A Mixed-Motives Model of Private Transfers with Subjectively-Assessed Recipient Need: Evidence from a Poor, Transfer-Dependent Economy

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Abstract

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1. **Introduction**

In an important departure from earlier models of private transfer derivatives Cox and others introduced a mixed-motives model (Cox, 1987; Cox, Eser and Jimenez, 1998; Cox, Hansen and Jimenez, 2004). For them, the donor's transfers are driven by both altruism and exchange motives. At low income levels below some threshold altruism is the dominant motive and the relationship between the recipient's income and the level of transfers is negative. Once the threshold level is reached and the exchange motive takes over, the relationship changes. The main implication is the hypothesized non-linear relationship between transfers and recipient income. They test their model by estimating a spline function as opposed to the conventional linear model, using data from the Philippines. Their spline model uncovers a much stronger, negative relationship for pre-transfer recipient income below the threshold than that estimated in previous studies. They thus conclude that crowding-out of private transfers is likely to thwart public welfare programs for the poor.[1]

Given the absence of the required information to determine, *a priori*, the threshold level of income at which to set the knot-point of their spline function, Cox *et al* (2004) estimate their model using non-linear least squares (NLLS), treating the threshold income level as an unknown. In defence of this approach they argue that because the estimated threshold was very close to the official poverty line for the Philippines, it could be interpreted as a reasonable indicator of the households' perceived' threshold poverty line; that is, as some form of subjectively-assessed 'minimum consumption bundle' (Cox *et al;* p.2210). The case for a transfer derivatives model based on recipients' subjectively-assessed needs is appealing. However, their assumption of a subjectively-assessed threshold set at some absolute income level that is common across all households is difficult to justify theoretically which they acknowledge as one of the limitations imposed by their dataset (p.2215).

In this paper we extend the mixed-motives model by incorporating explicitly, subjectively-assessed recipient need in place of a given, absolute income threshold at which the donor's dominant motive switches from altruism to exchange. This

[1] See Gibson *et al* (2006) and Kazianga (2006) who also test empirically mixed-motive models of transfers. In neither case do they find evidence of both motives.

refinement has the advantage of providing a theoretically justifiable basis for setting the knot-point of the estimated spline function that is both consistent with recent literature on relative deprivation and subjective welfare, and amenable to empirical measurement independently of the econometric estimation of the model.

We then test the extended mixed-motives model with household data from Tonga based on a customized questionnaire that included questions specifically to gauge households' self-assessed 'adequate' level of income. When we estimate the mixed-motives model using our *Subjective Income Gap* variant we also find evidence of a strong negative relationship for income levels below the threshold level, but, in addition, we find a statistically significant *positive* relationship between transfers and recipients' welfare for income levels above the threshold level. This we interpret as evidence of the exchange motive dominating transfer behavior once the welfare of the household ceases to be the main concern of the donor. Furthermore, when we re-estimate the spline function using the same dataset but with the threshold income level set as a constant across all households, as in Cox *et al* (2004), it is found that the estimated coefficients for the spline are substantially smaller and no longer statistically significant. These findings lead us to conclude that either crowding-out or crowding-in of private transfers can occur when recipient welfare improves, depending on where the household's pre-transfer welfare level is in relation to the subjectively-assessed threshold level. This also has implications for the distributional impact of private transfers and could explain why programs of effective poverty alleviation are often accompanied by increased income inequality.

Section 2 presents the econometric specification of the extended mixed-motives model and shows how subjectively-assessed need is formally introduced. Section 3 presents some descriptive data from the Tongan survey and discusses the econometric estimations, including an instrumental variable strategy to test for potential endogeneity. In section 4 conclusions are presented.

2. Model Specification

The concept of 'subjective welfare' and models of private transfers motivated by recipient households' subjectively-assessed need, rather than by some externally-

derived 'objective' poverty line, is not new to the income transfers literature.[2] Kaufman and Lindauer (1986) for instance posit and test empirically a model of private transfers in which they introduce the notion of a 'required' income level that varies across households belonging to different reference groups or 'networks'.[3] However, this model assumes a single dominant altruism motive and does not allow for a switch to the exchange motive once the threshold welfare level is reached.

A subjectively-assessed measure of welfare provides an obvious and explicit threshold welfare level for determining, in a mixed-motives model, the knot-point at which the donor's dominant motive switches from altruism to exchange. Below this threshold, altruistic concerns prevail because the donor regards the household's pre-transfer income to be inadequate to provide for the required standard of living. It is then reasonable to assume that transfers are aimed at increasing the household's welfare. For this reason the recipient household's participation constraint will be non-binding in the altruistically-driven donor's program. At pre-transfer income levels above the threshold the donor has no reason to be concerned about the recipient household's level of welfare, which is deemed adequate. Here the exchange motive becomes dominant at the margin. Under exchange the recipient household's participation constraint will be binding in the donor's program.

If, for each household, the subjectively-assessed needs and associated threshold income level are known, the main regressor in the model can be expressed as the *difference* between the respective household's threshold and pre-transfer welfare level. From the donor's point of view the recipient household's utility becomes a function of a variable (which we label $CGAP_h$) that measures the difference between the household's actual consumption levels (C_h) and a 'subjective living norm' (A_h). The basic elements of the donor's maximization program in the model of Cox *et al* (2004) therefore remain unchanged, but with the household's absolute level of pre-transfer consumption substituted by a new subjective welfare variable $CGAP_h$. The extended model can be re-written:

[2] For a comprehensive discussion of the theoretical and applied literature on private transfers see Cox and Fafchamps (2008).
[3] For a comprehensive discussion of the issue of subjectively-assessed poverty and/or relative deprivation in the economics literature see for instance Easterlin, (1995) Blanchflower and Oswald (2004); Fafchamps and Shilpi (2008).

$$\underset{T,S}{Max} U_d\left[C_d, S, V\left(CGAP_h, S\right)\right] \quad (1)$$

where,

U_d = donor's utility

T = transfers provided by the donor to the recipient household

S = services provided to recipient household to the donor

C_d = donor's consumption

V = recipient household's utility from the donor's point of view

$CGAP_h$ = recipient household's subjective consumption gap

The equivalent of this variable in income terms is the 'Subjective Income Gap' (we use the acronym $IGAP_h$, that is, the difference between household income from all sources (Y_h), and what the household and donor consider the amount required for an adequate standard of living (I_{min}). In effect, the predictions of the mixed-motives model of Cox *et al* (2004) regarding the relationship between household welfare and transfers remain the same, but with a theoretically justifiable knot-point for the spline function, where $IGAP_h$ is equal to zero. We label this the 'S*ubjective Income Gap*' model, as distinct from the original formulation of Cox *et al* which we label here the '*Absolute Income*' model.

The hypothesized relationship between transfers and *IGAP* is depicted in Figure 1. For the 'subjective poor' households, that is those with a negative *IGAP*, transfers are hypothesized to be driven by altruism. However once the threshold *K* is reached, at *IGAP* equal to zero, transfers become exchange driven and the relationship is positive.[4]

Following Cox *et al* (2004), a spline rather than linear specification for the subjective income gap variable is used in formulating the transfers equation (1). Formally, the objective is to estimate the following transfers equation:

$$T_i = \beta_1 + \beta_2 X_i + \beta_3 Z_i + \beta_4 IGAP_i + \beta_5[(IGAP_i - K_i) * dK_i + u_i \quad (2)$$

[4] Cox *et al* (2004) show that under exchange transfers could increase or decrease with recipient pre-transfer income, depending on the donor's price elasticity of demand for the household's services. If it is assumed that there is no close market substitute for the household's services, the donor's demand for these services is likely to be relatively price inelastic in which case a positive relationship between the recipient's income and the donor's transfers can be expected

Where:

T_i = international transfers received by the household[5]

X_i = Vector of household variables

Z_i = Vector of migrant variables

$IGAP_i$ = Household subjective income gap = actual income *less* required income

K_i = Knot-point = 0

dK_i = 1 if $IGAP_i >= K_i$, 0 otherwise

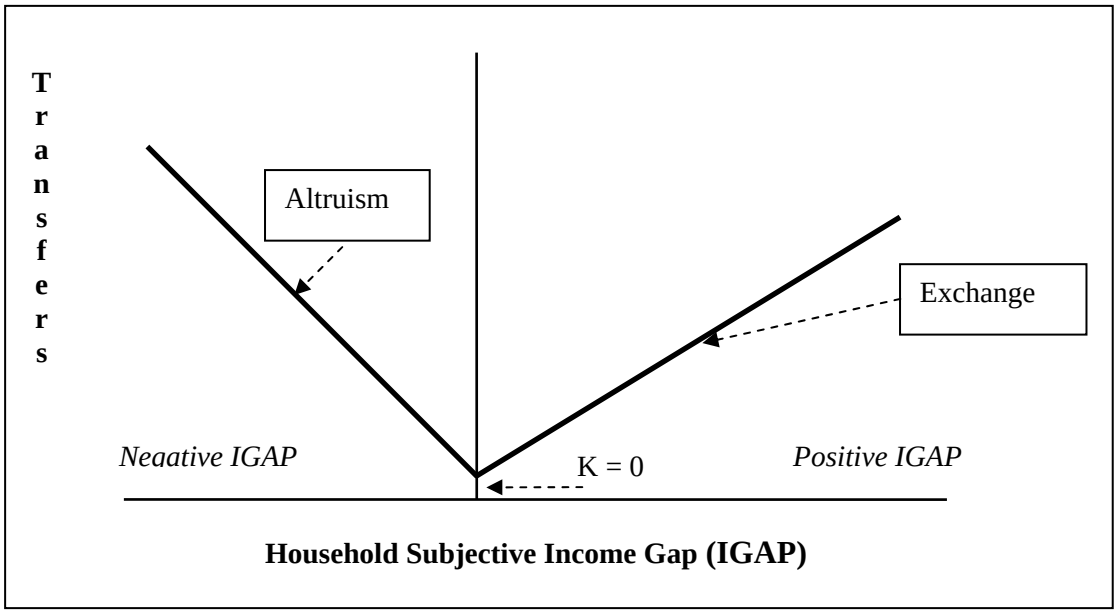

Figure 1 Relationship between Transfers and the Subjective Income Gap

3. Data and econometric estimation

The survey data

We use data from a customized household survey designed and implemented by the authors as part of a World Bank study in 2005 in the South Pacific island country of Tonga.[6] Tonga is a relatively poor country with a virtually non-existent public welfare system and with households highly dependent on private transfer income, almost exclusively from international migrants. The sections of the survey on household income and transfers applied to the year 2004, and included the 'minimum income question', which asked the respondent about the amount of cash income that "a

[5] As the survey did not collect data on the transfers of each individual donor this study focuses on total transfers received by households from international migrants.

[6] For details of this survey and a more extensive discusión of the descriptive data see World Bank (2006).

household like yours' would require just to get by." This question was included specifically to allow for the empirical estimation of a knot-point for the spline function in a mixed-motives model. The survey also collected information on crops, livestock and fishing activities which was used to estimate household subsistence income. This was added to the required cash income estimate to derive the household's total minimum required minimum income. This was then used as the threshold income level to calculate, for each household, the subjective income gap variable (*IGAP*).

In total 500 households were sampled. As expected, the survey data revealed a high incidence of migrant households (58%). Almost 90 per cent of households received transfers from international migrants, indicating that many households without migrants also benefited from migrant transfers. The mean level of transfers received by receiving households in 2004 was U$3,067. As expected higher levels of transfers were reported by households with at least one international migrant; U$3,900 compared to U$1,597 for households without a migrant.

Table 1 shows the mean levels of transfers for households in the poorest 40%, the middle 40% and the richest 20%, categorized in accordance with the size of the subjective income gap variable (*IGAP*), on the one hand, and the absolute income level on the other. As predicted by our modified version of the mixed-motives model, the poorest 40% of those classified using *IGAP* reported average transfers per household substantially higher ($3,281) than those in the middle 40% group ($1,819).[7] When comparing the transfers received by the middle and richest *IGAP* groups, it can be seen that the latter were 47% higher.[8]

In comparison, when households are classified according to absolute income rather than subjective income gap, the poorest 40% reported mean transfers only slightly higher (not statistically significant) than those in the middle income category.[9] Transfers to the richest 20% were only 24% higher than those observed for

[7] Difference significant at the 1% level: t-statistic =4.56, degrees of freedom = 398, p-value 0.000.
[8] Difference significant at the 1% level: t-statistic =3.30, degrees of freedom = 298, p-value 0.000.
[9] Difference not statistically significant at conventional levels: t-statistic =0.32, degrees of freedom = 398, p-value 0.376.

households in the middle income category.[10] These differences suggest that the *Subjective Income Gap* variant of the mixed motives model might better uncover the donors' mixed motives than the *Absolute Income* version of Cox *et al* (2004).

Table 1 Transfers Received by Income Category (US$, 2004)

Household Category	Mean Household Transfers Received*	
	Subjective Income Gap	Absolute Income
Poorest 40%	3,280.6 (3,968.4)	2,629.0 (3,433.0)
Middle 40%	1,819.0 (2,197.2)	2,523.4 (3,229.4)
Richest 20%	3,448.5 (6,273.8)	3,343.1 (6,196.0)

*Standard deviations in parentheses.

Explanatory variables

A description of the variables used in the empirical estimation is provided in Table 2 and their means and standard deviations are reported in Table 3.

Four alternative econometric models were estimated. In the first two models the main regressor is the *IGAP* variable. The second set of models follows Cox *et al* (2004), in which the principal regressor is the absolute income level of the recipient household. Within each of these models we estimate two specifications; a linear and a non-linear, spline model for comparative purposes and to test the robustness of the results for our preferred *IGAP* model. For the *IGAP* model the theoretically specified knot-point is set at the threshold where actual income is equal to the household's subjective 'required income'; i.e. where the variable *IGAP* is equal to zero. For the *Absolute Income* model[11] the knot-point is set, following Cox *et al* (2004), at a fixed threshold

[10] Difference statistically significant at the 10% level: t-statistic =1.51, degrees of freedom = 298, p-value 0.07.

[11] The *IGAP* variable in the transfers equation (2) is substituted by the absolute level of household income (Y). In the remainder of this paper we refer to the two spline variables, 'below the threshold' as β_4 and 'above the threshold' as β_5.

income level across all households, in this case at a household-level poverty line of US$3,757 per annum.[12]

Table 2 Variable Definitions

Variable	Variable description
Migrant transfers	International transfers received by household in all forms, cash and in-kind (US$)
Household income	Total household income from all sources excluding migrant transfers (US$)
Subjective Income Gap (IGAP)	Required income minus household income excluding migrant transfers (US$)
Outer-island	Dummy for household in outer-island (=1 if yes, otherwise 0)
Household Size	Number of household members, excluding migrants (No.)
Major Social Ceremony	Dummy for wedding or funeral in household (=1 if yes, otherwise 0)
Migration Status	Dummy for household with migrant overseas (=1 if yes, otherwise 0)
Migrant Length of Stay	Average length of stay of overseas migrants for the household (yrs)
US Migrant	Dummy for migrant in US (=1 if yes, otherwise 0)

Table 3 Descriptive Statistics

	Sample (n = 500)		Recipients (n= 445)		Non-Recipients (n = 55)	
	Mean	St. Dev.	Mean	St. Dev.	Mean	St. Dev.
Migrant transfers	2,729.55	4,070.89	3,066.91	4,193.80	0.00	0.00
Household income	4,916.19	9,750.12	4,913.97	10,106.27	4,934.11	6,219.14
Subjective Income Gap (IGAP)	799.01	9,275.72	699.77	9,635.65	1,602.01	5,561.26
Outer-island	0.25	----	0.21	----	0.55	----
Household Size	5.45	2.92	5.54	2.88	4.71	3.15
Major Social Ceremony	0.07	----	0.07	----	0.09	----
Migration Status	0.58	----	0.64	----	0.13	----
Migrant Length of Stay	5.70	6.60	6.23	6.65	1.37	4.19
US Migrant	0.26	----	0.28	----	0.07	----

---- not applicable

An explanation for the choice of control variables is in order. A dummy variable identifying households on the outer-islands was included to control for the cost of sending transfers to remote locations. Due to the negative cost-elasticity of remittances (Gibson *et al*, 2006), this variable is expected to have a negative effect on

[12] We use instead an estimate of the household poverty line based on the median value of the households' self-assessed 'required income' from our survey data as the knot-point of the spline function. We use this measure in line with the interpretation of the knot-point as a threshold poverty line 'perceived by households' as some form of subjectively-assessed 'minimum consumption bundle' (Cox *et* al, 2004; p.2210).

transfers received due to the higher cost of transfers for those not living on the main island. The model also controls for household size, as it is expected that the larger the household, the more requests for transfers the migrants will receive. Due to potential endogeneity concerns, this variable was excluded in alternative specifications and reassuringly the results did not change.[13] A dummy variable identifying those households that had at least one of their members living abroad was also included. Although a high proportion of households without migrants also received transfers, preliminary descriptive analysis showed that the level of transfers received by households with international migrants is substantially higher (World Bank, 2006).

To control for the income level of the donor, as we did not have data on the individual migrants' income,[14] we used the presence of migrants in the United States as a proxy. The US has traditionally been the preferred destination for Tongan migrants because it is often associated with higher levels of income than the other two common destinations, New Zealand and Australia (Lee, 2003). The model also controls for migrants' length of stay abroad, as there is a general concern in the migration literature over so-called 'remittance' decay'. As major, financially-demanding social ceremonies such as weddings and funerals are of paramount importance in traditional societies like Tonga their occurrence is likely to induce additional transfers from migrants.[15] A variable controlling for the occurrence of a wedding or funeral in the household in the year preceding the survey (2004) is included in the model.

Endogeneity testing

We use instrumental variable techniques to test for possible endogeneity of the subjective income gap and absolute income variables in the linear specifications. The excluded instrument in both cases is a variable identifying the proportion of households in the community with their own flush toilet. We expect this variable to be correlated to household income and subjective income gap, implying that households living in communities where the use of flush toilet is more widespread would be more

[13] Available from the authors on request.

[14] As discussed in Kazianga (2006), if the incomes of donors and recipients are correlated, failing to control for the donor's income could lead to omitted variable bias. See also Altonji *et al* (1997) where altruism is modelled and tested in relation to simultaneous changes in income of both donor and recipient.

[15] Embarrassment, social ostracism and loss of prestige afflict households not able to comply with the local customs, resulting in households having to resort to excessive measures to cover such expenses (Krishna, 2004).

likely to have higher levels of welfare as measured by income and subjective income gap (*IGAP*). We do not expect the proportion of households in the community with their own flush toilet to influence the amount of private transfers received, except indirectly through the household's welfare. Moreover, we do not expect the instrument to be correlated with migrant transfers through some unobserved characteristics of the household, such as entrepreneurial capacities, by including a control for the presence of overseas migrants in the household. Appropriate statistical tests support the validity of this instrument in both models.[16] The instrument was also found to be strong in both models, with a first-stage F-statistic[17] of 22.2 for the *IGAP* model and 19.33 for the *Absolute Income* (*Y*) model. We also tested the hypothesis that the main variables of interest in each model (*IGAP* and *Y*) are not correlated with the error term of the migrant transfers equations, that is, that they can be treated as exogenous. The null hypothesis could not be rejected with robust Chi-Square statistics of 0.05 (p-value = 0.83) and 0.15 (p-value = 0.70) for *IGAP* and *Y*, respectively.[18] Since exogeneity could not be rejected, it is reasonable to expect the standard OLS estimates to be unbiased, consistent and efficient[19] and therefore we proceed with these estimates.[20]

Regression results

The results of the four different models are reported in Table 4 with our preferred model in the second, shaded column. In all cases the equations were estimated using OLS regression analysis, where the standard errors were calculated taking into

[16] To test the validity of the instrument the Sargan overidentification test was used. This required the use of an additional instrument, the average household income in the community, which was also included in an alternative specification of the model. According to the Hansen J-statistic we could not reject the hypothesis that the instruments are uncorrelated with the error process (p-value of 0.742 for the *IGAP* model and p-value of 0.741 for the *Absolute Income* model). Reassuringly in these specifications the first-stage F-statistics are also strong and exogeneity of the subjective income gap and household income variables could not be rejected. Results available from the authors on request.

[17] Statistic robust to heteroskedasticity and clustering. Since a community-level instrument is used, standard errors are clustered at the community level.

[18] The estimated coefficients using two-step efficient Generalized Method of Moments (GMM) models were also very similar to those reported for the linear OLS models in Table 4. See Appendix Table 1 for detailed results.

[19] Wooldridge, 2003, p.631; Wooldridge, 2002, p.223.

[20] Due to transfers being a censored variable, Tobit, rather than OLS models are commonly estimated. However, in this instance, given that less than 10% of households did not record receipt of migrant transfers, OLS models were estimated.

account a possible correlation of errors across households from the same community (PSU). The standard errors reported are the 'robust' Hubert/White-adjusted estimates.

Table 4 OLS Regression Results for Transfers Models

Dependent Variable	**Subjective Income Gap Model**		**Absolute Income Model**	
(Migrant transfers)	**Linear**	**Spline**	**Linear**	**Spline**
Subjective Income Gap (*IGAP*)$^{+}$	0.057	-0.469***	----	----
	(0.088)	(0.100)		
Positive *IGAP*$^{++}$	----	0.574***	----	----
		(0.172)		
Household Income^{+}	----	----	0.076	-0.263*
			(0.091)	(0.142)
Income Above Threshold^{+++}	----	----	----	0.358
				(0.229)
Outer-island	-1141.088***	-773.377**	-1023.818***	-1042.329***
	(315.335)	(328.872)	(327.480)	(329.474)
Household Size	54.271	4.035	28.913	78.062
	(82.554)	(78.268)	(95.439)	(79.127)
Major Social Ceremony	2340.093	2328.393*	2256.793	2328.158*
	(1402.913)	(1291.112)	(1299.950)	(1327.350)
Migration Status	3047.776***	2970.423***	3033.059***	3029.220***
	(611.329)	(583.973)	(597.432)	(581.992)
Migrant Length of Stay	-115.722**	-104.046**	-115.713**	-117.231**
	(50.146)	(50.263)	(48.515)	(49.431)
US Migrant	538.081*	500.838*	533.929*	531.581**
	(271.254)	(253.129)	(267.278)	(255.280)
Constant	1151.056**	506.693	949.974*	1447.852**
	(496.3253)	(478.563)	(518.473)	(582.887)
No. Observations	500	500	500	500
R^2	0.182	0.251	0.197	0.209

Standard errors in parentheses clustered at the community (PSU) level.
*** significant at 1%; **significant at 5%; * significant at 10%
---- not applicable;
+ in spline model coefficient β_4 in equation (2) applies to households below the threshold level;
++ Slope for households above the threshold level = sum of coefficients on *IGAP* and *Positive IGAP* or, $\beta_4 + \beta_5$ in equation (2).
+++ Slope for households above the threshold level = sum of coefficients on *Household Income* and *Income Above Threshold* , or, $\beta_4 + \beta_5$ in equation (2).

On the one hand, the results reinforce the findings of Cox *et al* (2004) that failing to allow for the non-linearity of the relationship between recipient household welfare and transfers could lead to the conclusion that transfer motivations are exchange dominated. Under the mixed-motives model, we expect the coefficient on the variable for income below the threshold to be negative since altruism is the dominant motive for these households. This prediction is confirmed by the results of the spline model where we find in both specifications that the coefficients on income levels below the threshold level are negative and statistically significant, indicating the dominance of

altruistic motivations when recipient households' income falls below the threshold level. Conversely, in both the *IGAP* and *Absolute Income* variants of the linear models, the signs on the income coefficients are positive, relatively much smaller, and are not statistically significant.

On the other hand, the results also indicate that setting the knot-point using a theoretically justifiable and empirically estimated subjective threshold income level for each individual household, as opposed to one held constant across all households in the cross-section, provides results that are more consistent with the predictions of the mixed motives model, as shown by the graph of predicted transfers in Figure 2.

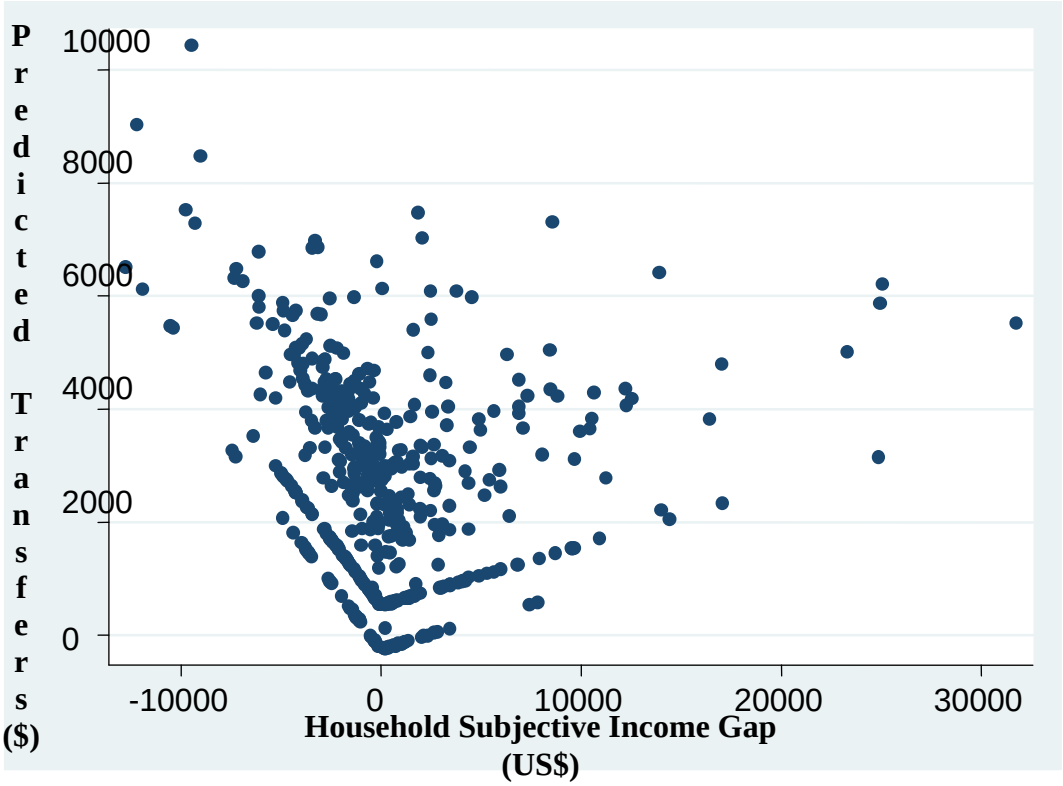

Figure 2 Predicted Transfers and the Subjective Income Gap

In interpreting the results it should be noted that the coefficient β_4 in equation (2) [21] gives the slope for households below the respective threshold level, while the sum of β_4 and β_5 [22] gives the slope for households above this threshold. Here, we expect the

[21] The coefficient on *IGAP* and *Household Income* in the two models respectively
[22] The coefficient on *Positive IGAP* and *Income Above Threshold*.

slope for the latter to be positive, since exchange is predicted to be the dominant motive for the relatively well-off households.

We find, first, that altruistically-motivated transfers appear to be substantially more responsive to household need when the subjective welfare measure (*IGAP*) is used (-0.469) as opposed to absolute income (-0.263). Second, for income levels above the threshold, the subjective income gap model uncovers a statistically significant *positive* relationship with transfers, indicating that the exchange motive becomes dominant as predicted by the mixed-motives model. The estimated slope for the subjective income gap model is 0.105 (0.574 – 0.469). In contrast, the results for the A*bsolute Income* model indicate that the coefficient on the *Income Above Threshold* variable (β_5), although also positive, is not statistically significant at conventional levels. This implies that when the threshold is set in terms of absolute income rather than our subjective need measure, linearity cannot be rejected in favor of a spline specification.

6. Conclusions

Our extension of the mixed-motive transfers model of Cox *et al* (2004) introduces a subjectively-assessed threshold income level providing a theoretically justifiable knot-point for the spline model that can be measured through appropriate design of the survey instrument. When tested empirically this model produces results that are unambiguously more consistent with the mixed-motives model than the alternative, single-motive linear model. Our *Subjective Income Gap* model also uncovers a higher degree of responsiveness of altruistically-motivated transfers to recipients' income for those households below the threshold in comparison with the *Absolute Income* model. This suggests that the crowding-out effect on private transfers of improved welfare levels among the poorer households might be stronger than previously estimated.

Perhaps more interestingly, the uncovering of a statistically significant positive relationship for households above the threshold when applying the *Subjective Income Gap* model, suggests that a degree of crowding-in of private transfers, driven by the hypothesized exchange motive, applies to these households; in the Tongan case, approximately 10 cents for every additional dollar of recipient household income

above the threshold. It is noteworthy that when the *Absolute Income* model was tested the coefficient on the spline function above the threshold was not statistically significant, implying that with this formulation of the mixed-motives model the conventional linear model cannot be rejected in favor of a spline specification.

Another implication of our findings, from a migrant-sending developing country perspective, is that any loss of potential migrant transfers, and therefore, of scarce foreign exchange inflows, arising from an improvement in welfare of the poorest could be offset by a compensating increase in transfers to households above the threshold. The extent to which this occurs will depend also on how the migrant households are distributed between those below and above the threshold welfare level. This also raises the possibility that effective poverty-alleviation policy interventions that reduce the proportion of households below the threshold, result in a shift in the distribution of private transfers in favor of the better-off households. This could also explain why poverty reduction is not always associated with reduced income inequality (Kanbur, 2005).

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Appendix Table 1 IV Regression Results for Linear Transfers Models

Dependent Variable (Migrant transfers)	**Subjective Income Gap Model**	**Absolute Income Model**
Subjective Income Gap (*IGAP*)	0.032	----
(Instrumented)	(0.115)	
Household Income	----	0.031
(Instrumented)		(0.111)
Outer-island	-1157.659***	-1113.526***
	(331.965)	(405.628)
Household Size	51.803	40.328
	(84.196)	(89.869)
Major Social Ceremony	2396.512	2379.418
	(1402.913)	(1554.686)
Migration Status	3072.742***	3074.51***
	(641.327)	(637.75)
Migrant Length of Stay	-114.470**	-114.066**
	(48.217)	(47.722)
US Migrant	528.638*	523.874*
	(279.759	(274.722)
Constant	1167.227**	1087.646*
	(511.087)	(635.498)
No. Observations	500	500
R^2	0.179	0.187

Standard errors in parentheses clustered at the community (PSU) level.
*** significant at 1%; ** significant at 5%; * significant at 10%
---- not applicable;