

**Which Tongans move to New Zealand via
the Pacific Assess Category quota, and
how does it change their lives?**

Steven Stillman

Motu Public Policy Seminar

Tuesday 25th May, 2010

Broad Research Questions

- How large are the benefits from migrating?
 - *How do they compare to what the emigrants expected?*
 - *What support should governments give for fostering labour mobility as a development policy in the Pacific?*
- What are short- and long-run impacts on health and human capital development?
- What are the effects on the families and communities in Tonga who send migrants?
- What are the dynamics of migrant assimilation and the impacts on extended families and communities?



Outline

- Why experimental evidence?
- Pacific Access Category
- Pacific Island-New Zealand Migration Study
- Findings
 - Who migrates?
 - Income and wellbeing
 - Child and adult health
- Conclusions



Why experimental evidence?

- Migrants are self-selected → comparing outcomes for movers and stayers may reflect differences in unobserved ability, skills, motivation, etc.
- Solution: use Pacific Access Category (PAC) under New Zealand's immigration policy – a random ballot.
- Experimental estimates of the effects of immigration are obtained by comparing outcomes for immigrants who are ballot winners to those for unsuccessful applicants



Pacific Access Category (PAC)

- Any citizens from Kiribati, Tuvalu, Tonga and Fiji aged 18-45, who meet certain English, health and character requirements, can register for the PAC
- Annual quota allows 250 Tongans to migrate
- This is oversubscribed, so a ballot is used to select among registrations
 - *Approximately 10% success rate*
 - *If selected, applicants need to provide evidence of a minimal job offer in New Zealand*
 - *Applicants can bring their spouse and dependent children under 25*



Other migration options

- Few alternatives for Tongans
- 94% of all Tongan migrants located in NZ, US and Australia.
- In 2004-05:
 - *New Zealand admitted 1482 Tongans*
 - *58 business/skilled*
 - *549 family-based*
 - *749 through PAC*
 - *Australia admitted 284 Tongans*
 - *US admitted 324 Tongans*
 - *290 family-based*

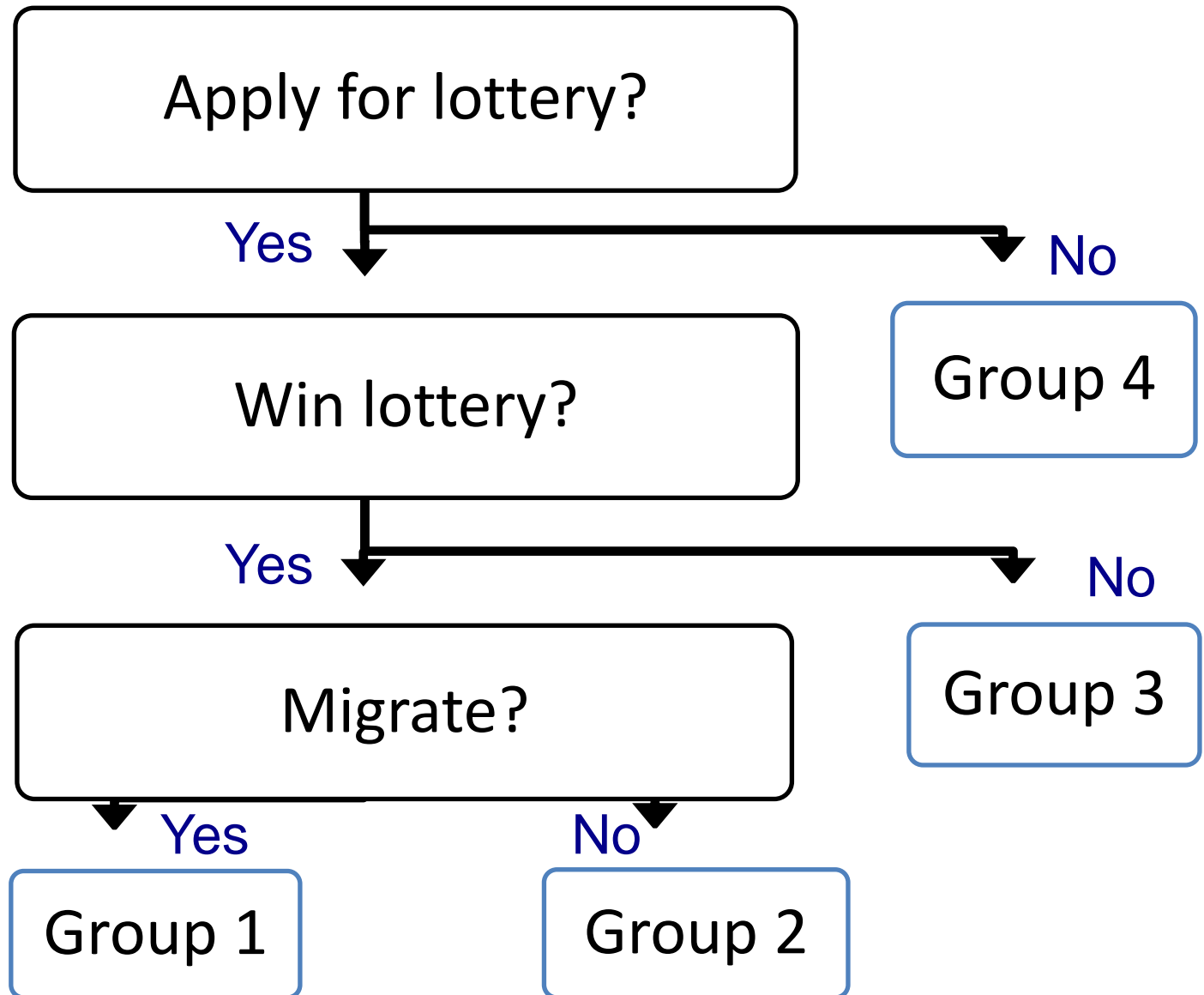


Pacific Island-New Zealand Migration Survey (PINZMS) – Tongan component

- Survey designed and overseen by authors in 2005/2006. Surveyed four groups of households:
 1. 101 of the 302 Migrant households to New Zealand who came through the 2002-2005 lotteries
 2. 26 of the 65 Successful households in the same lotteries who were still in Tonga – non-compliers
 3. 119 Unsuccessful households from the same lotteries
 4. 90 Non-applicant households in Tonga
- Detailed multipurpose survey: demographics, labour supply, income, health, remittances, ...
- On average, in New Zealand for 11 months



PINZMS - Sample frame



Measuring Health

- Self-assessed and objective health
 - Smoking, alcohol use, diabetes
 - Mental health, happiness, stress
 - *Mental Health Inventory 5 (MHI-5) of Veit and Ware (1983)*
 - *Five item scale ranges from 5 to 25, includes stress and happiness as components*
 - Anthropometrics
 - *Height, weight, BMI (kg/m²), z-scores for kids*
 - *Waist and hip circumference, and waist-hip ratio*
 - *Blood pressure, hypertension (measured and self-reported)*
 - Food consumption on previous day (ie. diet)
 - *Household-level, used to calculate sodium intake*



Measuring Subjective Well-Being

- Ask in Wave 2, approximately 33 months later
- Welfare ladder question
 - *“Please imagine a 10-step ladder where on the bottom, the first step, stand the poorest people, and on the highest step, the tenth, stand the rich. On which step are you today?”*
- Respect ladder question
 - *“And now please imagine another 10-step ladder, where on the lowest step are people who are absolutely not respected and on the highest step stand those who are very respected. On which step of this ladder are you today?”*
- Migrants answered about their current situation and retrospectively for when they were last living in Tonga



Findings (1): Who migrates?

- Reasons for migrating
 - *Higher wages in NZ (100%)*
 - *Better public services in NZ (96.9%)*
 - *Children can attend school in NZ (91.5%)*
 - *To be with family members (90.8%)*
 - *To get into Australia was the least important of the different reasons listed (7.8%)*
- Immigrants have characteristics that are more rewarded in the labour market
 - *Immigrants have 2.1 years more education than non-applicants*
 - *Immigrants have 91% higher pre-migration earnings than non-applicants with the same observed characteristics (eg. Education)*



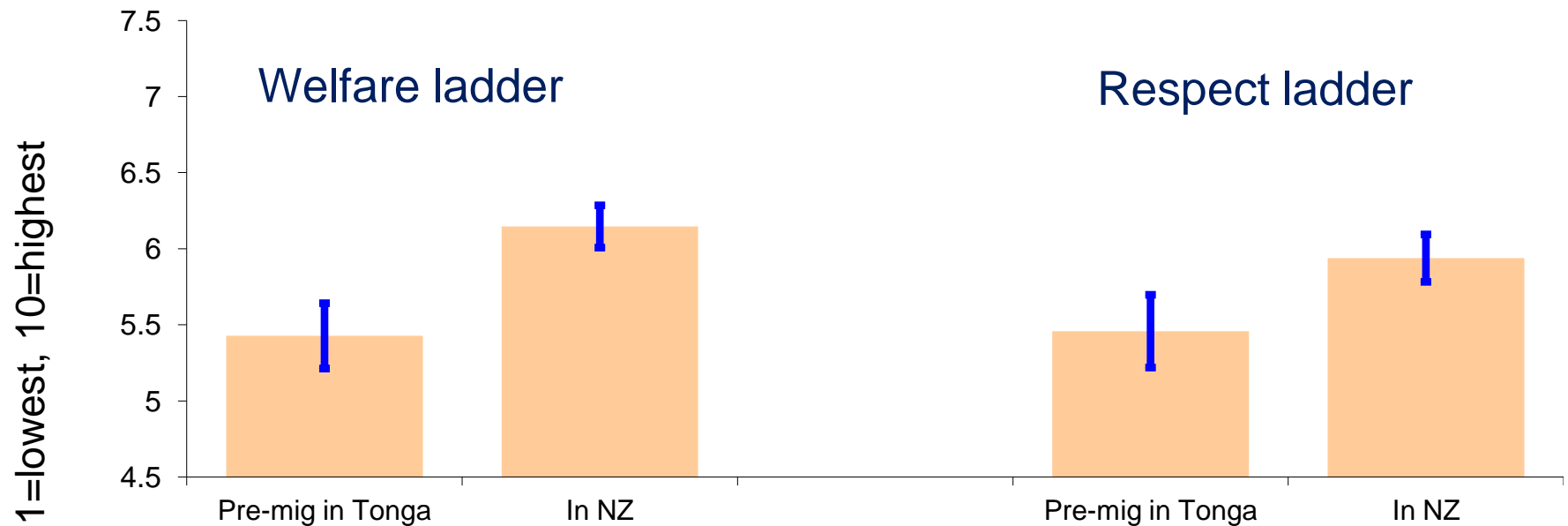
Findings (2): Who migrates?

- No differences between applicants and non-applicants in adult or child health
 - *Almost identical blood pressure and hypertension rates*
 - *No significant difference in child height, weight, BMI or self-reported health status*
- But, individual who want to migrate are 'unhappy'
 - *Individuals with poor mental health are 20% more likely to apply to migrate*
 - *Among unsuccessful applicants with poor mental health, nearly 70% list "better social life" as a reason why they want to migrate, while this is only listed by 46% of those in good mental health.*



Findings (3): Income and Wellbeing

- Income
 - *Migration increases weekly income by \$274, a 263% increase compared to incomes in Tonga*
 - *Increase is much less than the difference in GDP between the two countries of \$546 NZD per week*
 - *Robust to controlling for cost of living differences*
- Subjective Wellbeing



Health: Background

- It is often argued that immigration is bad for health
 - “The adverse effects on mental health of migration have been widely researched and established”

Pernice, Trlin, Henderson and North (2000) NZ J. Psych, “Employment and mental health of three groups of immigrants to New Zealand”

- Immigrants appear to be healthier than natives but then converge to the (unhealthy) natives

Lauderdale and Rathouz (2000) Int. J. Obesity, “Body mass index in a US national sample of Asian Americans: effects of nativity, years since immigration and socioeconomic status”

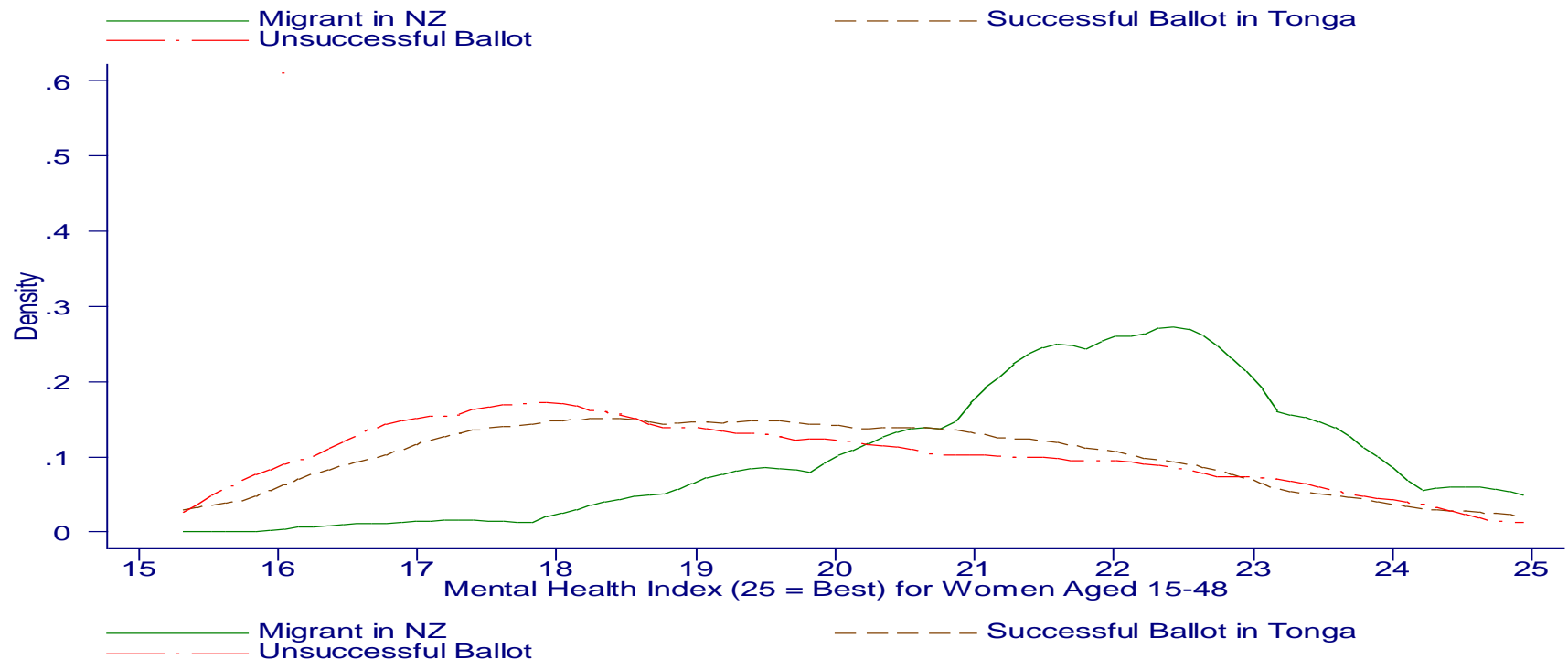
- “Millions of Latinos come to America looking for jobs and educations, but remaining here seems to be bad for their health... The longer Latinos are here, the more likely they are to become obese, to develop diabetes, high blood pressure and heart disease.”

<http://vivirlatino.com/2006/03/02/immigration-to-the-us-harmful-to-your-health.php>



Findings (4): Mental health

- The literature typically compares the mental health of migrants to that of natives in the destination country, with no account of any pre-existing differences
- We find large *positive* effects of migration on mental health, especially for women and for those with poor mental health



Findings (5): Child health

- Effects on child anthropometrics

	Effect of Migration	Mean for Unsuccessful Ballots
Standardized height-for-age (0-2 years old)	1.80*	-0.91
Probability of Stunting (0-2 years old)	-0.37*	0.36
Standardized BMI-for-age (3-5 years old)	1.20*	0.52
Probability of Obesity (3-5 years old)	0.36*	0.13
Standardized BMI-for-age (6-12 years old)	-0.14	1.76



Interpreting the Results

- Migration leads to changes in child health that are consistent with increased food intakes
- Possible channels?
 - Income effects
 - *However, very weak relationship between income and child health in Tonga and between changes in income and child health among migrants*
 - Changes in diet
 - *Migration leads to a significant increase in the consumption of roots, meats, fats, and milk*
 - *Reasons?*
 - *Price effects:*

Large difference in relative prices for different food goods: Tonga/NZD price of Milk = 1.66, fish = 0.57
 - *Marketing, availability, price of time, social norms*
- Changes in antenatal practices and physical activity



Findings (6): Adult health

- Effects on adult blood pressure

	Effect of Immigration Lower Bound	Effect of Immigration Upper Bound	Mean for Unsuccessful Ballots
Systolic BP	4.20*	5.24*	119
Diastolic BP	2.90*	3.62*	84
Probability of Measured Hypertension	0.098*	0.122*	26.5%
Probability of Self-Reported Hypertension	0.028*	0.035*	0.5%



Interpreting the Results

- Migration leads to increases in high blood pressure
- Possible channels?
 - Increased stress and anxiety
 - *Respondents asked how much of the time during the previous month they felt “calm and peaceful”.*
 - *Migration leads to a reduction in calmness of about one-sixth*
 - Increased sodium content of a more urbanised diet
 - *Change in diet discussed above lead to a nearly 2/3rds increase in mean sodium intake*



Conclusions (1)

- Immigration to New Zealand from Tonga increases income by over 250%
 - *Immigrants have attributes that are rewarded in the New Zealand labour market*
- Immigrants report themselves as having higher welfare and being more respected
- A number of positive impacts on health
 - *Overall mental health improves, especially for women and those unhappy in Tonga*
 - *Infants brought to New Zealand are taller than those still in Tonga*



Conclusions (2)

- Some negative impacts on health
 - *Adult blood pressure increases and hypertension becomes more common*
 - *Adults are more likely to report being stressed*
 - *Young children are heavier and more likely to be obese*
- Dietary change appears to be an important mechanism
 - *Large increase in the consumption of fats and milk and in overall sodium intakes*
 - *Little evidence that this is driven by income changes*



Acknowledgements

- Collaborators
 - John Gibson – U Waikato
 - David McKenzie - World Bank
 - Halahingano Rohorua - U Waikato
 - Azmat Gani – USP, Suva
 - Dept of Labour IMSED Research Team
- Funders
 - Marsden Fund
 - World Bank
 - University of Waikato
 - Stanford University
- For more information visit: www.pacificmigration.ac.nz



References

- Gibson, John, Steven Stillman, David McKenzie and Halahingano Rohorua. 2010. "Natural Experiment Evidence on the Effect of Migration on Blood Pressure and Hypertension." draft working paper available from the authors.
- Gibson, John, David McKenzie and Steven Stillman. 2010. "Miserable Migrants? Natural Experiment Evidence on International Migration and Subjective Well-Being" draft working paper available from the authors.
- McKenzie, David, John Gibson and Steven Stillman. 2010. "How Important is Selection? Experimental Vs Non-experimental Measures of the Income Gains from Migration." Journal of the European Economic Association, forthcoming.
- Stillman, Steven, John Gibson and David McKenzie. 2010. "The Impact of Immigration on Child Health: Experimental Evidence From a Migration Lottery Program." Economic Inquiry, forthcoming.
- Stillman, Steven, David McKenzie and John Gibson. 2009. "Migration and Mental Health: Evidence from a Natural Experiment." Journal of Health Economics 28 (May). no. 3: 677–87.

For more information visit: www.pacificmigration.ac.nz

