New Zealand Population Review, 41:153–167.

Circular Migration, Remittances and Inequality in Vanuatu

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Abstract

Many migration arrangements can be described as circular, repeat, seasonal or temporary, and these typically interact with other settlement-based migration opportunities. The impact of circular migration on participants is difficult to ascertain since it involves both a temporary source of new income and a temporary change in household composition and the location of household economic activities (the household becomes a transnational unit with members in two or more countries). The overall impact on the source country is even more difficult to determine because of the complex way that circular migration may interact with settlement migration. The recent opportunity for circular migration from Vanuatu under the Recognised Seasonal Employer (RSE) Work Policy provides an opportunity to better understand these issues, since this scheme was introduced into a setting with very few settlement migration opportunities. This paper describes the effect of RSE participation, and the resulting increase in remitted and repatriated earnings on inter-household inequality in Vanuatu.

Professor Richard Bedford has been closely associated with the study of migration in Melanesia for more than four decades, starting with his PhD thesis, *Mobility in transition: an analysis of population movement in the New Hebrides* (Bedford, 1971). His research has included a particular emphasis on circular migration, including among New Hebrideans (now referred to as ni-Vanuatu), as noted in a study from 1974:

> A strategy of maximum participation in a range of economic activities consistent with minimum risk goes far to explain the existence of circular migration. Islanders have a number of alternative avenues open for deriving a livelihood – subsistence gardening, cash cropping, wage employment, entrepreneurial activities, and sundry forms of investment. Instead of concentrating their time and labour on one or other of these

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> activities, most Islanders participate in a range of them. Circular migration facilitates this (Bedford, 1974, p. 146)

This notion that individuals and households participate in a portfolio of activities, balancing the risks and returns, predated the 'new economics of labour migration' approach of Stark and Bloom (1985) by more than a decade. A key insight of this literature is that labour mobility serves to mitigate the impact that lack of insurance options and other market imperfections have on 'sending' households. Such imperfections are features of the Melanesian countries, where generally low population density, difficult topography, lack of economic specialisation, and considerable cultural and linguistic diversity has historically dampened the development of a wide range of markets. It is therefore of interest to examine the effects of adding a new option to the portfolio of activities in which households might choose to participate. In this paper I examine some effects on inter-household inequality in Vanuatu of a new mobility opportunity that has enabled a subsequent increase in remitted and repatriated earnings.

In the era that Richard Bedford (1974) described, options for the circular migration of Melanesians to also include international mobility by working in high-wage labour markets in Australia, New Zealand or the United States were severely limited. But more recent opportunities, under New Zealand's Recognised Seasonal Employer (RSE) Work Policy and Australia's Seasonal Worker Program scheme,[1] have reduced the long-standing imbalance of Polynesians having more international mobility options than Melanesians. Indeed, Vanuatu has become the largest supplier of seasonal labour to New Zealand under the RSE scheme (Gibson & McKenzie, 2014a). Vanuatu provides a good opportunity to better understand the impacts of adding an option to the portfolio of household activities, since these circular migration schemes were introduced into a setting with very few settlement migration opportunities and only a very small existing diaspora. In contrast, it would be more difficult to examine the effects in countries with long-established settlement migration options such as Samoa and Tonga, because of the potentially complex ways that circular migration may interact with settlement migration through both family reunification channels and concessional schemes.

Coinciding with these migration developments in the Pacific, there have been renewed calls, globally, for opening up low-skill migration

channels through circular or seasonal migration programmes (Pritchett, 2006). For example, this was a prominent theme of the 2009 *Human Development Report* of the United Nations Development Program "Overcoming Barriers: Human Mobility and Development" (UNDP, 2009). Seasonal worker programmes have historically been one of the few opportunities for low-skilled workers from poor countries to benefit from higher incomes that can be earned abroad, and are often seen as a more politically feasible way of doing this than through permanent migration (Luthria, 2008). Indeed, it has been claimed that circular migration programmes can deliver a 'triple win' – for migrants, their sending countries and the host country – (Ramasamy et al., 2008), although there is debate about whether this is possible (see, for example, Wickramasekara, 2011).

Corresponding to this renewed interest in circular migration, a number of studies describe various circular migration programmes and processes. Recent reviews of this literature include Constant, Nottmeyer, and Zimmermann (2012), who discuss the advantages and disadvantages of circular migration and describe some characteristics of circular migrants. Reviews with a particular focus on Asia and the Pacific are provided by Hugo (2009) and Gibson, McKenzie, and Rohorua (2014). While many migration arrangements can be described as circular, repeat, seasonal or temporary, the description by Skeldon (2012) of circular migration as "a regular and repetitive series of outward and return movements between an origin and a destination" (p. 47) is sufficient for our current purposes. Specific details on the RSE scheme are provided by Gibson and McKenzie (2014a), while C. Bedford (2013) provides a comprehensive review of existing evidence on the multiple effects of the RSE scheme on employers, workers and their home communities.

In the next section of this paper the relevant literature is briefly summarised before the empirical evidence is introduced in Section 3. This evidence relies upon a subset of the data used by Gibson and McKenzie (2014b) to examine development impacts of the RSE in Tonga and Vanuatu. Interested readers can refer to that paper to find full details on the survey data that are used here. These data provide information on patterns of inequality, and can be used to contrast RSE earnings (whether remitted or repatriated) with other remittances, wage income, agricultural income, and the value of subsistence production that is consumed. These

other non-remittance income sources are roughly the same as those that were listed by Bedford (1974) 40 years ago when describing the portfolio of activities available to households in Vanuatu.

Literature Review

The effects of migration on the level of welfare in source communities are, a priori, unclear, and the distribution of any benefits is even less clear. Migrant-sending households and their communities can benefit from remitted and repatriated earnings, but the local incomes and other household inputs that migrants would have generated locally are lost. It is therefore an empirical matter as to whether the opportunity costs are outweighed by the new income from abroad. Given the enormous wage gains possible from moving to a high-wage labour market such as Australia or New Zealand, it would be expected that for the household as a whole (including the migrant), these opportunity costs should be less than the gain. But if the duration of migration is short and there are high transactions costs required in order to access the high-wage labour market, then there is the possibility of little or no net gain. Moreover, how these gains are distributed depends on the types of households selected into migration and the variation in the opportunity costs and transactions costs that they face (Gibson, McKenzie, & Rohorua, 2014).

The impacts of circular migration are particularly complex to measure, since circularity involves both a temporary source of new income and a temporary change in household composition and the location of household economic activities (the household becomes a transnational unit with members in two countries). There are large literatures on the effects of temporary income shocks on households and also on the effects of changes in household composition on well-being. But the joint effects of these two changes, as occurs with the temporary migration of a household member to an overseas labour market, and then the undoing of these changes upon the worker's return, is rarely studied (Clemens and Tiongson, 2012).

The level and distribution of benefits from circular migration depends on which households are selected to supply workers. For New Zealand's RSE programme, which recruits workers from multiple countries, the existing literature finds that workers from Tonga were

drawn from the poorer parts of the income distribution, so any positive household-level impacts were predicted to be 'pro-poor' (Gibson, McKenzie, & Rohorua, 2008). In contrast, RSE workers from Vanuatu were from richer-than-average households (McKenzie, Martinez, & Winters, 2008). This difference in selectivity may have reflected greater familiarity with international migration in Tonga whereas in Vanuatu households lacked information about the programme in the first year (Gibson, Rohorua, McKenzie, & Stillman, 2010) and the poorest likely also lacked resources to finance the costs of the travel process.[2] Moreover, average levels of education are considerably higher in Tonga, so if employers looked for similarly educated workers from both countries (for example, if they needed certain levels of basic English competency), such workers are found higher up the skills and income distribution in Vanuatu than in Tonga.

This existing literature on whether effects of the RSE were likely to be pro-poor or not is based on surveys that were carried out in countries supplying RSE workers within the first year of the programme being established. It is possible that over the longer term there may be some change in the income groups that are especially likely to benefit from this circular migration opportunity and in the effect on inequality of the earnings from circular migration. One may expect that, as time progresses, the relationship between remittances and inequality displays an inverted U-shaped curve (Stark, Taylor, & Yitzhaki, 1986), increasing at first as more-wealthy households supply migrants, but eventually declining as poorer households are able to overcome financing constraints so that they, too, can add circular migration to their portfolio of economic activities. For example, in Mexico remittances have tended to have a more equalising effect over time as the prevalence of international migration increases (Taylor et al., 2005), which is consistent with this diffusion pattern.

In addition to possible heterogeneity in remittance effects over time, another theme in the existing literature is that the apparent effects on inequality of earnings from migration depend on modelling assumptions. In particular, results may vary if remittance income is treated as an exogenous transfer leaving other sources of household income unchanged (e.g. Stark, Taylor, & Yitzhaki, 1986) compared with modelling the counterfactual income of the household in the (unseen) situation where the migrant(s) would have stayed at home (Barham & Boucher, 1998). The typical approach for studies of the effects of remittance income on

inequality in the Pacific has been to treat remittances as an exogenous source of income (Brown & Ahlburg, 1999). In other regions of the world, modelling approaches have been used to construct a counterfactual, which typically depend on finding some variable that influences the likelihood of migration but does not influence incomes or inequality, except via the induced effect on migration. In the absence of explicit randomisation, such as would emerge from a visa lottery (e.g. the Pacific Access Category and the Samoan Quota) the plausibility of such identifying variables is often debateable (McKenzie, 2012).

Therefore, in the current study a simpler approach is used, that includes describing patterns of inter-household inequality associated with different income sources, and patterns of inequality for groups of households that either engage in or do not engage in circular migration. One limitation of the analysis, based on the nature of the data available, is that no intra-household analysis is possible. Notwithstanding an inability to analyse this type of effect, it is very likely that opening up circular migration opportunities that are predominantly taken up by males will alter the outcomes of household processes that result from gender bargaining. It would require a more qualitative analysis to fully understand these effects which would be expected to be quite strong in Melanesia due to the gendered nature of much household production.

Empirical Analysis

The data used here come from a survey that was used to evaluate the impacts of the RSE on households in Tonga and Vanuatu (Gibson & McKenzie, 2014b).[3] This entailed a baseline survey of approximately 450 households in each country, made up of households that had members who were (or who wanted to be) participating in the RSE, along with non-participating households. These groups of households from the baseline survey were then tracked over time (albeit with some attrition). In Tonga the surveys had near national coverage, including Tongatapu, Vava'u and 'Eua (these three islands provided 92 per cent of Tongan RSE workers in the first year of the scheme). Vanuatu's rugged geography and high transportation costs made it infeasible to survey in too many islands, so the evaluation survey was limited to three islands from which it was believed there was a high chance of workers coming (based in part on the islands where workers in a pilot project in Central Otago had come from).

These were Efate (population 50,000), containing the capital city, Port Vila, Ambrym (population 10,000) and Tanna (population 20,000). Three rounds of follow-up surveys were conducted after the baseline survey. The first follow-up took place between April and July 2008, approximately six months after the baseline survey. This was intended to be a time when RSE workers were still in the midst of their seven-month stint abroad, but in practice many contracts were for shorter than seven months and one-fifth of ni-Vanuatu RSE workers in the sample had returned by the time of this survey.[4] The second follow-up survey took place between October 2008 and February 2009, approximately one year after the baseline, while the final follow-up survey (and the fourth survey, overall) took place between October 2009 and March 2010, two years after baseline. It is the data from this fourth survey that are used here, since these data give the opportunity to examine the effects of circular migration on inequality after the scheme has been operating for some time.

The survey measured seven components of household incomes: wage earnings (based on individual reports for the previous week); net remittances of both money and goods from RSE workers (based on household reports on the previous six months and also taking account of any outbound remittance flows from households in Vanuatu to RSE workers); net remittances from other sources, which is divided into international and domestic origin; the lump sum of repatriated earnings from returned RSE workers (based on a report by the returned worker); net returns from sales of crops, livestock, fish, forestry products and other primary sector earnings (based on household reports on an average month); the value of own-produced or own-captured food consumed by the household (based on household reports for the previous week); and other income from investments, pensions, rentals, etc. (based on household reports for the previous fortnight). Some of these income sources are either a lump sum or may come in only part of the year (e.g. repatriated earnings from returning RSE workers) so when total household income is calculated I do not annualise the components since that may wrongly imply a more continuous, and higher, income from some of these one-off sources. Instead values are reported on a semi-annual basis, which corresponds to the period for which RSE related income might accrue, given that there is a seven-month restriction on time spent in New Zealand under the RSE work visa.

A summary of the value of net remittances from RSE workers (whether they are family members or not) and the repatriated net earnings upon the return home of these workers is given in Table 1. On average, across the whole sample, the net returns from circular migration are 50,000 vatu (approximately NZ$600) per household. However, these returns accrue to just over one-fifth of the households, so conditional on receiving any returns the mean is much higher, at 230,600 vatu (almost NZ$2900).

Table 1: Income components from circular migration under the RSE scheme

	Net RSE remittances	Repatriated net earnings	Total
Unconditional mean (vatu)	5,200	45,200	50,400
% of households receiving	15.0%	13.2%	21.8%
Conditional on receiving:			
25th percentile (vatu)	15,500	190,000	23,000
Median (vatu)	25,500	350,000	100,000
75th percentile (vatu)	41,800	500,000	408,500
Mean (vatu)	34,600	341,800	230,600

Notes: 1. The values are for the 12 months prior to the round 4 survey, which took place in late 2009 and early 2010.
2. At the time of the survey, 100 vatu = NZ$1.24.
3. $n = 348$.

The net returns from the RSE scheme are quite unevenly distributed for the households who receive some RSE income, with the median being 100,000 vatu, while the mean is more than twice as high. In part, this pattern reflects the fact that some households benefit a little from the RSE scheme by receiving remittances, even though they do not supply workers (e.g. a worker may remit money to their parent, brother or cousin who lives in a different household and this incoming remittance is captured by the survey). Perhaps a truer reflection of the inequality in returns to RSE participation comes from looking just at the repatriated net earnings, which is the dominant channel for the New Zealand incomes of RSE workers to reach Vanuatu because of the high cost of sending remittances and the limited financial infrastructure outside of Port Vila. While the mean and median of repatriated net earnings, conditional on receiving any, are just over NZ$4000 (about 350,000 vatu) the inter-quartile range is just as high as the mean, with the 25th percentile of

repatriated earnings being 190,000 vatu while the 75th percentile is 500,000 vatu.

The net earnings from circular migration are unequally distributed amongst households, as Table 1 makes clear. So too, however, are many other forms of income included in the portfolio of activities that households in Vanuatu may engage in. Hence, what matters to the present study is how much incomes from circular migration add to inequality compared with what other income sources add (and also compared with each source's overall importance in contributing to total household incomes). To examine this question, a decomposition technique developed by Lerman and Yitzhaki (1985) is used, which shows the contribution of each income source to inequality in total incomes. In this decomposition, each source's contribution to the Gini coefficient for total income is the product of its own inequality (G), its share of total income (S), and its correlation with the rank of total income (R).[5] These calculations are carried out for the semi-annual income of households in the Vanuatu sample, with the effects of net RSE income (which captures both what is received by the household as remittances and what is repatriated by the worker on their return from New Zealand) compared with other net remittances from overseas sources and from domestic sources, wage and salary income, entrepreneurial business income (which includes sales of agricultural, fishing and forestry products), and the non-market income that accrues to households who consume their subsistence production.

The most important source of income, in the aggregate, for households in the sample is wages and salaries, followed by subsistence income and entrepreneurial income from businesses and agricultural sales (see the column marked 'S' in Table 2). It is important to emphasise that this is a 'plutocratic' calculation, in the sense that these are shares of the aggregate household income, where households with higher incomes have more weight in determining the estimates (that is, it is a 'one vote per vatu' calculation rather than 'one vote per person'). One can also calculate 'democratic' shares, which look at the shares that each component has in the income of each household, with the average then calculated across households who are each given the same weight. The ranking of income components under democratic shares would be subsistence (52 per cent), wages (24 per cent), and entrepreneurial income (18 per cent). The switch in the share of wage income compared with subsistence income reflects the

fact that wage income is important to richer households while subsistence income is important to poorer households, and the shares in Table 2 give more weight to the rich, since the rich households account for the majority of aggregate income. Interestingly, the net incomes from RSE are six per cent, whether a democratic or plutocratic average share is calculated.

Table 2: Decomposition of the Gini coefficient by income source

Source	Share of total income (S)	Gini coefficient by source (G)	Correlation with rank of total income (R)	Share of income inequality (I)	Relative income inequality (I/S)
Net RSE income (remitted or repatriated)	0.059	0.910	0.595	0.056	0.951
Other net remittances (international)	0.001	0.990	0.557	0.001	0.857
Domestic net remittances (non-RSE)	0.002	0.753	–0.005	0.000	-0.063
Wage and salary income	0.539	0.833	0.948	0.748	1.387
Business income (incl. agricultural sales)	0.148	0.809	0.555	0.116	0.788
Subsistence income	0.252	0.379	0.471	0.079	0.314
Sum		0.569		1.000	

The second column of Table 2 (Gini coefficient by source) shows how unequally distributed a particular type of income is. The highest inequality is for income sources that very few households receive (such as net remittances from overseas non-RSE sources). The most equally distributed income component is subsistence income, because almost every household has some of this and also because this income component is the most important to the poor. This importance to the poor is shown by the lowest correlation with the rank of total income (column R) being for subsistence income, while wage income has the highest correlation. The remittances and repatriated earnings from circular migration are similar to business income and other international remittance income, in terms of a moderate correlation with the rank of total income. The only income component that would tend to be inequality reducing, by having a negative correlation with the rank of total income, is domestic remittances but in aggregate these are unimportant because they involve redistribution amongst the household sector so many of the transfers cancel out.

The product of the income share for a particular income component, the Gini index for that component and its correlation with the rank of total income is shown in column I, headed 'share of income inequality'. The sum of each of these products adds up to the overall Gini index for total household income, of 0.569, but to make it convenient to interpret the results in column I, these are rescaled to sum to 1.0 and are interpreted as shares of total inequality. The largest contributor to overall income inequality is wage and salary income, followed by business income, subsistence income and then net income from the RSE circular migration.

An income component can make a large contribution to inequality either because it is unequally distributed or because it makes a large contribution to total income. So in the final column, the ratio of the share of income inequality to the share of total income (I/S) is reported for each income component. This measure of relative inequality shows that wage income is the only component that makes a larger contribution to inequality than it makes to average incomes (by almost 40 per cent). For every other income component, including net income from RSE circular migration, the contribution to inequality is lower than the contribution to the total level of household income. In other words, adding circular migration to the portfolio of activities available to households in Vanuatu does increase total inequality, but it raises the total level of household income by (slightly) more.

Another way to examine effects of circular migration on inequality is to compare households that had ever participated in the RSE by the time of the survey (that is, within the first three years of the programme) with non-participant households. By the time of the final wave of the survey there were 108 of the participant households remaining in the sample and 240 non-participants. The results of this comparison are reported in Table 3, for per capita income and per capita consumption. The consumption variable uses the household's report on spending in the last month, three months and six months (with recall length depending on the type of good or service being recalled), and also the value of subsistence production that is consumed.

It is apparent that there are no statistically significant differences in inequality between the two groups of households. While the Gini coefficients for both income and consumption are slightly higher for the households ever participating in the RSE, the overlap of the 95%

confidence intervals is such that the differences are not statistically significant. Thus, there is no evidence here that amongst the RSE participants there is any greater level of inequality than there is amongst all households. The introduction of a new activity into the household portfolio – circular migration to New Zealand orchards and vineyards – does not seem to be associated with higher inequality amongst the participating households. It is also apparent that income is much more unevenly distributed than is consumption for these households.

Table 3: Gini coefficient measures of inequality by household's ever-RSE status

	Per capita income	Per capita consumption
Non-RSE households	0.542	0.380
	[0.507 – 0.565]	[0.346 – 0.412]
RSE households	0.559	0.405
	[0.524 – 0.618]	[0.355 – 0.452]
All households	0.551	0.391
	[0.524 – 0.575]	[0.363 – 0.419]

Notes: 1. The values in [ ] are the bootstrapped 95% confidence intervals, based on 100 repetitions.
2. n = 108 for RSE households and n = 240 for non-RSE households.

Discussion and Conclusion

This paper has examined the introduction of a new economic activity into the portfolio of opportunities available to households in Vanuatu. Four decades ago, Bedford (1974) noted that a household-level strategy of maximum participation in a range of activities consistent with minimum risk could explain the existence of circular migration in the then New Hebrides (present-day Vanuatu). At that stage in history, the circularity did not involve international destinations but recent developments in Australia and New Zealand have opened the way for some Melanesian households to add another activity to their household portfolio, which is temporary but repeated access to high-wage labour markets.

The analysis reported here shows that this new activity has added to the average incomes available to households without being associated with any notable rise in inequality. Indeed, if the effects on inequality from seasonal work in New Zealand are compared with the effects from wage labour in Vanuatu, for a given share of income there is less inequality

coming from the returns of international circular migration. As such, this new opportunity should be seen as a largely positive development, which expands the income possibilities for Melanesian households without bringing about any undue increase in risk.

The current results focus at the household level and just consider inequality, but a broader evaluation of the development impacts of the RSE in Vanuatu (and also in Tonga) is also largely positive (Gibson and McKenzie, 2014b). In addition to households benefitting from RSE earnings, returning workers also made community contributions that typically averaged about NZ$150 for things such as scholarship funds, community halls and water supply. In Tonga there were some concerns about withdrawal of labour from the community having an effect on church and community projects but this was less apparent in Vanuatu. More broadly, this less-binding labour supply constraint may reflect the fact that Melanesian villagers have not had the settlement migration opportunities that are available to Polynesians, and also have a more youthful and faster growing population. As such, the addition of international circular migration to the portfolio of available activities for Melanesian households may provide an especially valuable option for the future.

Notes

1 The New Zealand Recognised Seasonal Employers Work Policy was designed in 2007 for the purpose of helping with seasonal labour shortages in the horticulture and viticulture industries. The RSE category has up to 8000 places available to overseas workers per year (year ending 30 June).

2 The RSE scheme involves employers covering half the cost of the international airfare and a guaranteed minimum remuneration, so workers can expect to be able to recoup the costs of travel. But for workers without access to start-up funds, the costs of visas and other clearances, internal travel and their share of the international airfare still pose a substantial barrier to participation. Loan schemes were eventually introduced in some of the countries supplying RSE labour to help overcome this barrier.

3 The survey data for Tonga are used to examine inequality effects by Mason-Mackay (2014).

4 An analysis of the effects of the RSE on households at this stage is

reported by Rohorua, Gibson, McKenzie, and Martinez (2009).

5 The Gini coefficient is a measure of inequality which ranges from 0 (perfect equality where all have the same income) to 1 (complete inequality where one person has all the income and everyone else has none).

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