

Received: 17 June 2022 Accepted: 9 August  
 DOI: <https://doi.org/10.33182/ml.v19i6.2425>

## Proximity-Sensitive Relative Deprivation and International Migration Intentions

Amany A. El Anshasy,<sup>1</sup> Mrittika Shamsuddin,<sup>2</sup> and Marina-Selini Katsaiti<sup>3</sup>

### Abstract

*This paper aims to re-examine the relation between relative deprivation (RD) and international migration intentions when people demonstrate asymmetric proximity preferences towards higher-income reference individuals on the income ladder. We consider three cases: the conventional linear case, in which all comparisons with higher-income individuals have equal weight; the rising proximity preferences, in which individuals assign increasing weights to reference groups as they get closer on the income ladder; and when individuals are more sensitive to income changes of the far wealthier. We use Gallup's individual-level survey data on 129 countries, between 2009 and 2017. We find that the international migration-RD relation depends on the proximity preferences along the income distribution and across risk-tolerance levels. The common wisdom that people migrate to enhance their relative positions is found robust only among the poorest and the more risk-tolerant populations, under different proximity preferences assumptions. This paper provides deeper understanding on how policies directed to reducing income inequality and poverty may impact migration outcomes in sending countries when the target population exhibits proximity-sensitive RD.*

**Keywords:** Relative Deprivation; International Migration; Proximity Sensitive Measures; Gallup World Poll

JEL classification: F22, D31, D33, D63

### Introduction

It has been established that household members recognize intragroup inequality and hence migrate to enhance their *relative* position vis-à-vis a specific reference group, and not just in search of higher absolute earnings (Stark, 1984). Many relative deprivation (RD) measures have been developed, based on the assumption that individuals miss all higher earnings on the income distribution, while value all comparisons with those to the right of that distribution equally (e.g., Yitzhaki, 1979; Hey and Lambert, 1980; Ebert and Moyes, 2000; Bossert and D'Ambrosio, 2007). In such a linear fashion, one's sense of deprivation grows as more people in the relevant comparison group receive higher incomes and as the earning gap widens. A large body of empirical research, in various geographical and socioeconomic scopes, employing different datasets, followed to find evidence that individuals migrate or return home because they experience higher RD at home or in the hosting community respectively (Stark and Taylor, 1989

<sup>1</sup> Amany A. El Anshasy, Corresponding author; Mailing Address: Department of innovation in government and society, Maqam university campus, Building H3, Room 1044; College of Business and Economics, Alain; United Arab Emirates University, UAE. E-mail: [aelanshasy@uaeu.ac.ae](mailto:aelanshasy@uaeu.ac.ae)

<sup>2</sup> Mrittika Shamsuddin, Department of Economics, Dalhousie University, 6214 University Ave, Halifax, NS B3H1X1, Canada. E-mail: [Mrittika.Shamsuddin@dal.ca](mailto:Mrittika.Shamsuddin@dal.ca)

<sup>3</sup> Marina-Selini Katsaiti, Department of Regional and Economic Development, Agricultural University of Athens, Nea Poli, Neo Ktirio, 33100, Amfissa, Greece; Department of Innovation in Government and Society, United Arab Emirates University, UAE; Hellenic Open University, Greece. E-mail: [mkskatsaiti@aua.gr](mailto:mkskatsaiti@aua.gr)



and 1991; Czaika and De Haas 2012; Hyll and Schneider, 2014; Huber and Nowotny 2016; Kafle et al. 2018).

Individuals, however, may assign varying weights to different comparisons, depending on which intragroup comparison they relate to the most or deem more relevant to their wellbeing. The concept that people look up to *similar others* is well-established in psychology (Festinger, 1954; Suls et al., 2002). Falk and Knell (2004) show that individuals optimize “choosing the Joneses” relative to their ability and depending on personal characteristics, e.g., ambition. They find evidence that the more accomplished and ambitious tend to relate more to wealthy individuals than to peers of slightly higher incomes, while the less ambitious relate to closer income Joneses. In both cases, individuals perceive some similarities in abilities or goals, etc. The inference is straightforward: for a given person, not all comparisons with wealthier folks are equally important in terms of their impact on that individual’s utility. This fact has been underexplored in the empirical literature. Understanding the implications of such non-linear preferences will help shape migration and income inequality-related policies in countries of origin, especially those suffering from a drain of qualified labor.

### Proximity- sensitive Relative Deprivation

Paul (1991) introduced a first measure of *RD* that is sensitive to income redistributions happening among individuals wealthier than the person whose *RD* is concerned. Different *RD* measures that address such heterogeneity followed, taking into consideration the proximity (on the income distribution) of the individual to his reference group and the weight he places on such proximity. In what follows, we focus on the three measures introduced by Podder (1996), Esposito (2010), and Stark et al. (2017) and examine whether the positive association between *RD* and migration intentions, conventionally found in empirical research, would hold to possible changes in proximity preferences.

Podder (1996) introduces an *RD* indicator that strictly increases in individual *i*’s “utility” deficits, resulting from income comparisons with higher income individuals, represented by *j*;  $RD_{i,j} = U(x_j) - U(x_i)$ ,  $\forall x_j > x_i$ . Accordingly, he proposed an *RD* index based on the following logarithmic utility function:

$$RD_i = \begin{cases} \sum \ln(x_j) - \ln(x_i) & \text{if } x_j > x_i \\ 0 & \text{if } x_j < x_i \end{cases} \quad (1)$$

In this specification, *RD* increases non-linearly in the relative income of person *i* with respect to all individuals to the right of the income distribution; it is more sensitive to the changes in the incomes of those closer to the right of person *i* than to farther ones.

Similarly, Esposito (2010)’s index is an attempt to formalize the argument that changes in the incomes of individuals who lie in closer income proximity have a larger effect on individual *i*’s *RD* than those who lie farther up to the right of the income distribution. That is:

$$RD_{i\alpha} = \frac{1}{n} \sum \left( \frac{x_j^\alpha - x_i^\alpha}{x_j^\alpha} \right); \quad \forall x_j > x_i \text{ and } \alpha > 0 \quad (2)$$

In eq. 2, for all  $\alpha > 0$ , the greater the value of the parameter  $\alpha$ , the greater the *RD*, and the faster the decline in importance of farther comparisons; that is, as the value of  $\alpha$  increases,



the importance assigned to unfulfilled “closer desires” is amplified and the relevance of “fantasy wishes” diminishes.

Following Bossert and D’Ambrosio (2014)’s proximity-sensitive  $RD$  measure, that assigns increasing importance to changes in the incomes of those closer to the income of individual  $i$ , Stark et al. (2017) derive a more generalized class of indices,  $RD_p$ , represented by:

$$RD_{i,p} \equiv \left( \frac{1}{n} \sum_{j \in I} (x_j - x_i)^p \right)^{\frac{1}{p}}, \quad \forall x_j > x_i \text{ and } p > 0 \quad (3)$$

When all comparisons matter equally ( $p=1$ ), the index is reduced to the traditional linear  $RD$  measure. When people exhibit *declining proximity-sensitivity preferences* ( $p>1$ ), the importance declines as higher-income reference individuals get closer to person  $i$  on the income distribution. Put differently, in such a case, the intensity of  $RD_i$  is more heavily impacted by changes in incomes of individuals placed farther to the right of the income distribution. Conversely, individuals would exhibit *rising proximity-sensitivity preferences* ( $p < 1$ ), in which case they assign increasing weights as income comparisons get closer. In the latter case, the impact of an income gap on  $RD_i$  diminishes as the reference individual is located farther away to the right of the income distribution. In what follows, we present the empirical results from examining whether individuals’ proximity-sensitive preferences have bearing on the RD-international migration nexus.

## Data and Results

Our data draws on the Gallup World Poll (GWP), between 2009 and 2017, spanning 129 countries. GWP is an annual cross-sectional survey of representative resident population aged 15 years and older. The question we use to indicate international migration intentions is the following: “*Ideally, if you had the opportunity, would you like to move permanently to another country, or would you prefer to continue living in this country?*”. Gallup also asks, “*In the next 12 months, are you likely or unlikely to move away from the city or area where you live?*”. It is worth noting that the second question would embody both domestic and international migration intentions, i.e., unspecified general intentions to relocate. We take this second question cautiously and use it for checking robustness of the main results. We code both as dummies taking the value 1 if respondents state their willingness to migrate internationally or move from the area and 0 otherwise. The first captures international migration intentions and the latter general intentions to move.

It should be noted here that we use self-reported intentions to migrate as a proxy of the actual act of migration decision; common in the migration literature (Dustmann and Okatenko, 2014; Shamsuddin et al., 2022). Theories of reasoned action and planned behavior in psychology also support the premise that individual’s intention predicts actual behavior (e.g., Fishbein et al., 1975; Ajzen, 1991; Hale et al., 2002; Ajzen and Fishbein, 2005).

We include log-transformed individual income, obtained from GWP household income per capita data, to capture the effect of absolute income. The reference group is taken to be all individuals who earn higher incomes in the country or in specific income quantile, as common in the RD-migration literature (Stark and Taylor, 1989; Czaika and De Haas, 2012). In addition to income and  $RD$  measures, the same standard controls from the migration literature are included in all specifications. That includes demographics, such as age and gender, highest education level (a dummy for college and one for secondary education), marital status (a dummy for married individuals), number of children, a dummy for whether the individual is born in the country

of current residence, durables owned (cars, houses, etc.), and the communication index that indicates the extent to which individuals use information and communication technology. All regressions include country and time fixed effects, and their interactions; and all standard errors are country clustered.

Tables 1 to 3 provide the results from estimating the following model:

$$IM_{ict} = \alpha + \beta RD_{ict} + \delta X_{ict} + \sum_{t=2009}^{2017} \gamma_t T_t + d_c + e_{ict} \quad (4)$$

Where  $IM_{ict}$  denotes international migration intentions (= 0 or 1) for individual  $i$  in country  $c$ , and time  $t$ . In all estimations,  $RD$  captures individual  $i$ 's income-based measure of RD in country  $c$  at time  $t$ .  $RD$  is calculated as per equations (1) to (3), using data on household per capita income. It is expected that being financially disadvantaged relative to others in the community would be associated with higher intentions to migrate, as is commonly found in previous studies. We are interested in testing this hypothesis under different assumptions regarding proximity-sensitivity preferences discussed in the previous section. It is worth noting, that the parameter values on proximity preferences are assumed to be the “average value” for a sample or specific sub-sample. Therefore, it is more important to look at subsamples of different income levels or risk tolerance, than to look at the whole sample.  $X_{ict}$  is a matrix of all other controls, including absolute income. We expect higher income to have two opposing effects. On the one hand, it would support greater migration intentions as it provides more resources for migration. On the other hand, it enhances a person's financial wellbeing, lowering the desire to migrate. Most literature reported a weak overall effect of absolute income on migration or migration intentions.  $T_t$  and  $d_m$  are time and country fixed effects, respectively.

**Table 1.** International Migration Intentions and Alternative Measures of Relative Deprivation

	(1)	(2)	(3)	(4)
	Yitzhaki (1979)	Podder (1996)	Esposito (2010)	Esposito (2010)
			$\alpha=0.5$	$\alpha=1$
Linear equal weights RD	0.0248*			
	(0.000430)			
Log Relative Income		0.00483*		
		(0.000953)		
RD ( $\alpha=0.5$ )			0.00000273*	
			(0.00000117)	
RD ( $\alpha=1$ )				6.32e-09*
				(3.10e-09)
Income	-1.29e-09	-2.50e-09+	-1.97e-09*	-2.56e-09+
	(9.69e-10)	(1.31e-09)	(9.79e-10)	(1.32e-09)
Observations	1108904	1108904	1108904	1108904
R-squared	0.129	0.129	0.129	0.129

Regressions include: income, income square, number of durables owned, married dummy, number of children, female dummy, rural dummy, college dummy, secondary school dummy, born in the country dummy, a communication index, country fixed effects, year fixed effects and their interactions. + = p-value<0.10 and \* - p-value<0.05.



Table (1) reports the results related to four income-based RD measures for the whole sample. Column (1) has the traditional Yitzhaki (1979) linear RD measure (or Eq. 3,  $p=1$ ), column (2) includes the non-linear Podder (1996) log transformed relative income measure, and columns (3) and (4) introduce the RD non-linear measure of Esposito (2010) at a moderate and relatively high value of  $\alpha$ . Both linear and non-linear measures of RD that give higher weight to closer reference groups, consistent with most received literature, seem to be significantly positively correlated with higher international migration intentions. Using the general moving intentions as the dependent variable led to similar results; that more intense RD is associated with stronger moving intentions.<sup>4</sup>

Table 2 presents the results from employing Stark et al. (2017)'s generalized proximity-sensitive RD measures under different assumptions for the proximity parameter  $p$ . Columns (1) to (3) show the OLS estimation results for the RD. The results for the whole sample as well as the lowest and the highest income quantiles are reported. Panel (c) reproduces the conventional result of a significant and positive correlation under the assumption that all comparisons matter equally. It also shows a similar finding across both groups, the poorest as well as the richest population. Once the assumption of rising or declining proximity-sensitivity is invoked (in panels a and b, respectively) the RD coefficient becomes negative, but remains significant for the whole sample and for the lower income population. Only, the rich group exhibits the expected positive correlation. That warrants further investigation.

**Table 2.** International Migration Intentions and Proximity-sensitive RD preferences

RD proximity parameters Stark et al. (2017)	OLS RD Estimates			2SLS RD Estimates		
	(1) Whole Sample	(2) Poorest 20%	(3) Richest 20%	(4) Whole Sample	(5) Poorest 20%	(6) Richest 20%
<b>Panel (a)</b> P = 0.5 <i>rising proximity-sensitivity</i>	-0.0340* (0.000854)	-0.0182* (0.000678)	0.00343* (0.000645)	0.0174 (0.0121)	0.0157* (0.00335)	-0.0103* (0.00256)
R2 (1-3)/F-Stat (4-6)	0.143	0.149	0.144	22.776*	407.346*	20.86*
<b>Panel (b)</b> P = 1.5 <i>declining proximity-sensitivity</i>	-0.0150* (0.00104)	-0.0399* (0.000545)	0.0169* (0.000310)	0.0135 (0.0175)	0.0282* (0.000790)	-0.00556 (0.00549)
R2 (1-3)/F-Stat (4-6)	0.143	0.149	0.144	22.776*	407.346*	20.86*
<b>Panel (c)</b> P = 1 <i>not proximity-sensitive</i>	0.0248* (0.000430)	0.00898* (0.000832)	0.0124* (0.000601)	0.0182* (0.00632)	0.0502* (0.00833)	0.0196* (0.00519)
R2 (1-3)/F-Stat (4-6)	0.143	0.149	0.144	22.776*	407.346*	20.86*
No. Observations	1533980	247934	393198	900890	135451	253681

+ refers to p-value<0.10 and \* refers to p-value <0.05. Standard errors in parentheses and are clustered at the country level. OLS and second-stage least square estimation. Months of survey dummies and unemployment rate are used as instrument for income (first stage output is suppressed but available upon request). R2 reported is from the OLS estimations and the F-stat is from the first stage regression. Relative Deprivation is calculated based on Stark (2017), log transformed with the proximity parameter = 0.5, 1, and 1.5. Covariates included in the regression are log income, durables, married dummy, number of children, female dummy, rural area dummy, college dummy, secondary school dummy, born in the country dummy, country and year fixed effects and their interactions. Full results are available upon request.

To further examine this finding, it can be argued that both income and migration intentions are driven by unobserved personal characteristics, such as the attitude toward risk-taking. That would raise concerns regarding the potential endogeneity of income and about whether the

<sup>4</sup> Results not shown, but available upon request

results suffer from simultaneity bias. Following Shamsuddin et al. (2022), we consider income endogeneity, using two instruments for income in 2SLS estimations. First, we use dummy variables for the month during which a particular survey was conducted, because some areas can heavily suffer from income seasonality impacting reported household income. The second instrument is the rate of unemployment in the area, city, or country. Both instruments are not expected to directly impact the intentions of a person to migrate, except through their effect on the income variable (Shamsuddin et al., 2022). The validity of the instruments is statistically established using Hansen's *J*-test from the IV first stage estimations (not shown here), in which the null hypothesis of valid over-identifying restrictions cannot be rejected.<sup>5</sup> Columns (4) to (6) show the results from the 2nd stage regressions.

Once we account for the potential endogeneity of income, the coefficient of *RD* exhibits the expected positive sign for the whole sample as well as for the poorest 20% of the population, under all proximity preferences assumptions. It also remains robustly significant and positive for the poorest quantile, despite losing significance across the whole sample when the non-linear proximity preferences are considered. The richest fraction of the population, on the other hand, seems to be an intriguing case, for which intentions to internationally migrate are not robustly positively correlated with the measures of *RD* under non-linear proximity preferences. This is evident from the flipping sign of the coefficient from positive to negative.

To sum up, the preceding results prompt three findings. First, the relationship between *RD* and international migration intentions varies across the income distribution. Second, regardless of who people relate stronger to on the income ladder, the poorest population robustly exhibits significant positive association between *RD* and international migration intentions, as it may provide a way out of poverty. This is in line with the cross-country findings of Adams and Page (2005) that migration significantly reduces poverty, measured by the percentage of the population falling below the poverty line. In Egypt, before the uprisings of 2011, Kahn et al (2014) found that poverty is a significant factor inducing migration. Poorer individuals were found to have higher propensity to migrate relative to wealthier individuals, while past migration experiences had significantly enhanced their standard of living. Third, when the highest-income population has, on average, specific preferences for their comparison group, this positive relationship is no longer warranted. It is plausible to see that when wealthy individuals in the society relate to similar Joneses, they may be inclined to stay home, since they can afford spending part of their wealth competing with them on similar consumption patterns. This may explain the negative and significant correlation identified for the wealthiest group, under the rising proximity assumption (column (6), panel (a)).

For the wealthiest who are extremely ambitious and mostly relate to those at the far-right end of the distribution, *RD* does not seem to matter much; the marginal effect of *RD* loses significance and remains negative, suggesting no relation (column (6), panel (b)). In fact, for this category of individuals the reasons behind a prospective move might be completely different, and may include utilization of qualifications, access to social networks, or job experience (Verwiebe, 2008). Conflicts also are often found to moderate the relationship between socio-economic factors and migration (Sirkeci et al., 2012). History of conflicts provides evidence that wealthy populations, in particular, are the first to migrate, not only as a survival strategy, but also as means of preserving wealth. The onset of the Arab Spring in

---

<sup>5</sup> Results are available upon request.



2011 in Syria and Libya is one example in which the wealthiest were able to secure residencies in neighboring Egypt, establishing businesses and buying assets. In Egypt, the aftermath of the transferring of power in 2012 to the Muslim Brotherhood witnessed a wave of migration among wealthy businessmen and artists, mainly to the US and Europe. In the current crisis between Russia and Ukraine, wealthy Ukrainian businessmen were able to transfer large sums of funds before the escalation of the war to buy assets in Gulf oil destinations such as Dubai and Qatar. In sum, migration motives among the wealthy are far more complex than those at the lower end of the income distribution, and RD may not play a significant role.

Finally, we consider differences in self-reported risk tolerance. Research on the relationship between migration decisions and risk attitudes offers mixed conclusions. Some studies find that risk-averse individuals are less likely to migrate, while others show that migration is a household decision that helps mitigating risk-averse households' earning risks (Heitmueller, 2005; Bonin et al. 2009; O'Leary, 2009; Dustmann et al., 2017). This strand of literature hence suggests that migration decisions are influenced by risk-taking attitudes. Meanwhile, Stark (2020) shows that RD could affect individuals' relative risk-aversion preferences. Put altogether, RD would have a direct and an indirect relation with migration decisions, the latter through altering individual's tolerance to risk.

The direct implication is that international migration intentions' link to RD will likely vary between groups exhibiting different risk-tolerance preferences. To test this hypothesis, under various income proximity assumptions, we split the sample based on self-reported attitudes toward risk. In a subset of countries, Gallup includes the question "Are you willing to take risk to get what you want?"; we use the responses to create a dummy that takes the value 1 when the person is willing to take risks (risk-tolerant) and zero otherwise (risk-averse). Table 3 displays the results for the two groups under the three parameter values of  $p$ .

The results show RD having the expected positive sign in all cases while lend support to the hypothesis that this relation could vary between populations exhibiting different risk-taking behaviours. When the community on average assigns greater value to closer-by income comparisons than to those farther away, or when all comparisons to the right of the income ladder count equally, greater RD in the risk-loving group seems to be significantly associated with higher migration intentions. When the community is more ambitious on average and looks up more heavily to the farther rich on the income distribution, the link between RD and international migration intentions is less robust. As in the case of the rich populations, the case of more ambitious communities with varying attitudes toward risk warrants further investigation to understand what associates with international migration intentions.

**Table 3.** International Migration Intentions and Proximity-Sensitive Relative Deprivation by Risk Tolerance

	(1)	(2)	(3)	(4)	(5)	(6)
	Risk-Averse	Risk-Tolerant	Risk-Averse	Risk-Tolerant	Risk-Averse	Risk-Tolerant
	$p=1$	$p=1$	$p=0.5$	$p=0.5$	$p=1.5$	$p=1.5$
Relative Deprivation	0.00399 (0.00315)	0.00856* (0.00389)	0.000968 (0.00103)	0.00291* (0.00116)	0.0119+ (0.00697)	0.0162 (0.0115)
Observations	85698	61111	85605	61023	85605	61023
R-squared	0.113	0.123	0.113	0.123	0.114	0.123

OLS estimation. Standard errors in parentheses. + =  $p$ -value<0.10 and \* =  $p$ -value<0.05. The standard errors are clustered at the country level. This table used the RD measures advocated by Stark (2017). Covariates included in the regression include

income, income square, durables, married dummy, number of children, female dummy, rural dummy, college dummy, secondary school dummy, born in the country dummy, a communication index, country fixed effects, year fixed effects and their interactions.

## Conclusion

We provide one of the first applications of a class of proximity-sensitive measures of relative deprivation, in which proximity of reference groups on the income ladder matters. We find that the relationship between *RD* and international migration intentions varies across the income distribution and according to income proximity preferences. The standard finding that the more relatively deprived tend to be willing to internationally migrate holds only for the poorest population, regardless of their comparison proximity preferences. When the wealthiest faction of the population has specific proximity preferences toward their comparison groups, this positive relationship is not warranted. More interestingly, our results add new insights to the existing literature as we find that when wealthier communities on average look farther up the income ladder, and place greater relevance on comparisons with the considerably wealthier, they would be less inclined to migrate upon experiencing higher relative deprivation. Last, we find that more risk-tolerant populations would hold higher international migration intentions as *RD* intensifies, when they care more about closer peers' income increases. Our study is limited by the unavailability of data on the actual reference groups and migration behavior, which can be a productive venue for future research. Future research should also further investigate the interesting case in which the community on average is more ambitious and individuals relate more to the richest in the population, under different risk-taking preferences.

## References

- Adams Jr, R. H., & Page, J. (2005). Do international migration and remittances reduce poverty in developing countries?. *World development*, 33(10), 1645-1669.
- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2):179–211.
- Ajzen, I. and Fishbein, M. (2005). The influence of attitudes on behavior. *The Handbook of Attitudes*, 173(221):31.
- Bonin, H., Constant, A., Tatsiramos, K. & Zimmermann, K. (2009). Native-migrant differences in risk attitudes. *Applied Economics Letters*, 16(15), 1581–1586.
- Bossert, W., & d'Ambrosio, C. (2007). Dynamic measures of individual deprivation. *Social Choice and Welfare*, 28(1), 77-88.
- Bossert, W., & D'Ambrosio, C. (2014). Proximity-sensitive individual deprivation measures. *Economics Letters*, 122(2), 125-128.
- Czaika, M. & De Haas, H. (2012). The role of internal and international relative deprivation in global migration. *Oxford Development Studies*, 40(4), 423–442.
- Dustmann, C., Fasani, F., Meng, X., & Minale, L. (2017). Risk attitudes and household migration decisions. *Centro Studi Luca d'Agliano Development Studies Working Paper* 423.
- Dustmann, C. and Okatenko, A. (2014). Out-migration, wealth constraints, and the quality of local amenities. *Journal of Development Economics*, 110:52–63.
- Ebert, U., & Moyes, P. (2000). An axiomatic characterization of Yitzhaki's index of individual deprivation. *Economics Letters*, 68(3), 263-270.
- Esposito, L. (2010). Upper boundedness for the measurement of relative deprivation. *Review of Income and Wealth*, 56(3), 632-639.
- Falk, A., & Knell, M. (2004). Choosing the Joneses: Endogenous goals and reference standards. *Scandinavian Journal of Economics*, 106(3), 417-435.
- Festinger, L. (1954). A theory of social comparison processes. *Human relations*, 7(2), 117-140.





- Fishbein, M., Ajzen, I., et al. (1975). *Intention and behavior: An introduction to theory and research*.
- Hale, J. L., Householder, B. J., and Greene, K. L. (2002). The theory of reasoned action. *The persuasion handbook: Developments in theory and practice*, 14:259–286.
- Heitmueller, A. (2005). Unemployment benefits, risk aversion, and migration incentives. *Journal of Population Economics*, 18(1), 93–112.
- Hey, J. D., & Lambert, P. J. (1980). Relative deprivation and the Gini coefficient: comment. *The Quarterly Journal of Economics*, 95(3), 567-573.
- Huber, P., & Nowotny, K. (2016). The impact of relative deprivation on return intentions among potential migrants and commuters. *Journal of Regional Science*, 56(3), 471-493.
- Hyll, W., & Schneider, L. (2014). Relative deprivation and migration preferences. *Economics Letters*, 122(2), 334-337.
- Kafle, K., Benfica, R., & Winters, P. (2018). Does relative deprivation induce migration. *International Fund for Agricultural Development Research Series*, 21.
- Kahn, Y., & Dumas, A. & Eshet, Y., & Billfeld, N. (2014). Migration and Subjective Poverty in sending countries: An analysis of the Egyptian case. *Migration Letters*, 11(3), 353-367.
- O'Leary, A. O. (2009). The ABCs of migration costs: Assembling, bajadores, and coyotes. *Migration Letters*, 6(1), 27.
- Paul, S. (1991). An index of relative deprivation. *Economics Letters*, 36(3), 337-341.
- Podder, N. (1996). Relative deprivation, envy and economic inequality. *Kyklos*, 49(3), 353-376.
- Shamsuddin, M., Katsaiti, M. S., & El Anshasy, A. A. (2022). Income rank and income concerns: What correlates with international migration intentions?. *Economic Analysis and Policy*, 75, 490-505.
- Sirkeci, I., Cohen, J. H., & Yazgan, P. (2012). Turkish culture of migration: Flows between Turkey and Germany, socio-economic development and conflict. *Migration Letters*, 9(1), 33–46.
- Stark, O. (1984). Rural-to-urban migration in LDCs: a relative deprivation approach. *Economic Development and Cultural Change*, 32(3), 475-486.
- Stark, O., & Taylor, J. E. (1989). Relative deprivation and international migration oded stark. *Demography*, 26(1), 1-14.
- Stark, O., & Taylor, J. E. (1991). Migration incentives, migration types: The role of relative deprivation. *The Economic Journal*, 101(408), 1163-1178.
- Stark, O., Bielawski, J., & Falniowski, F. (2017). A class of proximity-sensitive measures of relative deprivation. *Economics Letters*, 160, 105-110.
- Stark, O. (2020). Relative deprivation as a cause of risky behaviors. *The Journal of Mathematical Sociology*, 44(3), 138-146.
- Suls, J., Martin, R., & Wheeler, L. (2002). Social comparison: Why, with whom, and with what effect?. *Current Directions in Psychological Science*, 11(5), 159-163.
- Verwiebe, R. (2008). Migration to Germany: Is a middle class emerging among intra-European migrants?. *Migration Letters*, 5(1), 1-19.
- Yitzhaki, S. (1979). Relative deprivation and the Gini coefficient. *The Quarterly Journal of Economics*, 321-324.