics of Immigrants to the United States," *Demography*, VIII: 157-169.
- Keeley, C.B. (1973), "Philippine Migration: Internal Movements and Emigration to the United States," *International Migration Review*, VII: 1977-1987.

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- Keeley, C.B. and Fox, J. (1974), *Demographic and Legal Changes in U.S. Immigration: Recent Philippine Experience in Context*, Kalamazoo: Western Michigan University, (mimeo).
- Lind, A.W. (1938), *An Island Community: Ecological Succession in Hawaii*, Chicago: University of Chicago Press.
- Lind, A.W. (1970), *Hawaii's People*, 3rd edition, Honolulu: University of Hawaii Press.
- Long, J. (1980), "The Effect of Americanization on Earnings: Some Evidence for Women," *Journal of Political Economy*, 88: 620-629.
- Melendy, H.B. (1977), *Asians in America: Filipinos, Koreans and East Asians*, Boston: Twayne Publishers.
- Mincer, J. (1974), *Schooling, Experience and Earnings*, New York: Columbia University Press.
- Morgan, T. (1948), *Hawaii: A Century of Economic Change, 1778-1876*, Cambridge: Harvard University Press.
- Oaxaca, R. (1974), "Another Look at Tests of Equality Between Sets of Coefficients in Two Linear Regressions," *American Economist*, XVIII: 23-32.
- Schwartz, A. (1976), "Migration, Age, and Education," *Journal of Political Economy*, 84: 701-719.
- Tandon, B.B. (1978), "Earnings Differentials Among Native Born and Foreign Born Residents of Toronto," *International Migration Review*, XII: 406-410.
- World Bank (1976), *The Philippines: Prospects and Priorities for Development*, Washington, D.C.: World Bank.