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# Temporary Inter- nal Migration

## Inferences from Survey Data

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**ABSTRACT** It is well established in the literature that an important reason why people move from place to place is to seek employment. One way to balance non-job considerations against the need for a wage income is to move to another place temporarily for a job opportunity. By making a temporary move, an individual can maintain his or her residence in a community, thereby retaining place level amenities, family relationships, traditional activities, and so on. Temporary migration for market work might be an especially attractive solution for people who have strong community ties but few job opportunities. This paper concentrates on the case of internal temporary migration for job market reasons in Alaska. Some U.S. Census data are useful for analysis of migration, but those data are not collected frequently enough to address temporary migration questions well. Using a set of pre-existing non-Census surveys, this paper examines temporary migrants in north and northwest Alaska. For the investigated area, approximately 8 per cent to 16 per cent of the population are engaged in temporary migration for market work. Substantial seasonal differences in temporary migration rates are uncovered, as are gender differences.

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**KEYWORDS** migration, temporary migration, commuting, job search, job market, Alaska

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## Introduction

Why do people leave one community and move to another community? Researchers across a wide spectrum of disciplines have investigated this question extensively. The migration of individuals and families is caused by an enormous variety of reasons from the desire to be near other family members that live elsewhere to the search for work to the desire for amenities that are not available in a given place. Migration is sometimes temporary rather than permanent. The duration of the relocation is sometimes so short that some researchers do not consider the move to be migration at all. Because the question of why people move, where they move to, and how long they stay is complex, researchers often focus on a narrow geographical region in order to better understand the processes involved.

The present paper concentrates on the case of internal temporary migration in Northern and North-western Alaska. "Internal temporary migration" refers to individuals who leave their community in order to do work elsewhere and then return to their community. While there is not an extensive literature on this type of migration in Alaska, some evidence has been offered by researchers to support the general conclusion that people in other places move for improved job opportunities (Huskey, Berman & Hill 2004). While Alaska, and the Circumpolar North in general, have many unique characteristics compared to the rest of the world (Huskey 1990; Huskey 1992; Huskey 1994; Usher, DuHaime & Searles 2003), people moving for jobs is one thing the Far North has in common with the South. It is well established in the literature that a common reason why people move from place to place is to seek employment (Borjas 1994; Lucas 1997).

Sometimes commuting is confused with temporary migration. The difference between the two is the duration of the stay. In an urban or suburban setting, commuting occurs daily. In the case of oil industry workers in Alaska, some individuals work a schedule of one to several weeks in a remote location and then return to their home in another place. Is this commuting or temporary migration? There is no universally agreed upon length of time that changes commuting into temporary migration. In empirical analysis, the specific timeframe that separates the two will depend on the extent to which the available data can separate the groups.

Some U.S. Census data are useful for analysis of migration, but these data are not collected frequently enough to address temporary migration questions well. Specialized surveys investigating specific questions have been conducted by a number of different institutions and they contain much useful information. In the present paper use is made of a set of pre-existing non-Census surveys that contain information about temporary migration

in Northern and North-western Alaska. The investigation of the temporary migration issue is a part of a larger research program funded by the National Science Foundation and the surveys used were determined by the larger research design. The main findings indicate that approximately 8 per cent to 16 per cent of the population in the examined areas are engaged in temporary migration for market work. Substantial seasonal differences in temporary migration rates are uncovered, as are significant gender differences.

The paper is organized as follows. The next section reviews the literature on temporary migration. Then section three discusses the research questions and the survey instruments. In section four, data from the surveys are analyzed, and in the final section concluding remarks are made and suggestions for further research are offered.

### Brief Literature Review

Most of the research on temporary migration in Alaska concerns the Trans-Alaska pipeline project (Carrington 1996; Coates 1993). For that large infrastructure project, a severe labor shortage occurred in the state and large numbers of workers came to Alaska for the job opportunities. When the pipeline was completed, many of those migrants left the state (Carrington 1996). For the purpose of the present paper, the type of temporary migration examined is internal temporary migration. Specifically, only residents of Alaska who move to a location outside their community but inside Alaska are included in the analysis. Little economic research has been done on temporary migration for job opportunities in Alaska as it is defined for the purpose of this paper. The notable exception is Huskey, Berman, and Hill (2004), who examined return migration of Alaska natives from urban settings to rural settings. Using Census data, the authors found significant gender differences among return migrants, with women being more dependent on market employment in rural places than men.

Like Huskey, Berman and Hill (2004), Nilsson (2003) found a gender effect in Sweden's return migrants in that women's migration decisions were more affected by having a family than were men's. Dustmann (1994) found a gender effect using German data in that the migration behavior of women differed depending on whether their intentions were permanent or temporary migration. Significant gender effects are a common finding in many studies of migration (Lucas 1997).

Movement for non-market activities such as subsistence has been investigated extensively (Nelson 1973; Alonso & Rust 1976). Research in the Canadian North has uncovered the similar result that people there often move in order to engage in subsistence harvesting (Marshall 1993; Kuo & Lu

1975; Wonders & Brown 1984). Canadian internal temporary migration has received essentially the same scant treatment as internal temporary migration in Alaska. Return migration studies have been conducted elsewhere (see, for one example, Mesnard 2004), usually in small studies when data were available. The lack of data (or the poor quality of available data) has long been an obstacle to migration research (Edwards & Huskey 2008).

Most of the work on temporary migration has been done at the international level (e.g., cross-border migration in Europe for work, recalcitrant temporary migration from Mexico to the United States, temporary migration from India and Pakistan to the Middle East, etcetera). Notable exceptions are found in work on internal temporary migration in Asia. Rahman (2001: 125) states the general issue succinctly: "International migration occurs when excess demand for labor in one country is coupled with excess supply of labor in another." If the workers who migrate stay in the new country and assimilate, they are permanent migrants. If not, they are temporary migrants, or "guest workers." Guisinger (1984) uses a cost-benefit analysis to assess the impact on Pakistan of large temporary migration flows out of the country toward the Middle East. After measuring and discussing direct and indirect costs of the flows, Guisinger concludes that the net present value to Pakistan from emigration of unskilled labor is strongly positive. Unskilled laborers travel abroad for a few years and earn more money than they could have in Pakistan. The remittances to Pakistan of the expatriates exceed the loss of production in Pakistan. Guisinger mentions internal temporary migration in passing but does not analyze it.

Karayalcin (1994) finds that temporary migration is theoretically equivalent to international lending and borrowing, and reports an expectation for global welfare improvements. No data are analyzed in Karayalcin's paper. Dustmann (1999; 2000) develops a model of human capital investment, suggesting that necessary human capital investment for migration depends on the expected length of time a migrant stays in the host country. Borjas (1984) also reports that significant earnings differences exist between assimilated and non-assimilated migrants. Commenting on Dustmann (2000), Storesletten (2000) points out that return migrants (temporary migrants) are not representative of the typical aggregated cohort in that their decision to acquire human capital in the host country depends on its value (return) in the host country, given the expected temporary nature of the return migrant's tenure. Macro-level analysis of migrant success is then underestimated if the return migrants are not taken into account. Similar arguments are made by Faini (1996), which appear to be robust.

Without question, remittances are the central subject of a large number of migration research articles (for recent examples see Adams 2006; McKen-

zie & Sasin 2007; Page & Plaza 2006). There is enormous diversity in the aspect of remittances examined, ranging from development issues in sending and receiving countries to the simple volume of flows. In virtually all cases, the migration itself occurred in an effort to find a better job environment.

Turning to internal temporary migration, much of the literature stems from studies in China or India. Ma (1999) examines internal migration as a cycle in China where workers begin in a rural setting, migrate to an urban setting, then return to their rural home. Ma finds a significant positive development impact of this migratory cycle in that the returning migrants bring both human capital and physical capital with them when they return to the rural environment. As in Hugo (1982), Ma claims that temporary migration to urban areas is used strategically by rural families to reduce the risk of unemployment. Overall costs are reduced by sending only certain, usually young, members of the family into the urban area. The return probability for the migrant, given his or her rural family ties, is high. The magnitude of the return flow is large in China. Ma reports that nearly four million migrants returned to rural areas in the early 1990s.

H. Yang (2000) compares temporary and permanent migrant flows in China, with an eye toward the question of whether government reform programs for development have changed migration patterns. The reported result is that temporary migration has increased dramatically since the 1980s, but permanent migration patterns are about the same (that is, the policy did not work). H. Yang's work supports the findings in Ma's study. Li and Zahniser (2002) estimate the determinants of temporary rural-to-urban migration in China using 1995 data from the Chinese Household Income Project. Using probit models of the migration decision, the authors find that the most educated and the least educated rural workers are *least* likely to migrate. The effect of education is stronger for men than for women, at the margin, and an increase in farm income reduces the migration probability.

The Chinese "peasant" experience has been investigated by Blecher (1983). The author finds that complex contract labor arrangements serve to restrict the movement of peasants except in special circumstances, like severe labor shortages in industrial areas. More recently, Knight and Song (2003) find that restrictions are not as severe on the movement of people as they were in the past and that returns to non-farm work exceed returns to farm work, explaining a large part of the reason for internal temporary movements. X. Yang (2000) discovers that temporary migrants to cities in the Hubei province view themselves as transient, making them more likely to move again. Further, the author finds that the decision process for an individual who is single differs substantially from an individual who is married, the former being much more likely to migrate.

Like X. Yang's (2000) finding that family status influences the migration decision, Rogaly (2003) finds family influences on migration activity in Eastern India. Rogaly states that some people who wish to stay where they are send a member of the family to another location as a seasonal migrant to work in order to support the home. The particular individual in the family who moves temporarily to work often changes over time. Suchitra and Rajasekhar (2006) find that the temporary and changing nature of jobs some workers (unorganized workers) in Karnataka engage in makes their employment insecure and therefore makes them vulnerable to spells of unemployment.

Normative assertions about migration exist in the literature, mostly outside of the economics discipline. For example, Howard (2006) discusses how welfare policies like "national basic income approaches" might be magnets for migration and therefore might lead to border restrictions in international cases. In the case of internal migration, local services might have a similar "magnetic" effect if they are only available in urban centers (Edwards 2007; Edwards & Natarajan 2007).

Taken together, the work on temporary migration shows that the phenomenon is widespread, present virtually everywhere in the world. In different places, the situations of individuals differ but in general the overriding reason for temporary migration presented in the economics literature is labor market work.

## Research Questions and Survey Instruments

In north and northwest Alaska, people live in three regional centers with fairly large populations (Barrow, Nome, and Kotzebue) and many smaller villages. Transportation between places is difficult and expensive due the general absence of roads, and jobs are difficult to find even in the two major resource production centers of the Red Dog mine and the Prudhoe Bay petroleum complex (Howe & Huskey 2007). As noted by Howe and Huskey (2007), the economy in the Far North is three-pronged: the market, public transfers, and subsistence. With little market work available, public transfers and subsistence activity necessarily take a larger role.

Almost all economic analysis of temporary migration completed so far indicates that temporary movements are job related. In Alaska, in addition to a seasonal job market environment in rural areas, temporary movements are also related to production activities (subsistence), which can be viewed as a non-market labor activity (Tomlinson 2005). Educational attainment has been shown to be a primary factor of temporary movements of people in Alaska, the U.S. in general, and in other countries (notably China), as education is an indicator of potential labor market success. Therefore,

labor theory is a good way to think about temporary migration. As far as economic models go, then, utility maximization (Edwards 2007) or household production models (Huskey, Berman & Hill 2004) fit quite well. Many other models might also be relevant, especially human capital models such as Roy's model of positive and negative selection. The focus of the present paper is the descriptive analysis offered by existing survey data, and so the particular theoretical model employed could easily vary from one research question to the next.

In general, explaining migration activity econometrically is a matter of choosing variables that are relevant to expected labor market success or economic need as independent variables for a discrete temporary migration dependent variable. Good candidates for independent variables are measures of income, education, and proxies for these (family demographic data, for instance). Because the surveys used for analysis typically have small sample sizes, econometric analysis is necessarily limited. Instead of modeling an econometric specification for every survey, the data are summarized and presented as stylized information of migration experiences. Where the sample size and variability warrants, multivariate analysis is conducted.

At the University of Alaska Anchorage (UAA), many researchers are engaged in a collaborative project investigating migration (Berman *et al.* 2006). A number of basic research questions regarding migration have emerged from this collaborative endeavor, including the following. (1.) How important are subsistence opportunities and community quality of life in the migration decision? (2.) How do the patterns of migration differ between places and over time? (3.) How does public policy influence migration decisions? While all three of these questions can be related to temporary migration, the first question is especially relevant in the case of Natives moving for subsistence harvest. The focus of the present paper, namely the movement of people seeking temporary employment, aligns best with the second question.

Temporary migration research questions identified by researchers engaged in the migration project at UAA include the following.

(1.) *Changes in available jobs.* There is a large literature demonstrating that people move toward job opportunities (Marshall 1993; Kuo & Lu 1975; Wonders & Brown 1984). As jobs become more scarce, people will migrate toward places where they believe jobs exist, such as urban areas. Some people might move toward job opportunities only temporarily.

(2.) *Changes in educational attainment.* The level of education might affect the decision to migrate insofar as the educational level is an indicator of the probability of success in the labor market (Stabler 1989). Kuo and Lu (1975) found that higher levels of vocational and technical training increase



the probability of moving. Huskey, Berman and Hill (2004) found an education effect among return migrants in Alaska.

(3.) *Differences in subsistence opportunities.* Nelson (1973) notes that Alaska Natives traditionally move if subsistence opportunities where they live diminish. Substantial changes in the North's economy and society have led to an evolution of activity, particularly due to urbanization (Alonso & Rust 1976). The diminished opportunity of urban dwellers to participate in the subsistence harvest might affect the decision to live in an urban environment. Location-specific human capital might also encourage return migration of people who had previously left rural areas for urban environments (Tunali 1996).

(4.) *Traditional orientation (language).* Familiarity of surroundings, family, and social institutions might be incentives to remain in rural areas, or to return to them (Wonders & Brown 1984). Marshall (1993) finds evidence that social and familial factors exert a large influence on individuals' decisions to migrate.

In the case of the present paper, only the first temporary migration research question is addressed directly. The second question might have an effect as well in that seasonal market work might be a necessary result of an individual putting a higher priority on subsistence activity than market work. The data analyzed, however, cannot sort this effect out, if it exists.

Migration rates in Alaska are quite high and therefore the subject of migration in Alaska is a potentially rich ground for investigation (Edwards 2007; Edwards & Natarajan 2009). Using Census data, Howe (2007) finds that gross migration of Alaska Natives in the Far North accelerated in 2000 compared to 1990. Migration was not evenly distributed across the Far North during this time period. Nome saw above average out-migration while Barrow and Kotzebue remained essentially the same. There is "sizeable" movement between villages, but the Census data do not reveal whether the movement was due to job seeking or other factors. The gender difference revealed is consistent with other research in the Circumpolar North: women are more likely to out-migrate than are men. The largest proportion of movers, both in and out, consists of the young (working age) population.

Because Census data do not indicate the reason for migration, the present study examines non-Census surveys. The surveys employed in this study are described briefly below, and the survey items of interest to the questions stated above concerning temporary migration are specified. See Fig. 1 for the coverage area of the surveys.

*Social Transitions in the North (STN).* These data were collected in four communities of Alaska's Northwest Arctic borough (Deering, Buckland, Kivalina, and Kotzebue) by the Institute for Social and Economic Research



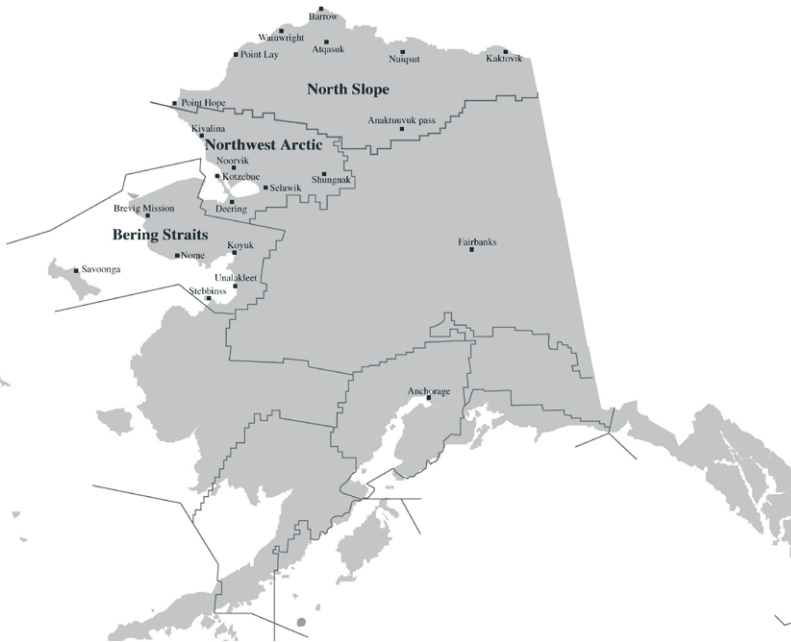


Fig. 1. Map of survey area (from Martin 2007).

(ISER) at the University of Alaska Anchorage in 1993 ( $n=171$ ), 1994 ( $n=124$ ), and 1995 ( $n=94$ ) (Martin 2006; Martin 2007). One series of questions (C15) asks specifically whether the respondent worked away from the community during the previous year. Another question (C15C) asks: “During how many months [indicate which ones] did you work two weeks or more away from home?” This latter question makes it convenient to define temporary migration as being more than two weeks away from the community for the purpose of market work. The two-week rule establishes a distinct difference between temporary migration (two weeks or more away) and commuting (less than two weeks away).

*Survey of Living Conditions in the Arctic (SLiCA)*, conducted by ISER in 2002. Twenty communities in the Bering Straits Census Area, Northwest Arctic borough, and North Slope borough provided 662 respondents (Martin 2007). The question (B6), “Why did you live somewhere else?”, helps sort out the reasons why respondents moved, as does the question (B7), “Why did you move back?” A question about temporary migration for market work (B9a) has a slightly different time dimension for temporary migration than the STN survey (one month instead of two weeks), but informs a similar question. One question (C21) asks whether the respondent, if the respondent could choose, would rather work a “wage job,” “harvesting, herd-

ing or processing your own food," or "both." This question has a possible interpretation of temporary employment, but does not necessarily indicate temporary migration.

*Buckland Census* (BC). The census of all 74 households in Buckland, Alaska, was conducted in 2003 by ISER, the Alaska Department of Fish and Game, and the National Park Service (Martin 2006; Martin 2007). This survey includes a question concerning the respondent's work schedule where one of the coded responses is that the work schedule is "irregular/as required." The response "irregular/as required" can have a temporary migration interpretation if the work location and residence location are sufficiently far apart. Data on both the respondents' residence locations and work locations were collected as part of the survey.

Much of the information gathered using these instruments remains unexplored. Of the three surveys, only the SLiCA data have been extensively analyzed. Recently, Martin (2007) has generated a set of five "stylized facts" from these surveys as follows (see Martin 2007 for a full description and discussion of these findings): (1.) Push and pull factors drive gender differences in Iñupiat migration; (2.) Many men who return [to a rural place] do as well or better than people who never left; (3.) Return migration benefits [rural] communities; (4.) Out-migration without a return flow is detrimental to communities; and (5.) A key influence on Iñupiat migration is the sending of subsistence food from rural to urban areas.

None of these five stylized facts mentioned by Martin deals with temporary migration for market work. The present paper is then a continued secondary data analysis of non-Census information collected during earlier research projects. Use is made of these data sources in an endeavor to address different questions than other researchers. Attention is focused on responses to survey questions that inform temporary migration decisions.

## Findings

One important note on the collected data is that women appear to be over-sampled in all three surveys. According to data circulated by the State of Alaska, men outnumber women in all three areas surveyed in north and west Alaska (State of Alaska 2007). However, in all three surveys more of the respondents are women than men. While this fact does not necessarily indicate a bias in the data, caution should nevertheless be observed when interpreting the apparent gender effects.

## Social transitions of the North (STN)

The STN survey examines temporary migration for market work directly. The relevant questions in the survey ask whether the respondent worked

away from the community in the previous year. For the purpose of this paper, individuals who maintain residence in one place while moving to another for two weeks or more in order to work are considered temporary migrants. As shown in Table 1, between 11.70 and 16.37 percent of the respondents overall fit the description of temporary migrants for reasons of market work.

In general, the percent of those surveyed who migrate temporarily for work declined between 1993 and 1995. There are also clear gender effects. In 1993, women migrated temporarily at a higher rate than men, and in 1994 and 1995 the opposite was true. For men, the rate of migration spikes dramatically in 1994, while for women the rate declines steadily. Table 2 displays the pattern of temporary migration for each month, disaggregated by gender. The rate of migration clearly depends upon the month, or season. Interestingly, the spike for men witnessed at the annualized level in Table 1

Table 1. Temporary migrants for work, Northwest Arctic Borough

	Percent Who Worked Away from Community Last Year		
	1993	1994	1995
Men	12.05	18.52	12.82
Women	20.45	14.29	10.91
Total	16.37	16.13	11.70

is largely due to increased activity toward the end of the year. In fact, migration rates for men are actually lower in 1994 compared to 1993 and 1995 for many months in the first half of the year. Similarly, for women the steady decline in the rate observed at the annual level is not as smooth when fluctuations are observed every month.

### Survey of living conditions in the Arctic (SLiCA)

The SLiCA survey also takes on temporary migration directly. One question asks whether the respondent has worked away from the community for more than one month. People who report being away for work for more than one month satisfy the two-week criteria for temporary migration, under the assumption that they maintain residence in the community where they were surveyed. Table 3 shows the results from the relevant SLiCA question for 2002.

Overall, 8.01 percent of the respondents report being away from the community to work on a temporary basis in 2002. This rate is considerably

Table 2. Temporary migrants for work, Northwest Arctic Borough, by month

		Percent Who Were Away More Than Two Weeks		
		1993	1994	1995
January	Men	3.61	0.00	5.13
	Women	2.27	2.86	0.00
February	Men	2.41	0.00	5.13
	Women	3.41	2.86	0.00
March	Men	2.41	0.00	7.69
	Women	2.27	2.86	0.00
April	Men	2.41	0.00	7.69
	Women	1.14	1.43	3.64
May	Men	4.82	1.85	7.69
	Women	2.27	2.86	0.00
June	Men	6.02	5.56	5.13
	Women	5.68	4.29	0.00
July	Men	8.43	5.56	5.13
	Women	4.55	2.86	1.82
August	Men	6.02	5.56	5.13
	Women	6.82	5.71	0.00
September	Men	6.02	5.56	5.13
	Women	5.68	2.86	1.82
October	Men	6.02	9.26	7.69
	Women	2.27	4.29	3.64
November	Men	6.02	1.11	2.56
	Women	2.27	5.71	3.64
December	Men	4.82	5.56	2.56
	Women	2.27	4.29	1.82

lower than what is reported in the STN survey for 1993–1995. Men migrated temporarily at a higher rate than women, according to the SLiCA results, as did the STN respondents in both 1994 and 1995. Unlike the STN survey, the SLiCA survey asked respondents to report other reasons for being away from the community. As shown in Table 3, work is the fourth most common reason for being away overall after vacation, family, and the catch-all “other” category. The rate of migration for market work was about the same as for subsistence activities of “Hunting, fishing, trapping, or gathering,” and was substantially higher than leaving the community temporarily for education.

Table 3. Away from community more than one month, SLiCA Region, 2002

Percent Away More Than One Month, by Reason and Sex			
	Men	Women	Total
Work	10.60	6.07	8.01
Education	7.07	6.07	6.50
Illness	3.53	5.54	4.68
To go to a camp or cabin	7.42	6.60	6.95
Vacation	14.13	13.98	14.05
Family	10.60	13.98	12.54
Hunting, fishing, trapping, or gathering	9.19	6.86	7.85
Other	7.77	8.71	8.31

The SLiCA data set is large enough and contains enough relevant questions to potentially provide reliable parameter estimates of factors that contribute to temporary migration. The natural statistical method for analysis in this context is the probit model, because it generates estimates of how characteristics of the respondent change the probability of leaving the community temporarily for market work. In addition to the probit estimation, three other estimations were made for comparison: linear regression (linear probability model), logit, and tobit. All models were estimated using STATA statistical software employing standard designs that correct for heteroskedasticity. The dependent variable is the response to the question (B9a) of whether the respondent was away for work more than one month.

In Table 4, the results of regression analyses are reported. The four different methods employed all yielded roughly the same results. Because the variables that are statistically significant are the same in every estimation and the marginal effects are very similar, only the probit results will be discussed. As above, the dependent variable is whether the respondent was away from home for work for more than one month. Independent variables are: age, sex (male=1), whether subsistence hunting or fishing was engaged in by the respondent (yes=1), whether the respondent had a full time job (yes=1), whether the respondent considered moving away from the community (yes=1), education level, general health (self-reported), household income from wages, and the respondent's general satisfaction with life. The statistically significant variables are sex, having a full time job, and household income from wages. Consistent with the figures in Table 3, the probit results indicate that men are more likely to be away for work than are women. Having a full time job is also a positive predictor of working away from the community and may indicate that full time jobs are scarce in many locations, leading to residents choosing to migrate temporarily for work. While

the coefficient of the household income from wages variable is statistically significant, it is small in magnitude and negative in value. The negative coefficient means that as household income from wages increases, the probability that the respondent works away from his or her village declines. One interpretation of this outcome is that local jobs, while scarce, pay relatively better than jobs respondents migrate to acquire.

The multivariate results are robust. The general agreement of the four estimation techniques, and the statistical significance of the F-tests for all four, suggest confidence in the values of the statistically significant parameter estimates. The pseudo  $R^2$  value 0.159 in the probit model indicates approximately that sixteen percent of the variation in the dependent variable is explained by the independent variables. Many of the explanatory variable coefficients are not statistically significant, a common result when using cross sectional survey data. It is surprising that age and education do not seem to play a big part in the decision to take a job away from one's home village. A possible explanation of this is that respondents do not vary sufficiently in these characteristics to determine the influence that age and education have on the migration decision.

### Buckland Census (BC)

The BC survey does not ask explicit questions about temporary migration for market work. It does, however, ask questions about work schedule, and the location of the respondents' residence and place of work. Combining these questions, respondents who worked an irregular/as required schedule at a job in a location different from their place of residence would be temporary migrants for market work as long as the location of the residence and the place of work were sufficiently distant from each other to require temporary relocation. In examining the BC data no evidence of temporary migration was uncovered. Specifically, no respondent reported working an irregular/as required schedule in a location sufficiently far away from her/his residence to require temporary relocation. The rate of temporary migration in the BC survey, then, is the lowest of all the surveys: zero.

### Conclusions

A reasonable assumption about migration is that people move from one place to another only if they expect to be better off in the new place. Otherwise, the decision to move would be perverse. What makes a person "better off" depends on the individual. Migration has been studied by many researchers who have uncovered a wide variety of reasons for migration including family considerations, traditional cultural activities, and job opportunities.

Table 4. Regression results for SLiCA data, dependent variable: Away for work

Variable	Linear regression	Probit [marginal effect]	Logit [marginal effect]	Tobit
Age	-0.001 (0.002)	-0.005 [-0.002] (0.007)	-0.007 [-0.001] (0.013)	-0.002 (0.002)
Male	0.130* (0.061)	0.445* [0.129] (0.212)	0.799* [0.128] (0.368)	0.168* (0.079)
Subsistence hunting or fishing	0.071 (0.062)	0.224 [0.063] (0.218)	0.469 [0.072] (0.395)	0.096 (0.078)
Full time job	0.210* (0.061)	0.859* [0.216] (0.272)	1.642* [0.222] (0.567)	0.268* (0.077)
Considered moving away	-0.036 (0.070)	-0.067 [-0.019] (0.237)	-0.227 [-0.035] (0.421)	-0.054 (0.088)
Education	-0.027 (0.040)	-0.117 [-0.033] (0.134)	-0.188 [-0.029] (0.237)	-0.035 (0.050)
Health	-0.002 (0.031)	-0.019 [-0.005] (0.103)	-0.021 [-0.003] (0.182)	-0.002 (0.038)
Household income from wages (000)	-0.002* (0.000)	-0.005* [-0.001] (-0.002)	-0.009* [-0.001] (0.004)	-0.002* (0.001)
Satisfaction with life	-0.001 (0.037)	-0.008 [-0.002] (0.124)	-0.006 [-0.001] (0.208)	-0.003 (0.045)
Constant	0.843* (0.206)	1.173* (0.733)	1.801* (1.312)	0.818* (0.260)
F-statistic	3.91*	2.78*	2.54*	3.34*
Adjusted R2	0.166			
Pseudo R2		0.159	0.163	
Number of observations	198	198	198	198

\*Statistically significant at 0.05 or less; standard error in parentheses.



One way to balance non-job considerations against the need for wage income is to move to another place temporarily for a job opportunity. By making a temporary move, an individual can maintain his or her residence in a community, thereby retaining place level amenities, family relationships, traditional activities, and so on. Temporary migration for market work might be an especially attractive solution for people who have strong community ties but few job opportunities.

Census data, while containing a wealth of information, do not reveal much about temporary migration. Some surveys conducted in recent years in Alaska's far north and west regions ask specific questions about temporary migration. Information from these surveys helps fill in the spaces left by the Census data with respect to temporary migration.

Overall, temporary migration rates vary from about eight percent to sixteen percent. Comparing these results with other work on migration in the same Alaska communities (as in Howe & Huskey 2007), the type of temporary migration described here accounts for as much as twenty-five percent of total migration in some cases. Men, in general, migrate temporarily for work at a higher rate than do women. Substantial fluctuation of the temporary migration rate occurs on a month-to-month basis, and the rates of temporary migration are different in different communities and in different years. In the case of the Buckland survey, the respondents reported that no temporary migration occurred at all during the survey period.

While this analysis reveals some information about temporary migration in Alaska, more work is clearly needed. The best approach is to design a survey specifically to address questions of temporary migration. Useful survey questions would be ones that separate the decision to migrate temporarily from long distance commuting. Questions that address directly whether temporary migration is a solution to the desire to maintain residence in a particular place in the face of limited local employment opportunities would be especially helpful. Data collected from such a hypothetical survey could reveal more of the dynamic decision processes temporary migrants engage in when contemplating non-permanent relocations for the purpose of market work.

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