The Development Impact of New Zealand’s RSE Seasonal Worker Policy


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Background

• temporary migration programs (TMPs) widely discussed as a way to relieve labour shortages in developed countries and aid poor country development

• proponents argue that TMPs have fewer of the presumed costs of settlement migration, such as…
  • permanent losses of talent from poorer countries
  • social stresses, fiscal costs and irreversibility in host countries

• Many TMPs are rural seasonal work programs
  • SAWP – 20,000 Mexican and Caribbean workers in Canada
  • 300,000 Polish guest workers in German agriculture

• Seasonal workers are the largest single temporary migration category in the OECD
New Zealand’s RSE policy

• Launched in 2007 with the dual goals of easing labour shortages in New Zealand’s horticulture and viticulture industries and aiding economic development in the Pacific Islands

• Designed taking account of lessons from other countries, and now seen as possible model policy.

• E.g. ILO good practices database states

  • “The comprehensive approach of the RSE scheme towards filling labour shortages in the horticulture and viticulture industries in New Zealand and the system of checks to ensure that the migration process is orderly, fair, and circular could service as a model for other destination countries.”
The Evolution of the RSE Program

• Over 5000 workers recruited in first 15 months (to June 2008)
  • 4000 from Pacific, 1000 from Others (SE Asia)
• quota then increased to 8000 per year
• total 2nd season almost met the new quota
• down slightly in third year partly due to effects of the recession on NZ labour market
• at the same time, Australian pilot scheme announced in Aug 2008 and started in Feb 2009 has recruited just over 100 workers
Our evaluation

• Multi-year prospective evaluation launched alongside the roll-out of the policy
  • researchers rarely involved pre-baseline but had already been active input from World Bank and close collaboration amongst partners
• Separate DoL evaluation in NZ on impact on growers, on integrity of immigration compliance, on pastoral care of workers etc
• Our evaluation focuses on the economic development impacts in the source countries
  • Needed because TMPs remain controversial with critics suggesting that workers may be exploited or not earn enough to make short-term migration worthwhile
RSE surveys (Tonga and Vanuatu)

- Conducted by Waikato University with funding from World Bank and assistance from NZ Department of Labour and Labour Ministries in Tonga and Vanuatu

- 450 households in 3 groups surveyed in each country:
  - households with member(s) who worked in NZ under RSE
  - households with member(s) who applied for RSE but had not been recruited
  - Households where no member had applied for RSE
    - Initial interviews at pre-departure stage (Oct 2007- Mar 2008)
    - Second interview approximately six months later, while many RSE workers still in New Zealand (April-July 2008)
    - Third interview 12 months later when many RSE workers back with their household
    - Fourth interviews late 2009—early 2010
Why these two countries?

• Two largest suppliers of RSE workers

• Substantial difference between the two in previous migration experience
  • High emigration from Tonga almost none from Vanuatu

• Different recruitment approaches
  • Government-led, pro-poor in Tonga, private sector in Vanuatu

• These differences should increase the external validity of extrapolating from our results to other contexts
Impact evaluation methodology

- Panel difference-in-differences and panel fixed effects models after trimming sample to households with propensity scores in the range [0.1, 0.9]
- Surveys contain rich data and many of elements which lead matching to be more successful
  - Same survey for treated & control, same time in same lab market
  - control for attributes affecting participation supply and demand
  - retrospective earnings history, so can match on more than one pre-treatment period of earnings.
  - Natural reason why some people migrated and others with similar characteristics did not – there was excess demand for RSE employment, so not all households who wanted to participate could do so.
Impact evaluation methodology II

Match on:

PS-1:  
- household demographic variables pre-RSE  
- characteristics of the 18-50 year old males (English literacy, education, health, alcohol use)  
- household’s previous experience and network in New Zealand  
- Household baseline assets and housing  
- Geography (island)  
- Wage and Salary history

PS-2: all this plus whether they applied to work in RSE.

Distribution of Propensity Scores
Estimation equations

Difference-in-differences specification (controls for baseline differences in outcomes of interest at the group level):

\[ Y_{i,t} = \alpha + \beta \text{EverRSE}_i + \sum_{t=2}^{4} \delta_t + \gamma \text{RSE}_{i,t} + \varepsilon_{i,t} \]

Fixed Effects specification (controls for baseline differences in outcomes of interest at the household level):

\[ Y_{i,t} = \mu_i + \sum_{t=2}^{4} \delta_t + \gamma \text{RSE}_{i,t} + \varepsilon_{i,t} \]

Two measures of exposure to policy:
- Ever work in New Zealand in RSE by time t
- Cumulative number of months in RSE at time t
Sampling issues

• Samples are not necessarily random

• Sampled from Labour Ministry list of RSE recruits, and then unrecruited applicants and non-applicants from same village

• Rolling recruitment throughout the season without a quota for each country complicates the sampling
  • Some applicants at baseline subsequently recruited

• Only a few days between recruitment and departure, giving limited window for doing baseline surveys
  • Had to interview 37 of the Tongan RSE migrants on arrival at Auckland Airport with remainder of their household interviewed in Tonga in the following weeks
  • Many Vanuatu migrants interviewed at pre-departure orientation in Port Vila, with rest of household interviewed in outer islands later

• Sample has almost national coverage in Tonga
**Attrition and measurement error**

- Remarkably low attrition in Tonga ca. 1 percent
- Higher attrition in Vanuatu
  - 10-15% per round, but not cumulative since rounds 3 and 4 also tried to track baseline households not in round 2
  - Partly due to mobility of individuals amongst extended family and lower cost residential mobility
    - Greater reliance on informal/shanty housing in urban settlements in Vanuatu than in Tonga
    - More difficult to track households over survey rounds
- Attrition bounds for Vanuatu are fairly tight on main income effects
- Measurement error is higher in the Vanuatu data
  - E.g. lower round-on-round correlations for incomes, expenditures etc
  - Has the most impact on the fixed effects estimates
    - De-meaning makes these more vulnerable to noise
Efate rural village housing – permanent materials (about 40 min from Port Vila)
Settlement housing is more makeshift (Seaside, Port Vila)
Some are more permanent materials (Blacksands settlement, Port Vila) but overall high residential mobility hampered tracking
Monetary Welfare Measures

Income:
• Household earnings (excl RSE) (from individual reports for the previous week)
• Net returns from sales of fish, crops, livestock, artifacts/tapa (from household reports on an average month)
• Income from investments, pensions, rentals etc (from household reports for the previous month)
• Imputed value of own-produced or own-captured food consumed by the household (from household reports for the previous week)
• Net remittances received, both cash and in-kind (household totals of transaction-level reports for the previous 6 months)
  • Distinguish between remittances from RSE workers and others
• Money brought back when the RSE worker returns

Consumption:
• Cash spending over last week/month/ 6 months
• Imputed value of consumption of own-produced foods
Other outcome measures studied

- Subjective economic welfare (10 step Cantril-ladder)
- Durable assets
- Financial sector access
- School attendance of children
- Community contributions
Main results: Income and Expenditure

Percentage Increase from participating in RSE

- Income-DD
- Income-FE
- Expenditure-DD
- Expenditure-FE

Tonga  Vanuatu
Main economic impact results

• Results similar from using different counterfactual groups and propensity-score trimming

• Diff-in-diff and fixed effects give similar results for Tonga, but FE gives smaller impacts for Vanuatu
  • More round-by-round volatility, or panel measurement error

• Impacts on expenditures always less than on incomes
  • Earnings may be “saved” either in financial form, in assets and reciprocal obligations
  • Earnings may not be pooled fully within the household
    • Intra-household issues require different evaluation data collection methodologies
Also estimate impacts by duration (exposure to the ‘treatment’ varied widely)

• Variation in spell lengths (> 1/3rd are less than 6 months)
The exposure to the ‘treatment’ varied widely (2)

- Cumulative duration of RSE months worked at wave 4 of our survey
- variation due to variable spell lengths, only some workers having multiple spells and a few households with multiple workers
- duration ranges from 1 RSE month to over 20 RSE months
Other Economic Welfare Impacts

• In addition to the average impacts, the duration-based measures show that household per capita incomes are higher by 3-4% per month of RSE participation
  • Per capita expenditures rise by 2-3% per month of RSE participation in Vanuatu, by insignificant amount in Tonga

• Subjective welfare
  “Imagine a 10-step ladder, where on the bottom step were the poorest people and the top step the richest people, state which step of the ladder they thought their household was on today, and on which step their household was on two years ago.”

• We find 0.43 step increase in Tonga and 0.65-0.77 increase in Vanuatu – approximately 0.5 standard deviation increase in both countries.
Dwelling improvements

Find Tongan households 10-11 percentage points more likely to have improved dwelling over 2 years if in RSE.
Vanuatu households are 7-8 percentage points more likely (much higher baseline rate due to less permanent housing materials)

Our survey didn’t capture transitions between dwelling types
Asset accumulation

- Households with Bank account: 10-14 percentage point increase in Tonga from RSE, 17-19 percentage point increase in Vanuatu

- Tongan RSE households are significantly more likely to have acquired a cellphone, television, DVD player, and bicycle over the two-year period than similar non-RSE households.

- RSE households also seem to have sold their kerosene ovens and purchased gas or electric ovens instead.

- The ni-Vanuatu RSE households are significantly more likely to have acquired a radio or stereo, a DVD player, a computer, a gas or electric oven and a boat over the two-year period than similar non-RSE households.
Impact on Education and Self-employment

- School fees identified as one of most important uses of money earned
- Find a 10-14 percentage point increase in proportion of 16-18 year olds attending school in Tonga; no significant effect in Vanuatu
- Not much non-farm self-employment
Broader community impacts

• Relatively modest – villages got about $500 in remittances to village on average – used in Tonga mostly to improve water supply.

• In Tonga 92 percent of leaders say that it has had positive effects after two years, and in Vanuatu, even at 6 months, 72 percent of leaders say the overall impact is positive.
Conclusions

• RSE designed with promoting development in the Pacific as an explicit goal.

• We find it has largely met this goal.

• Our results suggest that seasonal migration one of the most cost-effective and largest impact development interventions for which rigorous evidence available

• Caveats:
  • Impacts may change over longer-term
  • Gains still pale in comparison to permanent migration
  • Open question how far one can extrapolate to other country contexts, but scale of the RSE, its best-practice procedures and the large baseline differences between Tonga and Vanuatu suggest reasonable external validity.