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IMMIGRANTS' LABOUR MARKET OUTCOMES: NEW  
EVIDENCE FROM AUSTRALIAN HOUSEHOLD PANEL  
DATA

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# Exchange Rate Fluctuations and Immigrants' Labour Market Outcomes: New Evidence from Australian Household Panel Data

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## **Abstract:**

We present new and robust evidence that, unlike immigrants in the US, those in Australia as a whole do not reduce their yearly labour market outcomes when the local currency appreciates. While female immigrants don't adjust their actual labour activities, they do desire to work more when the Australian dollar appreciates. By contrast, male immigrants reduce their weekly work intensity by participating less in full-time employment in response to an Australian dollar appreciation. We also present significant and heterogeneous impacts of exchange rates by gender and socio-economic backgrounds of immigrants and labour market outcomes.

**Keywords:** Exchange rate, Labour supply, Immigrants, Australia.

**JEL classification:** F31, J22, J61.

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## 1. Introduction

International migration plays an important role for both home and host countries. It is therefore important to understand the factors influencing how immigrants fare in host countries. This paper contributes to the literature of international migration by examining the impact of exchange rate fluctuations on labour market outcomes of immigrants. The labour market outcomes of immigrants are of particular interest as they themselves are one of the major determinants of economic development of the host countries. Labour market outcomes of immigrants also have direct and important impacts on the development of their home countries, for example by international money transfer or by investment channels.

Exchange rates may have some impact on the labour market outcomes of immigrants because they affect the purchasing power of income earned in the host country. In theory, a relative appreciation of the host country's currency can have an ambiguous impact on the labour supply and subsequently the income of immigrants who want to make monetary transfers to their home countries or who at some point in the future may return to their home countries and bring with their labour income earned in the host country. As an example, in order to make the same amount of home country currency transfer, immigrants may need to work less because the host country's currency appreciation could lower the price of transfer. Alternatively, income impact could cause the immigrants to work more while they are still in the host country. Therefore, the direction and magnitude of the impact of exchange rate on the labour supply is an empirical issue. So far, there has been only one study providing such evidence from the United States of America (US) (Nekoei 2013). In particular, Nekoei (2013) uses 16 years of data from the Current Population Survey to provide the first evidence on the impact of exchange rate volatility on labour supply of immigrants in the US. By exploiting variations in exchange rates across home countries over time as exogenous price shocks to immigrants' budget constraints, he finds that immigrants worked fewer hours and hence earn less in response to an appreciation of the US dollar (USD). He also finds that responses to exchange rate volatility are largely similar for males and females.

Our paper also employs the same strategy to provide the second empirical evidence from Australia. Using the rich panel data from Australia, we are able to make two contributions to the literature. First, this study is the first to use data from Australia to analyse the impact of exchange rate fluctuations on labour market outcomes of immigrants. Like the US, Australia is a country with a high immigrant population. However, previous comparative studies that use both US and Australian data have shown that the composition and economic behaviour of

immigrants from the two countries are not the same (Antecol *et al.* 2003; Antecol *et al.* 2006; Chiswick *et al.* 2008). It is therefore necessary to study whether the previous US findings about the labour market impact of exchange rate fluctuations still hold for Australia. Second and more importantly, unlike the previous paper which uses cross sectional data (and thus cannot effectively control for unobserved individual effects such as work ethic or ability), this paper uses panel data to control for unobserved individual heterogeneity. Previous studies have demonstrated the importance of controlling for unobserved individual heterogeneity in modelling labour market outcomes of immigrants in Australia (Cobb-Clark *et al.* 2012; Breunig *et al.* 2013), Canada (Hum & Simpson 2004), Germany (Fertig & Schurer 2007) and the US (Borjas 1985; Hu 2000; Duleep & Dowhan 2002; Dustmann & Fabbri 2005; Lubotsky 2007; Abramitzky *et al.* 2014). This paper thus provides another robustness check for whether the previous findings change when individual fixed effects are accounted for.

Using the Household Income and Labour Dynamics in Australia (HILDA) panel for 12 years and exchange rates for 65 countries of origin, we find that only female immigrants reduce their labour market activities and hence earn less in response to an appreciation of the Australian dollar (AUD). However, this result only holds when the individual heterogeneity is not accounted for. Results from models controlling for individual fixed effects suggest that most labour market outcomes of Australian male and female immigrants are not responsive to exchange rate fluctuations. We present new evidence that while female immigrants don't adjust their actual labour activities in response to exchange rate fluctuations they do desire to work more when the AUD appreciates. In addition, while male immigrants maintain their labour market participation in response to an AUD appreciation, they reduce their work intensity by participating less in full-time employment and more in either part-time employment or self-employment. We also present significant and heterogeneous exchange rate impacts by immigrants' socio-economic background and labour market outcomes.

The rest of the paper is structured as follows. Section 2 briefly reviews related literature. Section 3 describes the data and Section 4 presents our empirical models. Section 5 presents the empirical results, while Section 6 reports heterogeneous exchange rate impacts among immigrants. Section 7 presents results from several sensitivity tests and Section 8 concludes the paper.

## 2. Literature Review

This paper is related to two strands of literature. The first and developing body of literature studies the impact of macroeconomic conditions (including exchange rate fluctuations) on some aspects of immigrant behaviour. For example, studies find that a relative depreciation in the home country currency reduces the probability of return for immigrants (Yang 2006; Abarcar 2013) or increases the probability of emigration (Gordon & Spilimbergo 1999). In addition, Yang (2008) finds that a depreciation of the Philippine peso against the host country's currency leads to increases in household remittances from overseas, a finding which is consistent with an earlier finding by Faini (1994) for foreign workers in Germany.<sup>1</sup> As mentioned above, Nekoei (2013) also provides the first evidence on the impact of exchange rate on labour market outcomes of US immigrants. This literature also examines the impact of other macroeconomic conditions (either at home or host countries) on migrants' behaviours. For instance, McKenzie et al. (2014) use a panel dataset of migrants originating from the Philippines to find that the number of migrants is statistically significantly responsive to GDP shocks in destination countries. Furthermore, studies also provide mixed evidence regarding the impact of home countries' macroeconomic conditions on immigrants' wellbeing: while Akay et al. (2013) find that the subjective well-being of German migrants decreases with improvements in their home countries' macroeconomics conditions, Nguyen and Duncan (2015) demonstrate that Australian immigrants feel happier when their home countries' macroeconomic conditions improve.

The second strand of literature to which this paper is related provides empirical evidence on the impact of remuneration on labour supply. This literature so far has not come to a consensus on the empirical impact yet. For example, some studies find significantly negative wage elasticity (Camerer *et al.* 1997; Chou 2002; Crawford & Meng 2011; Chang & Gross 2014) which is consistent with the prediction of the target earning theory of labour supply (Camerer *et al.* 1997). By contrast, some studies (Gerald S. Oettinger 1999; Fehr & Goette 2007; Stafford forthcoming) find significantly positive wage elasticity, supporting the neo-classical theory of labour supply.

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<sup>1</sup> There is also a quite large body of literature examining the impact of exchange rates from the point of view of firms or industries (Campa & Goldberg 2001; Klein *et al.* 2003; Nucci & Pozzolo 2010; Park *et al.* 2010; Kandilov & Leblebicioğlu 2011; Mishra & Spilimbergo 2011; Ekholm *et al.* 2012; Héricourt & Poncet 2013; Amiti *et al.* 2014).

### 3. Data and Sample

#### 3.1. Data

We use data from several sources for this study. The first data source comes from a well-known source, Household Income and Labour Dynamics in Australia (HILDA) survey. HILDA is an annual nationally representative longitudinal survey of private households in Australia. In addition, HILDA contains rich information at the individual or household level, including data on socio-demographic variables, incomes, and labour market conditions. We use the first 12 waves of data which covers a period from 2001 to 2012 for this analysis. The second data source for historical daily exchange rates is from Oanda website. The third data source for macroeconomic variables such as Gross Domestic Product (GDP), Consumer Price Index (CPI), and unemployment rates is the World Bank's World Development Indicators (WDI) database. Additional macroeconomic data for Taiwan are sourced from the Taiwanese statistics office, as data for Taiwan is not available at the World Bank's database.<sup>2</sup>

#### 3.2. Exchange Rates

Similar to Nekoei (2013), we estimate the casual impact of real exchange rate on immigrants' labour market outcomes. Accordingly, real exchange rate is defined as  $e_c = E_c * (P_{AUS}/P_c)$ , where  $E_c$  is yearly nominal exchange rate as defined right below and  $P_c (P_{AUS})$  is the yearly CPI for country  $c$  (Australia). Exchange rate is measured as the number of foreign currency per unit of AUD (for example 20,000 Vietnam Dong (VND)/AUD).<sup>3</sup> Therefore an increase in exchange rate is considered as the appreciation of the AUD. This could be also viewed as a favourable change for immigrants originating from that country. For each country and in each year, we construct the yearly nominal exchange rate as the average of daily exchange rates over the calendar year. Daily exchange rates are derived from the mid-point between the "buy" and "sell" rates from global currency markets. These yearly nominal exchange rates are then used in conjunction with yearly CPI to calculate yearly real exchange rates and link to the year that the individuals are surveyed in the HILDA data.

#### 3.3. Sample

In our analysis, immigrants are those who were born outside Australia. We restrict the empirical sample to countries with enough observations and to countries with exchange rate

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<sup>2</sup> See <http://data.worldbank.org/indicator>. For Taiwan, the data is from National Statistics: <http://stat.gov.tw/>.

<sup>3</sup> We do not use an alternative exchange rate measure (i.e. units of AUD per unit of home currency) because for some currencies (such as Indonesian Rupiah or Vietnamese Dong), such measure results in a loss of precision.

data available in any year.<sup>4</sup> We further restrict the sample to individuals of working ages, between 16 and 64.<sup>5</sup> We also exclude individuals with missing information on any variable used in our empirical model. These sample restrictions result in a sample of 25,717 individual-year observations from 4,776 unique individuals obtained over 12 years of data and immigrants from 65 countries (See Appendix Table A2 for details).

Immigrants in Australia are from a wide variety of countries. Appendix Table A2 displays the distribution of countries of birth of Australian immigrants a majority of them come from the United Kingdom (28 %), New Zealand (12 %), the Philippines (5 %), Vietnam (4 %), India (3 %), South Africa (3 %), China (3 %), Germany (3 %), Italy (2 %), Netherlands (2 %), and USA (2 %). The geographical diversity of Australian immigrants means that there was a considerable source of exchange rate volatility during the study period. This is illustrated in Figure 1 which presents the daily nominal exchange rates for selected major home countries of Australian immigrants. Figure 1 also shows, with the exception of the 2008-2009 recession when the AUD depreciated significantly, most immigrants enjoyed favourable exchange rate changes from 2001 to 2012. This is also confirmed in Table 1 which shows that, on average, the nominal AUD appreciated by 4.1 % annually from 2001 to 2012. However, due to the Australia's lower CPI during this period, in real terms, the AUD only increased by about 3.9 % per year. Appendix Table A2 also shows a large variation in the yearly nominal exchange rate growth during the period, ranging from minus 5.3 % (Iraq) to positive 37 % (Iran). Controlling for the differences in yearly CPI in Australia and home countries, we still observe huge fluctuations in yearly real exchange rate of the AUD, ranging from minus 2.8 % (Iraq) to positive 34 % (Iran).<sup>6</sup> We also observe a large variation in yearly real exchange rates across 10 major home countries (See Table 1). For example, between 2001 and 2012, the real exchange rate did not change for New Zealand but increased by about 7.0 % per year for Vietnam. These large fluctuations in the real exchange rates between countries over the study

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<sup>4</sup> In particular, we focus on countries with at least 50 observations surveyed in all years covered in our study period. The results are not sensitive when we increase the number of observations per country to 100. We exclude ex-Yugoslavia because the country was separated into several countries before or during our study period and we do not know which new country the Australian immigrants come from. We additionally exclude 73 individual-year observations from Zimbabwe because the country experienced very large macroeconomic fluctuations during the study period (for example, its CPI was above 24,000 % in 2007).

<sup>5</sup> We use 16 as the minimum age restriction to keep our sample comparable with that used by Nekoei (2013). The results are very similar when we increased the minimum age restriction to 24 (See Table 9 – column 4 and 9).

<sup>6</sup> In principle, changes in nominal exchange rates among EURO zone countries (Ireland, Austria, Belgium, France, Germany, Netherlands, Finland, Italy, Malta, Portugal, Spain, Cyprus, Greece, and Latvia) should be the same at any point in time. However, due to the unbalanced nature of our panel sample, the average of nominal exchange rate growth is not the same for those countries for the whole 2001-2012 period.

period and within countries overtime thus validate our empirical strategy that exploits the changes in real exchange rates across home countries over time to identify the casual impact of exchange rate volatility on the immigrants' labour market outcomes.

[see Table 1 and Figure 1]

Table 1 also shows that about 53 % of our sample is female. On average, immigrants in the sample are around 44 years old and have lived in Australia for about 25 years.<sup>7</sup> About three quarters (72 %) of immigrants worked in the week prior to the survey time and conditional on working, each immigrant spent about 38 hours on labour market work per week and earned about AUD 500 per week and AUD 26,000 per year.

#### 4. Econometric Model

We first follow Nekoei (2013) to estimate the labour market outcome  $Y$  of immigrant  $i$  from home country  $c$  at time  $t$  as follows:

$$Y_{cti} = \alpha_c + \alpha_t + \beta e_{ct} + X_{cti}\gamma + Z_{ct}\delta + \varepsilon_{cti} \quad (1)$$

In equation (1),  $e$  represents real exchange rate as explained above;  $X$  is a vector of individual time-variant characteristics;  $Z$  is a vector of other macroeconomic variables; and  $\varepsilon_{cti}$  is a zero-mean error term. Equation (1) includes home country fixed effects ( $\alpha_c$ ) to remove time-invariant heterogeneity in immigrants' countries of birth. Equation (1) additionally includes time fixed effects ( $\alpha_t$ ) to control for any shock that are the same for all countries each year. The resulting identifying variation thus comes from changes in real exchange rates across home countries over time. We apply equation (1) to a pooled sample of all immigrants in our data and call estimates as "pooled" results. We then exploit the panel nature of our data to include individual fixed effects ( $\alpha_i$ ) in the equation (1) to estimate the following regression:

$$Y_{cti} = \alpha_t + \alpha_i + \beta e_{ct} + X_{cti}\gamma + Z_{ct}\delta + \varepsilon_{cti} \quad (2)$$

Note that equation (2) which controls for individual time-invariant heterogeneity ( $\alpha_i$ ) also captures unobservable country fixed effects ( $\alpha_c$ ). We call estimates from Equation (2) as "fixed effect (FE)" results. FE model is our preferred specification because it controls not only for time and country fixed effects, but also for time invariant unobservable individual

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<sup>7</sup> Table 1 also shows that an average immigrant is about 6 years older than a representative native. This could be a result from the sampling of the HILDA. In particular, as Watson (2012) notes the first 10 waves of HILDA (from 2001 to 2010) include a representative sample of immigrants permanently settling in Australia since 2001. Newly arrived immigrants who are presumably younger are thus under-represented in more recent of the first ten waves. The lack of recent immigrants was a motivating factor for the inclusion of the top-up sample in 2011, which makes the sample of the Australian immigrants to be representative to the whole immigration population.

characteristics (such as work ethic or ability). The inclusion of individual fixed effects thus helps further address a concern that some unobservable characteristics of immigrants could be correlated with some common control variables such as the duration of stay in Australia, immigrants' health status and wealth in the labour market outcome equations. The possible consequence of failing to control for these unobservable traits is biased estimates of these control variables as well as other exogenous variables including the exchange rate variables (Wooldridge 2010).

#### **4.1. *Other Explanatory Variables***

Other explanatory variables include age (and its square), duration of stay in Australia (and its square), education, English Speaking Background (ESB),<sup>8</sup> marital status and health status of the individual immigrants. We also include household non-labour income and home ownership status to control for any wealth effect on the immigrant's labour market outcomes.<sup>9</sup> Household characteristics in the models also include the number of co-residing members of various age cohorts. We additionally control for differences in working conditions across regions by including the regional unemployment rate, regional relative socio-economic advantage index, and state dummies<sup>10</sup> in the labour market outcome equations. We also control for the heterogeneity in the time of survey by controlling for year and month fixed effects. To capture assimilation profile of the immigrants, in pooled models, we also include dummy variables for various groups of immigrants with time of arrival in five-year-bands. Note that all variables representing the length of stay in Australia are not identified in our fixed effects models because they have already included other three time-dimension variables (i.e. immigrant's age, year dummies, and individual FE). In addition, our fixed effect models which control for individual-specific heterogeneity associated with arrival cohorts also capture cohort-specific unobserved characteristics affecting immigrant's labour market outcomes (Borjas 1999).

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<sup>8</sup> English Speaking Background countries include the United Kingdom (UK), New Zealand, Canada, US, Ireland and South Africa.

<sup>9</sup> Non-labour income is the sum of the respondent's income from sources other than wages, salaries, business income, private pensions, and includes the other members' income from all sources. This non-labour income is normalized by the square root of household size to adjust for economies of scale in consumption. See Appendix Table A1 for details of variable definition.

<sup>10</sup> The inclusion of state/territory dummies also accounts for possible internal migration patterns. Our data show that about 13 % of immigrants moved interstate each year.

## 4.2. *Main Labour Market Outcomes*

Main labour market outcomes examined in this study include: (1) whether the respondent was employed (including self-employed); (2) the number of weekly working hours conditional on working; (3) hourly wage rates<sup>11</sup> and (4) weekly wages conditional on working for wages. These four outcomes were measured in the week prior to the survey time. We also use annual wage earnings in the last financial year as the fifth labour market outcome.<sup>12</sup> Because HILDA survey does not have direct information about yearly labor supply, in order to provide results comparable to those presented in the previous work by Nekoei (2013) we divide the annual wage earnings by hourly wage rates to calculate the sixth labor market outcome, namely annual hours spent on wage work. Note that differences in the timing of the hourly wage rates and annual wage earnings may cause measurement errors in the calculated annual working hours, which results in a reduction of the number of wage earners for whom annual wage working hours are calculated.<sup>13</sup> All outcomes, except the employment decision, are adjusted for CPI, using the 2001 CPI as the base, and measured in log form. Since exchange rates are also measured in log form, the coefficient estimates of exchange rate variable ( $\beta$ ) in equation (1) or (2) can be interpreted as the elasticity of an outcome (for instance, weekly wages) with respect to exchange rates.

We recognize the possible differences in labour market patterns and assimilation between Australian males and females (Meng & Gregory 2005; Chiswick & Miller 2013) by analysing males and females separately.<sup>14</sup> For ease of interpretation, we use Ordinary Least Squared (OLS) to estimate all equations.<sup>15</sup> Due to the panel nature of our data, standard errors are clustered at the individual level to account for any serial correlation.

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<sup>11</sup> Hourly wages are calculated from dividing the weekly wages by the weekly hours spent on working for wages.

<sup>12</sup> In Australia, the financial year runs from 1<sup>st</sup> July to 30<sup>th</sup> June of the following year. All earnings are before tax.

<sup>13</sup> Due to differences in sample size, log (annual wage earnings) may not equal to the sum of log (hourly wage rates) and log (annual wage working hours).

<sup>14</sup> The assimilation patterns of male and female immigrants have also been found different in other countries such as European countries (Adsera & Chiswick 2007) and Spain (Amuedo-Dorantes & De la Rica 2007). It should be noted that Nekoei (2013) does not analyse by gender. However, in an Appendix Table (Nekoei 2013 Table A3), he shows that estimation results are largely the same for males and females.

<sup>15</sup> Logit estimates for the binary outcome variable (whether the individual worked in the week prior to the survey) are largely similar to those OLS estimates presented here. Logit results for pooled data are available upon request. Unfortunately, the fixed effect Logit model for this outcome failed to converge, probably because of the large number of dummy variables used.

## 5. Empirical Results

### 5.1. Results for Main Labour Market Outcomes

For comparison with the previous work by Nekoei (2013) who uses cross sectional data methods, we present results from both pooled and fixed effects models. We discuss the pooled results first. Our pooled results (Table 2 – Column 1 for females and column 9 for males) show that exchange rate fluctuations have opposite impact on the employment decision of female and male immigrants. In particular, an appreciation of the AUD reduces the labour market participation of females but increases working probability of males. The impact is however marginally statistically significant (at the 10 % level) for females only. For females, a 10 % appreciation of the AUD reduces their labour market participation probability by about 0.76 percentage point. This impact is quite substantial (equivalent to a 1.2 %<sup>16</sup> reduction in mean working rates for female immigrants) given an already low labour market participation rate for females (63 %) and the large appreciation of the AUD during the study period (3.9 % per annum). Our finding of a negative and significant impact of the exchange rate appreciation for females is new to the literature since the previous work finds that an appreciation of the USD does not have any significant impact on the working probability of US male and female immigrants.

[see Table 2]

Pooled results also show that, conditional on working, in response to an appreciation of the AUD, male and female immigrants appear to reduce their weekly working hours and weekly wage earnings. The estimates, however, are marginally statistically significant (at the 10 % level) for males' weekly wages only. These estimates indicate that, in response to a 10 % appreciation of the AUD, male immigrants reduce their weekly wage earnings by 1 %.<sup>17</sup>

When labour market outcomes are measured over the last financial year, estimates from pooled regressions suggest that annual working hours and annual earnings are much more responsive to exchange rate fluctuations than before. However, similar to the results on the employment decision discussed above, estimates are statistically significant (at the 5 (10) % level for annual working hours (annual wages)) for females only. Now in response to a 10 % appreciation of the AUD, female immigrants reduce their annual working hours (wage

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<sup>16</sup> This figure is calculated as  $(0.076/0.63)*100=1.2\%$  where 0.63 is the average working rate for female immigrants in our sample.

<sup>17</sup> Unfortunately, Nekoei (2013) does not present results for weekly earnings so that we cannot compare the results of two studies directly.

earnings) by about 1.8 (2.0) %. Thus, estimates for Australian female immigrants are in line with those reported for their US counterparts in terms of the sign and significant level (Nekoei 2013). Our estimates indicate that the fall in female immigrants' annual wage earnings is mainly driven by their reducing annual working hours (since estimates for hourly wage rates are small and statistically insignificant as shown in Table 2), a finding which is similar to that in the previous US literature. However, in terms of the magnitude, the Australian estimates are much higher than those reported for the US where in response to a 10 % USD appreciation, US female immigrants reduce their annual working hours (annual earnings) by only about 0.5 (0.9) %. These findings are interesting given that immigrants in our sample have spent a longer time (about 8 years) in the host country than those in the US study. Furthermore, our finding of a negative but statistically insignificant impact of exchange rate fluctuations for Australian male immigrants is not in line with the previous US finding of a negative and statistically significant impact. However, in terms of the magnitude, estimates for Australian males are largely similar to the estimates for the US males and females.

We now turn to discuss FE results (column 5 for females and column 13 for males). The F test statistics confirm that FE models are preferred to OLS models and this is the case for all labour market outcomes.<sup>18</sup> These test results suggest that there are some unobservable time-invariant individual characteristics which are correlated with the exchange rate fluctuations and labour market outcomes at the same time and these characteristics should be controlled for when modelling immigrant labour market outcomes. Indeed, FE results which control for those unobservable individual characteristics show significant changes to our previous findings, especially for females. In particular, for females, estimates turn from statistically significant to insignificant (for work decision, annual working hours and annual wage earnings). As such, FE estimates point to a statistically insignificant impact of exchange rate fluctuations on all main labour market outcomes for Australian females. By contrast, for males, FE models, while reserve the previous sign and significance level for all main labour market outcomes, turn the estimate for weekly working hours from statistically insignificant to marginally statistically significant (at the 10 % level). Overall, our results which control

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<sup>18</sup> F statistics are calculated in the models not allowing robust standard errors because it is very complicated to do so. For brevity, F statistics are not reported here but they will be available upon request. Our results for standard errors (reported in parentheses) are about the same between pooled and FE regressions, indicating that insufficient variation in explanatory variables is not a problem for our data (Allison 2009).

for individual heterogeneity suggest that main labour market behaviours of male and female Australian immigrants are not responsive to the exchange rate fluctuations.

Other results from Table 2 show that the effects of exchange rate fluctuations are not contaminated by the impact of other home country's macroeconomic conditions (such as GDP per capita (results reported in column 2, 6, 10 and 14 of Table 2), GDP growth (column 3, 7, 11, 15 of Table 2) or unemployment rates (column 4, 8, 12, and 16 of Table 2) since estimates for the exchange rate variables are largely unchanged when other macroeconomic variables are introduced to the model.

## 5.2. *Other Labour Market Outcomes*

It is possible that labour market structures (such as requirements about part-time or full-time working hours or labour market frictions) may not allow immigrants to fully respond to the exchange rate fluctuations as they desire (Altonji & Paxson 1988; Dickens & Lundberg 1993). To capture this possibility, we construct a variable called “hours desired to work more” as the difference between the desired and actual weekly working hours per week.<sup>19</sup> A positive value for this variable would indicate evidence of underemployment as working individuals desire to work more than they actually do (Wooden *et al.* 2009). We also capture the impact of exchange rate fluctuations on other labour market outcomes such as participating in the labour market at a particular mode (full-time, part-time or self-employed) or changing occupation since last interview.

[see Table 3]

Estimates for the “hours desired to work more” variable (the first row of Table 3) indicate that working female immigrants desire to work more when the AUD appreciates. For them, a 1 % appreciation of the AUD makes them desire to work about 2.7 hours per week more. We also note that the exchange rate impact on the “hours desired to work more” variable is very stable when we control for individual FEs (column 5 to 8 in Table 3) or include other macroeconomic variables (column 2 to 4 and 6 to 8) in the regressions. These results when viewed with earlier results that female immigrants do not reduce their actual weekly working hours in response to an AUD appreciation suggest some labour market structures may exist that prevent working female immigrants from working more. By contrast, we observe a

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<sup>19</sup> The desired working hours are derived from the question “In total, how many hours a week, on average, would you choose to work? Again, take into account how that would affect your income”. Note that this question is only asked for individuals employed in the last week prior to the survey time.

negative and statistically insignificant impact of an AUD appreciation on the hours desired to work more by males.

Other pooled results from Table 3 suggest that an appreciation of the AUD statistically significantly (at the 5 % level) decreases the probability of working full-time for females only. However, also for females, controlling for individual FEs turns the exchange rate impact on the probability of working full-time from statistically significant to insignificant. In contrast, controlling for individual unobserved heterogeneity turns the exchange rate impact on the probability of working in a particular labour force status from statistically insignificant to significant (at the 5 (10) % level for worked part-time variable (worked full-time or self-employed) for males. FE estimates show that, in response to a 10 % appreciation of the AUD, male immigrants reduce (increase) their full-time (part-time) employment probability by about 0.8 (0.7) percentage points. This finding when viewed with an early finding of an insignificant impact of exchange rate on the probability of being employed suggests that male immigrants respond to exchange rate appreciation not by exiting the labour market but by reducing their work intensity. Finally, we do not find any significant impact of exchange rate volatility on the probability of changing occupation for both males and females.

### **5.3. *Timing of the Impact***

It is possible that immigrants may need some time to adjust their labour market decisions to exchange rate volatility. To account for the possible dynamics of exchange rate fluctuations we introduce lagged exchange rates to the equation (2). Estimates for different lags of exchange rates are obtained from separate regressions and results for main labour market outcomes variables are reported in Table 4. Table 4 shows that all current labour market outcomes of female and male immigrants are not responsive to exchange rate fluctuations which took place in the previous year or two years ago. Estimates for lagged exchange rates are thus similar to our FE results for current exchange rates obtained earlier (re-produced in Table 4 for ease of comparison). Estimates for various lagged exchange rates on other labour market outcomes reported in Table 5 also show a similar pattern.

[see Table 4 and 5]

## **6. Heterogeneity among Immigrants**

Above, using FE models, we found that male and female immigrants as a whole did not statistically significantly adjust their main labour market outcomes in response to exchange rate fluctuations. It may be the case that immigrants with different socio-economic

background respond heterogeneously to exchange rates fluctuations. We investigate the heterogeneity of the impact by estimating the regression (2) for two sub-groups, separated by each variable of a series of variables which represent socio-economic background of the immigrants, their ties with home countries or return probabilities. These variables include the immigrant's age, the duration of stay in Australia, marital status, the presence of children, education level, citizenship status<sup>20</sup>, whether the immigrant is the oldest child, the presence of a close family member (i.e. parents and siblings) overseas, whether the immigrant speaks a language other than English at home, and whether the immigrant reports that he or she speaks English very well.<sup>21</sup> In addition to the above individual characteristics, we also consider the immigrant's home country characteristics such as whether the country is an ESB country, the physical distance between the home country and Australia, whether the country is classified as a high income country by the World Bank, whether the country allows its citizens to hold multiple citizenships, the home country's democracy index, and the country's remittance inflow/GDP ratio.<sup>22</sup> For each of non-binary variables (for example, age, the duration of stay in Australia, the air distance from the home country to Australia, the home country's democracy index, and the country's remittance/GDP ratio), sub-groups are defined relative to the median of the respective male and female sample. Table 6a and 6b (7a and 7b) thus report exchange rate impact on main (other) labour market outcomes of immigrants with or without a particular characteristic.

[see Table 6a and 6b]

Estimation results for main labour market outcomes show that an AUD appreciation has a positive and statistically significant (at the 5 % level) impact on the work probability of male immigrants from non-ESB or high remittance inflow countries.<sup>23</sup> For that group, a 10 % appreciation of the AUD leads to about 0.8 percentage point increase in their working

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<sup>20</sup> Questions about citizenship are only asked once for all respondents, starting from wave 2 for all respondents and only for new entrants from wave 3. Similarly, questions about residential locations of parents and siblings are only surveyed in Waves 8 and 12. We use the panel nature of our data to fill in missing information for these variables in other waves. It is possible that these variables change overtime that our data cannot capture. Unfortunately, HILDA does not provide the exact overseas locations of family members so that we cannot identify whether family members live in the immigrants' home countries.

<sup>21</sup> While the last two language indicators are highly correlated (in our data, their correlation coefficient is minus 0.5 and statistically significant at the 1 % level), we examine them separately because they may represent immigrants' ties with home countries or their assimilation to Australia differently.

<sup>22</sup> The remittance/GDP ratio is averaged over the study period (i.e. 2001-2012) because, for some countries, data are not available for all years studied. Similarly, the democracy index, which is provided by the Economic Intelligent Unit with a higher index representing a higher level of democracy, is averaged over the 2006-2012 period. We use Google map to measure the air distance between Australia and the home country.

<sup>23</sup> Estimates of exchange rate impacts on the probability of working, hourly wage rates and the probability of changing occupation are not reported for brevity. Results will be available upon request.

probability. By contrast, an appreciation of the AUD is found to statistically significantly (at the 5 % level) reduce weekly working hours of male immigrants who are single, who speak a language other than English at home, or who are the oldest child in the family (see Table 6a). By the same token, the AUD appreciation decreases weekly working hours of female immigrants who don't hold Australian citizenship. Interestingly, exchange rate fluctuations have significant but opposite impacts on weekly working hours of females with and without fathers overseas. In particular, while an AUD appreciation increases weekly working hours and weekly wage earnings of females with fathers overseas, it reduces these labour market outcomes of females without fathers overseas. Similarly, we find a statistically significant (at the 1 % level) and negative exchange rate impact on weekly wages of male immigrants without fathers overseas. We note that while having fathers overseas statistically significantly affects exchange rate estimates for some of weekly labour market outcomes of immigrants, having mothers overseas does not influence our exchange rate estimates in any significant way. We additionally find that male immigrants from non-ESB, non-multiple citizenship, low income or less democratic countries reduce their weekly wage earnings when the AUD appreciates.

Estimates of exchange rate impacts on two yearly labour market outcomes (i.e. yearly workings hours and earnings with results reported in Table 6b) also show some heterogeneous impacts. First, female immigrants from countries adjacent to Australia or countries which are classified as low income, less democratic or high remittance inflow ones work fewer hours per year when the AUD appreciates. Second and in like manner, male immigrants from low income countries are found to reduce their yearly working hours in response to the AUD appreciation. Third, male immigrants from non-multiple citizenship or low income countries reduce their yearly wage earnings when the AUD appreciates. Fourth, female immigrants from high remittance inflow countries reduce their yearly wage earnings in response to the AUD appreciation. The fourth finding is the only one in line with US evidence presented by Nekoei (2013). We however do not find any significant evidence supporting other findings presented in the previous work which finds that exchange rate fluctuations have a greater (i.e. more negative) impact on annual wage earnings of

immigrants who arrive more recently, or are single, have lower education, or come from countries with high remittance inflows or less democratic countries.<sup>24</sup>

By-sub-group estimates for exchange rate impacts on other labour market outcomes (results are reported in Table 7a and 7b) while are generally in line with our group estimates (results are reported in Table 3) uncover significantly heterogenous impacts. For example, exchange rate estimates in the “hours desired to work more” regression by sub-groups suggest that the positive exchange rate impact on this outcome observed earlier for working female immigrants is mainly driven by those who are single, don’t have Australian citizenship, have any sibling overseas, don’t have fathers or mothers overseas, or come from countries which are classified as non-ESB, non-multiple citizenship, low income, less democratic or high remittance inflow countries because exchange rate estimates for those sub-groups are greater (i.e. more positive) or more statistically significant. Also consistent with our earlier finding that males did not desire to work longer hours when the AUD appreciates, we find that males in all sub-groups do not want to work more in response to an AUD appreciation since all exchange rate estimates from the “hours desired to work more” equation are statistically insignificant.

[see Table 7a and 7b]

In similar fashion, the negative exchange rate impact on the probability of working full-time for male immigrants found earlier is largely influenced by those who are old, speak a language other than English at home, speak English not very well, are the oldest child in the family, or have no parents overseas because exchange rate estimates are statistically significant for male immigrants with these characteristics only. Similarly, the positive exchange rate estimate on the likelihood of working part-time for males observed earlier can be mainly explained by those who are young, arrive in Australia recently, have higher education, are single, don’t have children, speak a language other than English at home, don’t regard themselves as speaking English very well, don’t have Australian citizenship, have any sibling overseas, or come from non-ESB, non-multiple citizenship, or low remittance inflow

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<sup>24</sup> In order to compare our results with those reported in the previous work by Nekoei (2013), we also report results from pooled regressions (See Appendix Table A3) and focus on annual wage earnings. While results in two studies are not directly comparable because Nekoei (2013) does not analyse by gender like we do, some of our pooled results are in line with those reported in the previous work. For example, our pooled results also show that an AUD appreciation has a significant and negative impact on annual wage earnings of immigrants who arrive more recently (for females), or come from high remittance inflow countries (for males and females) or less democratic countries (for females). In contrast to the previous work, however, we find that in response to an AUD appreciation married female immigrants reduce their yearly wages while single female immigrants do not.

countries. Likewise, the positive impact of exchange rate on the probability of being self-employed for males found in Section 5.2. is largely influenced by males who are old, have children, speak a language other than English at home, or come from non-ESB, low income, less democratic or high remittance inflow countries.

While we did not observe any significant exchange rate impact on the probability of working at a particular mode for females or changing occupation for males and females in group estimations, we do find some statistically significant exchange rate estimates for some sub-groups. For instance, results from Table 7b show a negative and statistically significant (at a 5 % level or higher) exchange rate impact on the probability of working full-time for female immigrants who are the oldest child in the family, have fathers overseas or come from low remittance inflow countries. By contrast, female immigrants with fathers overseas are found to increase their full-time work participation in response to an AUD appreciation. Results from Table 7b also suggest a positive and significant exchange rate impact on the probability of working part-time for female immigrants who don't have a bachelor degree or higher, don't have parents overseas, or come from countries with non-multiple citizenship policies or countries with low remittance inflows. Estimates from Table 7b additionally show that female immigrants from ESB countries have a much lower probability of being self-employed in response to an AUD appreciation. Finally, male immigrants who are old, have children, speak a language other than English at home, have parents overseas or come from a high income country are found to be more likely to change occupations when the AUD appreciates.

## **7. Robustness Checks**

### **7.1. Return Immigrants**

We first check whether exchange rate volatility influences the decision to return of the immigrants in our sample. To do this, we estimate a model similar to the model (2) where the dependent variable is replaced by an indicator taking value 1 if the immigrant moves overseas (and hence is not surveyed in that year) and zero otherwise. We include the same list of explanatory variables as described above for the model (2). Furthermore, we also control for individual and time fixed effects in the return immigration model. We include either contemporaneous or lagged exchange rates.

[see Table 8]

Results (Table 8) indicate that an appreciation of the AUD increases the probability of return but statistically insignificant. We also find no effect of previous year exchange rate fluctuations on the current decision to return for both males and females.<sup>25</sup> Only the 2-year lag of exchange rates is found to marginally (at the 10 % level of significance) affect the probability of return in current year for male immigrants. Results of this robust check suggest that our earlier findings on the impact of exchange rate fluctuations on the labour market outcomes are not sensitive to non-random sample attrition due to return immigration.

## 7.2. *Other Robustness Checks*

We also examine the robustness of our results to alternative selections of country, year, age, and measure of exchange rates. First, UK immigrants represent a largest share (28 % as seen in Table 1) of all immigrants in Australia. We gauge whether the results change when UK immigrants are excluded from the regression. Results of this experiment (reported in column 2 and 7 of Table 9) are very similar to the baseline results (re-reported in column 1 and 6 of Table 9 for ease of comparison), suggesting that our results are not driven by the UK immigrants.

Secondly, we check the sensitivity of our results to the recent global financial crisis which caused the AUD to drop significantly in 2008. Results (column 3 and 8 of Table 9) do not greatly vary from the baseline after excluding the years 2008 and 2009 from our sample. Thirdly, our prior findings are largely unchanged when we apply the regression (2) to a sample of older Australian immigrants aged between 24 and 64 (column 4 and 9 of Table 9).

[Table 9 around here]

Finally, we check whether the effects are sensitive to the measure of exchange rate. The timing of measurement of exchange rate and labour supply variables would be an issue. In our study, real exchange rates are measured at a calendar year basis (i.e. from 1<sup>st</sup> January to 31<sup>st</sup> December each year). By contrast, labour supply variables are measured for either a week or a financial year prior to the survey time. In HILDA, the interviews are conducted

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<sup>25</sup> These results are not contrary to the findings of Yang (2006) and Abarcar (2013) because we use different samples of immigrants and different exchange rate shocks. In particular, immigrants in our sample are permanent and spend a much longer time in the host country than those in other studies (i.e. immigrants are temporary in the study of Yang (2006) and spend just about 2 years in Australia in the work by Abarcar (2013). It has been shown that immigrants who spend longer time in the host country are less affected by the home country shocks (Akay *et al.* 2013; Nekoei 2013; Nguyen & Duncan 2015). Indeed, Abarcar (2013) also finds that exchange rate shocks have no impact for those who initially stated their desire to stay in Australia. Moreover, we study small and frequent exchange rate fluctuations whereas other studies analyse large and infrequent shocks (such as the Asian crisis) which are more likely to influence return migration.

annually with most of interviews occurring in September and October.<sup>26</sup> Therefore using the exchange rate and labour supply variables which are measured at the same year may not capture the full impact of real exchange rates on labour market outcomes. In this sensitivity test, we use the exact survey date to link with the daily exchange rates to measure the average exchange rates for a full 12 months prior to the survey time and find similar results (See column 5 and 10 of Table 9).<sup>27</sup>

## **8. Conclusion**

Using various groups of immigrants from 65 countries of origin and panel data for 12 years, we have investigated how Australian immigrants adjust their labour market activities in response to exogenous exchange rate fluctuations. Our results from models which do not control for individual unobservable time-invariant characteristics show that only female immigrants reduce their labour market activities in response to an appreciation of the host country's currency. In particular, in response to a 10 % appreciation of the AUD, Australian female immigrants reduce their work probability (annual wage earnings) by about 1 percentage (2.9 %). Our estimates are new to the literature since previous US study by Nekoei (2013) finds that, in response to a USD appreciation, US female immigrants do not reduce their work probability and that both male and female immigrants reduce their annual wage earnings. Results from models controlling for individual heterogeneity however suggest that most labour market outcomes such as employment probability, weekly wages or annual wages of Australian male and female immigrants are not responsive to exchange rate fluctuations.

We also present new evidence that while female immigrants don't adjust their actual labour activities in response to exchange rate fluctuations they do desire to work more when the AUD appreciates. Our work additionally reveals that while male immigrants are found to attach to the labour market in response to an AUD appreciation, they reduce their work intensity by participating less in full-time employment and hence more in either part-time employment or self-employment. Our work further uncovers statistically significant and heterogeneous impacts of exchange rates by gender and socio-economic background of immigrants as well as the labour market outcomes.

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<sup>26</sup> In particular, 50, 24, 13, and seven % of immigrants in our sample were interviewed in September, October, August, and November, respectively.

<sup>27</sup> In this experiment, we still use yearly CPI to calculate real exchange rate because CPI on a shorter time horizon (such as quarterly) is not readily available for all countries in our sample. As already mentioned, we also include survey month dummies in this exercise.

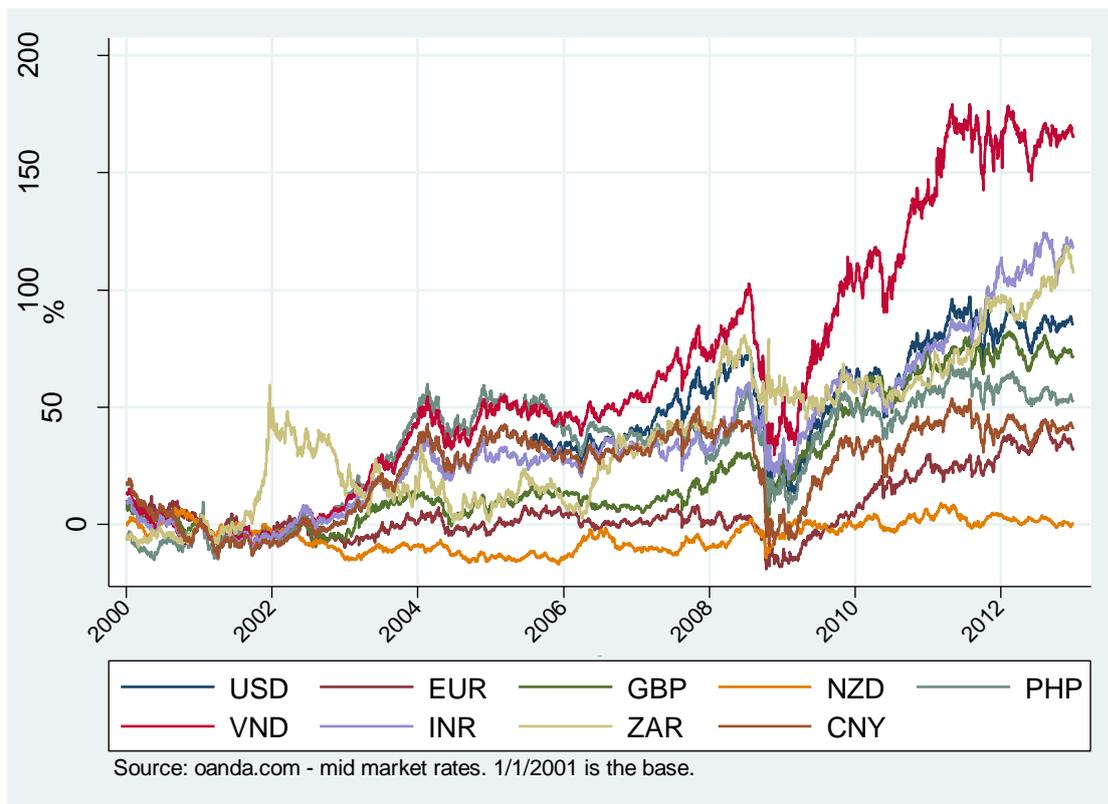
Our work has highlighted the importance of controlling for individual heterogeneity when modelling the labour market behaviour of immigrants. Future work may extend the topic to other countries' data or study the impact of exchange rate fluctuations on other aspects of immigrant behaviour such as consumption, saving and transfers.

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**Figure 1:** Changes in daily nominal exchange rates of the Australian dollar



**Table 1:** Summary statistics for main countries of origin

Country	Number of observations	Yearly growth in nominal exchange rate (%)	Yearly growth in real exchange rate (%)	Male (%)	Age (years)	Length of stay (years)	Employed (%)	Weekly working hours	Hourly wage rates (AUD/hour)	Weekly wage earnings (1000 AUD)	Yearly wage earnings (1000 AUD)
United Kingdom	7240	4.2	3.8	51	47.1	31.3	73	38.2	21.0	0.6	29.2
New Zealand	3109	0.0	0.0	55	41.5	20.9	81	40.5	19.4	0.6	29.4
Philippines	1197	4.5	4.4	29	38.1	15.9	74	34.9	16.4	0.4	20.4
Vietnam	1056	8.3	7.0	42	40.2	18.9	59	37.1	20.4	0.4	21.8
India	857	8.2	7.9	54	41.3	17.3	81	39.1	22.2	0.7	33.2
South Africa	837	8.0	7.4	49	38.1	17.8	84	39.1	18.8	0.6	30.4
China	829	2.5	2.1	40	38.5	13.0	67	37.5	17.6	0.4	20.3
Germany	701	2.0	1.7	37	49.9	36.9	69	35.7	17.5	0.4	21.6
Italy	607	1.3	1.0	44	53.5	41.6	58	37.6	14.9	0.3	14.8
Netherlands	564	1.5	1.2	49	52.0	39.8	63	40.5	18.1	0.4	23.1
United States of America	491	5.3	5.1	43	44.7	22.6	79	37.9	24.0	0.7	33.0
All immigrants	25717	4.1	3.9	47	43.5	24.5	72	38.1	19.8	0.5	26.1
Natives	107846			48	37.6		75	37.1	18.1	0.5	24.5

Notes: Sample of individuals age 16-64. Working hours and earnings are conditional on working for wages. All labour market outcomes, except the employment decision, are adjusted for CPI, using the 2001 CPI as the base.

**Table 2: Impact of exchange rates on main labour market outcomes**

Dependent variable	Females								Males							
	Pooled results				FE results				Pooled results				FE results			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Employed	-0.076*	-0.071*	-0.071*	-0.077*	-0.008	0.005	-0.008	0.002	0.054	0.057*	0.059*	0.055*	0.042	0.057*	0.044	0.048
	[0.041]	[0.042]	[0.042]	[0.042]	[0.042]	[0.047]	[0.043]	[0.043]	[0.033]	[0.033]	[0.033]	[0.033]	[0.032]	[0.033]	[0.032]	[0.031]
Weekly working hours (log)	-0.093	-0.094	-0.092	-0.092	-0.077	-0.069	-0.078	-0.077	-0.054	-0.052	-0.057	-0.049	-0.074*	-0.058	-0.075	-0.069
	[0.064]	[0.065]	[0.065]	[0.064]	[0.061]	[0.065]	[0.061]	[0.060]	[0.043]	[0.043]	[0.044]	[0.043]	[0.045]	[0.046]	[0.046]	[0.045]
Hourly wage rates (log)	0.017	0.026	0.018	0.022	0.016	0.037	0.015	0.011	-0.039	-0.037	-0.035	-0.038	-0.017	-0.013	-0.014	-0.015
	[0.055]	[0.056]	[0.055]	[0.055]	[0.056]	[0.061]	[0.056]	[0.056]	[0.052]	[0.052]	[0.054]	[0.052]	[0.055]	[0.055]	[0.057]	[0.056]
Weekly wages (log)	-0.089	-0.082	-0.084	-0.082	-0.032	-0.003	-0.034	-0.037	-0.102*	-0.097	-0.100	-0.098	-0.101*	-0.079	-0.100*	-0.094
	[0.077]	[0.078]	[0.077]	[0.077]	[0.069]	[0.072]	[0.069]	[0.069]	[0.060]	[0.061]	[0.061]	[0.060]	[0.059]	[0.061]	[0.060]	[0.059]
Annual wage working hours (log)	-0.182**	-0.195**	-0.182**	-0.182**	-0.093	-0.109	-0.094	-0.095	-0.091	-0.088	-0.094	-0.087	-0.069	-0.026	-0.080	-0.057
	[0.092]	[0.093]	[0.092]	[0.092]	[0.092]	[0.097]	[0.092]	[0.091]	[0.073]	[0.073]	[0.074]	[0.073]	[0.082]	[0.083]	[0.083]	[0.081]
Annual wages (log)	-0.196*	-0.199*	-0.192*	-0.193*	-0.032	-0.005	-0.03	-0.051	-0.105	-0.101	-0.104	-0.100	-0.115	-0.065	-0.114	-0.101
	[0.112]	[0.114]	[0.112]	[0.113]	[0.108]	[0.115]	[0.108]	[0.107]	[0.084]	[0.084]	[0.084]	[0.084]	[0.086]	[0.087]	[0.087]	[0.084]
Year and month dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country dummies	Yes	Yes	Yes	Yes	N/A	N/A	N/A	N/A	Yes	Yes	Yes	Yes	N/A	N/A	N/A	N/A
Log (GDP)		Yes				Yes				Yes				Yes		
GDP growth (%)			Yes				Yes				Yes				Yes	
Unemployment rates (%)				Yes				Yes				Yes				Yes
Individual FE					Yes	Yes	Yes	Yes					Yes	Yes	Yes	Yes

**Notes:** Pooled results (columns from 1 to 4 and from 5 to 12) are from the regression (1) while FE results (remaining columns) are from the regression (2). Estimates are obtained from separate regressions.

Other explanatory variables include age and its square, education, marital status, health status, household non-wage income, home ownership status, the number of co-residing members of various age cohorts, the regional unemployment rate, regional relative socio-economic advantage index, state dummies, and year and month dummies. Pooled regressions also include ESB, duration of stay in Australia, migration cohort dummies, and home country fixed effects.

Robust standard errors clustered at the individual level in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

**Table 3: Impact of exchange rates on other labour market outcomes**

Dependent variable	Females								Males							
	Pooled results				FE results				Pooled results				FE results			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Hours desired to work more	2.629**	2.856**	2.662**	2.724**	2.669**	2.989**	2.703**	2.561**	-0.972	-1.022	-1.006	-1.100	-0.453	-0.547	-0.514	-0.686
	[1.177]	[1.188]	[1.178]	[1.183]	[1.268]	[1.398]	[1.274]	[1.276]	[1.094]	[1.101]	[1.111]	[1.099]	[1.100]	[1.144]	[1.130]	[1.109]
Worked full-time	-0.085**	-0.083**	-0.082**	-0.084**	-0.063	-0.068	-0.066	-0.049	-0.011	-0.011	-0.014	-0.006	-0.075*	-0.055	-0.076*	-0.073*
	[0.040]	[0.041]	[0.041]	[0.041]	[0.043]	[0.046]	[0.043]	[0.043]	[0.039]	[0.039]	[0.040]	[0.039]	[0.040]	[0.041]	[0.042]	[0.040]
Worked part-time	0.022	0.025	0.024	0.020	0.070	0.076	0.072*	0.067	0.035	0.036	0.032	0.034	0.069**	0.062**	0.068**	0.069**
	[0.040]	[0.040]	[0.040]	[0.040]	[0.043]	[0.046]	[0.043]	[0.044]	[0.025]	[0.025]	[0.026]	[0.025]	[0.029]	[0.030]	[0.030]	[0.028]
Self-employed	-0.008	-0.007	-0.007	-0.007	-0.009	0.000	-0.008	-0.012	0.029	0.029	0.039	0.026	0.047*	0.048*	0.051*	0.051*
	[0.024]	[0.024]	[0.024]	[0.024]	[0.029]	[0.032]	[0.029]	[0.029]	[0.025]	[0.025]	[0.026]	[0.025]	[0.028]	[0.028]	[0.028]	[0.028]
Changed occupation	0.061	0.069	0.058	0.052	0.042	-0.003	0.040	0.017	0.036	0.038	0.036	0.030	0.050	0.049	0.049	0.046
	[0.056]	[0.057]	[0.056]	[0.056]	[0.062]	[0.066]	[0.062]	[0.063]	[0.046]	[0.046]	[0.046]	[0.046]	[0.051]	[0.052]	[0.051]	[0.052]
Year and month dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country dummies	Yes	Yes	Yes	Yes	N/A	N/A	N/A	N/A	Yes	Yes	Yes	Yes	N/A	N/A	N/A	N/A
Log (GDP)		Yes				Yes				Yes				Yes		
GDP growth (%)			Yes				Yes				Yes				Yes	
Unemployment rates (%)				Yes				Yes				Yes				Yes
Individual FE					Yes	Yes	Yes	Yes					Yes	Yes	Yes	Yes

**Notes:** Pooled results (columns from 1 to 4 and from 5 to 12) are from the regression (1) while FE results (remaining columns) are from the regression (2). Estimates are obtained from separate regressions.

Other explanatory variables include age and its square, education, marital status, health status, household non-wage income, home ownership status, the number of co-residing members of various age cohorts, the regional unemployment rate, regional relative socio-economic advantage index, state dummies, and year and month dummies. Pooled regressions also include ESB, duration of stay in Australia, migration cohort dummies, and home country fixed effects.

Robust standard errors clustered at the individual level in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

**Table 4:** Timing of the impact of exchange rate fluctuation on main labour market outcomes

	Dependent variable											
	Female						Male					
	Employed	Weekly working hours (log)	Hourly wage rates (log)	Weekly wages (log)	Annual working hours (log)	Annual wages (log)	Employed	Weekly working hours (log)	Hourly wage rates (log)	Weekly wages (log)	Annual working hours (log)	Annual wages (log)
Lag of exchange rate	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Current	-0.008 [0.042]	-0.077 [0.061]	0.016 [0.056]	-0.032 [0.069]	-0.093 [0.092]	-0.032 [0.108]	0.042 [0.032]	-0.074* [0.045]	-0.017 [0.055]	-0.101* [0.059]	-0.069 [0.082]	-0.115 [0.086]
One year	0.007 [0.042]	-0.033 [0.057]	-0.048 [0.055]	-0.034 [0.063]	0.012 [0.089]	-0.052 [0.098]	0.042 [0.028]	-0.071 [0.045]	-0.022 [0.043]	-0.093* [0.052]	-0.003 [0.074]	-0.063 [0.079]
Two years	-0.004 [0.039]	-0.015 [0.057]	-0.070 [0.056]	-0.037 [0.058]	0.089 [0.089]	0.018 [0.092]	0.038 [0.026]	-0.058 [0.047]	-0.036 [0.039]	-0.083 [0.052]	0.076 [0.069]	0.013 [0.073]

**Notes:** Results are from the regression (2). Estimates for different exchange rates are obtained from separate regressions.

Other explanatory variables include age and its square, education, marital status, health status, household non-wage income, home ownership status, the number of co-residing members of various age cohorts, the regional unemployment rate, regional relative socio-economic advantage index, state dummies, and year and month dummies.

Robust standard errors clustered at the individual level in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

**Table 5:** Timing of the impact of exchange rate fluctuation on other labour market outcomes

	Dependent variable									
	Female					Male				
	Hours desired to work more	Worked full-time	Worked part-time	Self- employed	Changed occupation	Hours desired to work more	Worked full-time	Worked part-time	Self- employed	Changed occupation
Lag of exchange rate	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Current	2.669** [1.268]	-0.063 [0.043]	0.070 [0.043]	-0.009 [0.029]	0.042 [0.062]	-0.453 [1.100]	-0.075* [0.040]	0.069** [0.029]	0.047* [0.028]	0.050 [0.051]
One year	2.313** [1.134]	-0.045 [0.040]	0.072* [0.039]	-0.016 [0.026]	0.003 [0.057]	0.056 [1.017]	-0.066* [0.035]	0.063** [0.029]	0.044* [0.024]	0.042 [0.046]
Two years	1.929* [1.014]	-0.058 [0.038]	0.060* [0.036]	-0.005 [0.021]	-0.001 [0.047]	0.612 [0.993]	-0.050 [0.036]	0.042 [0.031]	0.047** [0.023]	0.043 [0.041]

**Notes:** Results are from the regression (2). Estimates for different exchange rates are obtained from separate regressions.

Other explanatory variables include age and its square, education, marital status, health status, household non-wage income, home ownership status, the number of co-residing members of various age cohorts, the regional unemployment rate, regional relative socio-economic advantage index, state dummies, and year and month dummies.

Robust standard errors clustered at the individual level in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

**Table 6a:** Heterogeneous impact of exchange rate fluctuations on main labour market outcomes

Separate estimation by	Weekly working hours (log)				Weekly wages (log)			
	Female		Male		Female		Male	
	Yes	No	Yes	No	Yes	No	Yes	No
Young	0.041	-0.100	-0.077	-0.103	0.081	-0.003	-0.085	-0.107
	[0.101]	[0.090]	[0.061]	[0.084]	[0.110]	[0.102]	[0.071]	[0.104]
Recent	0.016	-0.054	-0.063	-0.045	0.125	-0.115	-0.129*	-0.006
	[0.093]	[0.082]	[0.053]	[0.078]	[0.102]	[0.098]	[0.073]	[0.087]
Bachelor or higher degree	-0.014	-0.077	-0.082	-0.058	-0.181	0.008	-0.154	-0.050
	[0.110]	[0.071]	[0.078]	[0.051]	[0.148]	[0.079]	[0.097]	[0.071]
Single	-0.052	-0.097	-0.240**	-0.037	0.122	-0.077	-0.124	-0.084
	[0.206]	[0.064]	[0.122]	[0.045]	[0.239]	[0.072]	[0.125]	[0.065]
Has children	-0.130*	0.091	-0.051	-0.085	-0.111	0.233*	-0.098	-0.016
	[0.068]	[0.115]	[0.053]	[0.086]	[0.077]	[0.135]	[0.078]	[0.090]
Speak other language at home	-0.090	-0.055	-0.167**	-0.041	0.011	-0.079	-0.222**	0.011
	[0.091]	[0.084]	[0.066]	[0.064]	[0.099]	[0.101]	[0.095]	[0.087]
Speak English very well	-0.041	-0.004	-0.097*	-0.083	-0.051	0.206	-0.083	-0.327**
	[0.072]	[0.098]	[0.052]	[0.088]	[0.081]	[0.142]	[0.061]	[0.157]
Australian citizen	0.026	-0.385**	-0.110*	-0.010	-0.020	-0.053	-0.220***	0.168
	[0.082]	[0.162]	[0.056]	[0.081]	[0.089]	[0.176]	[0.072]	[0.119]
Oldest child	-0.078	-0.058	-0.196**	0.000	-0.070	-0.001	-0.037	-0.126*
	[0.090]	[0.081]	[0.093]	[0.046]	[0.122]	[0.086]	[0.093]	[0.075]
Any sibling overseas	-0.066	0.012	-0.081	-0.067	0.086	-0.102	-0.184**	-0.051
	[0.085]	[0.080]	[0.057]	[0.091]	[0.091]	[0.113]	[0.079]	[0.094]
Mother overseas	-0.007	-0.080	-0.008	-0.095	0.103	-0.096	-0.091	-0.137*
	[0.097]	[0.079]	[0.083]	[0.064]	[0.108]	[0.090]	[0.096]	[0.082]
Father overseas	0.324***	-0.180**	0.029	-0.098	0.375***	-0.160*	0.083	-0.221***
	[0.103]	[0.072]	[0.075]	[0.060]	[0.103]	[0.084]	[0.097]	[0.076]
English speaking country	-0.107	-0.089	-0.061	-0.078	-0.147	0.045	0.097	-0.180**
	[0.131]	[0.072]	[0.076]	[0.062]	[0.152]	[0.080]	[0.107]	[0.079]
Close to Australia	-0.093	0.005	0.001	-0.249*	0.062	-0.191	-0.042	-0.237*
	[0.070]	[0.128]	[0.043]	[0.139]	[0.084]	[0.133]	[0.066]	[0.140]
Non-multiple citizenship country	-0.101	-0.080	-0.173	-0.064	0.063	-0.039	-0.367***	-0.072
	[0.153]	[0.071]	[0.123]	[0.049]	[0.166]	[0.081]	[0.126]	[0.067]
Low income country	-0.075	-0.102	-0.129*	-0.106	0.139	-0.134	-0.238***	-0.048
	[0.083]	[0.110]	[0.074]	[0.066]	[0.090]	[0.122]	[0.092]	[0.095]
Less democratic country	-0.060	-0.142	-0.076	-0.110	0.090	-0.175	-0.165**	-0.022
	[0.073]	[0.122]	[0.064]	[0.078]	[0.080]	[0.135]	[0.079]	[0.114]
High remittance inflow country	-0.144	-0.060	-0.011	-0.203	-0.135	0.075	-0.090	-0.097
	[0.090]	[0.083]	[0.043]	[0.128]	[0.101]	[0.084]	[0.070]	[0.116]

**Notes:** Results are from the regression (2). Estimates are obtained from separate regressions. “Yes” (“No”) refers to a sub-group of immigrants with (without) a particular characteristic listed in the first column.

Other explanatory variables include age and its square, education, marital status, health status, household non-wage income, home ownership status, the number of co-residing members of various age cohorts, the regional unemployment rate, regional relative socio-economic advantage index, state dummies, and year and month dummies.

Robust standard errors clustered at the individual level in parentheses. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

**Table 6b:** Heterogeneous impact of exchange rate fluctuations on main labour market outcomes  
(cont.)

Separate estimation by	Yearly working hours (log)				Yearly wages (log)			
	Female		Male		Female		Male	
	Yes	No	Yes	No	Yes	No	Yes	No
Young	0.094 [0.147]	-0.083 [0.128]	-0.199 [0.128]	0.078 [0.097]	0.187 [0.168]	-0.080 [0.150]	-0.237* [0.133]	0.133 [0.121]
Recent	-0.060 [0.152]	-0.060 [0.135]	-0.144 [0.128]	-0.045 [0.135]	0.067 [0.168]	-0.130 [0.158]	-0.192 [0.128]	-0.076 [0.150]
Bachelor or higher degree	-0.081 [0.198]	-0.086 [0.101]	-0.222 [0.139]	0.060 [0.114]	-0.222 [0.211]	-0.033 [0.125]	-0.172 [0.145]	-0.030 [0.119]
Single	-0.264 [0.330]	-0.121 [0.099]	-0.045 [0.258]	-0.019 [0.073]	0.328 [0.370]	-0.118 [0.114]	-0.054 [0.260]	-0.061 [0.078]
Has children	-0.143 [0.111]	-0.054 [0.162]	-0.059 [0.082]	-0.155 [0.167]	-0.191 [0.121]	0.273 [0.209]	-0.051 [0.093]	-0.184 [0.174]
Speak other language at home	-0.124 [0.155]	-0.100 [0.121]	-0.130 [0.098]	-0.073 [0.131]	-0.037 [0.162]	-0.127 [0.150]	-0.172 [0.114]	-0.093 [0.134]
Speak English very well	-0.040 [0.103]	-0.082 [0.241]	-0.132 [0.082]	0.019 [0.280]	-0.040 [0.123]	-0.058 [0.265]	-0.163* [0.086]	-0.220 [0.296]
Australian citizen	0.035 [0.125]	-0.222 [0.231]	-0.123 [0.096]	0.070 [0.202]	0.063 [0.141]	-0.357 [0.291]	-0.147 [0.099]	-0.057 [0.220]
Oldest child	-0.050 [0.143]	-0.114 [0.119]	-0.047 [0.131]	-0.024 [0.101]	0.038 [0.180]	-0.126 [0.141]	-0.014 [0.135]	-0.102 [0.109]
Any sibling overseas	-0.113 [0.133]	0.053 [0.123]	0.023 [0.093]	-0.109 [0.163]	-0.030 [0.150]	0.053 [0.161]	0.008 [0.103]	-0.192 [0.174]
Mother overseas	-0.054 [0.139]	-0.084 [0.124]	0.246* [0.134]	-0.177 [0.117]	-0.016 [0.181]	-0.021 [0.138]	0.060 [0.132]	-0.178 [0.131]
Father overseas	0.180 [0.177]	-0.189* [0.108]	0.187 [0.202]	-0.102 [0.103]	0.250 [0.189]	-0.097 [0.134]	0.193 [0.195]	-0.188* [0.112]
English speaking country	-0.229 [0.195]	-0.137 [0.111]	-0.045 [0.166]	-0.060 [0.098]	-0.282 [0.226]	-0.010 [0.128]	-0.029 [0.165]	-0.110 [0.109]
Close to Australia	-0.269*** [0.100]	0.158 [0.194]	-0.132 [0.092]	0.178 [0.219]	-0.126 [0.120]	-0.034 [0.232]	-0.134 [0.096]	0.045 [0.221]
Non-multiple citizenship country	-0.136 [0.219]	-0.077 [0.104]	-0.153 [0.217]	-0.015 [0.087]	0.214 [0.261]	-0.114 [0.127]	-0.520** [0.220]	0.018 [0.091]
Low income country	-0.240* [0.130]	-0.090 [0.154]	-0.250** [0.127]	-0.015 [0.129]	-0.074 [0.149]	-0.229 [0.181]	-0.302** [0.136]	-0.069 [0.136]
Less democratic country	-0.195* [0.110]	-0.156 [0.181]	-0.124 [0.106]	-0.033 [0.157]	-0.047 [0.129]	-0.287 [0.205]	-0.177 [0.123]	-0.099 [0.158]
High remittance inflow country	-0.342*** [0.122]	0.013 [0.133]	-0.074 [0.088]	0.029 [0.203]	-0.272* [0.142]	0.110 [0.165]	-0.139 [0.095]	0.123 [0.208]

**Notes:** Results are from the regression (2). Estimates are obtained from separate regressions. “Yes” (“No”) refers to a sub-group of immigrants with (without) a particular characteristic listed in the first column.

Other explanatory variables include age and its square, education, marital status, health status, household non-wage income, home ownership status, the number of co-residing members of various age cohorts, the regional unemployment rate, regional relative socio-economic advantage index, state dummies, and year and month dummies.

Robust standard errors clustered at the individual level in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

**Table 7a:** Heterogeneous impact of exchange rate fluctuations on other labour market outcomes

Separate estimation by	Hours desire to work more				FT employed			
	Female		Male		Female		Male	
	Yes	No	Yes	No	Yes	No	Yes	No
Young	2.033 [1.653]	1.730 [2.136]	-1.535 [1.366]	0.473 [1.550]	0.044 [0.063]	-0.099* [0.056]	-0.066 [0.056]	-0.148** [0.066]
Recent	2.530 [2.018]	2.597 [1.758]	0.872 [1.481]	-2.409 [1.969]	0.048 [0.058]	-0.097 [0.063]	-0.061 [0.051]	-0.093 [0.076]
Bachelor or higher degree	2.863 [2.374]	2.398 [1.476]	0.113 [1.593]	-1.007 [1.521]	-0.053 [0.091]	-0.073 [0.048]	-0.075 [0.058]	-0.076 [0.056]
Single	5.894* [3.149]	2.952** [1.401]	-1.019 [2.165]	-0.149 [1.227]	0.056 [0.144]	-0.069 [0.045]	-0.116 [0.083]	-0.061 [0.044]
Has children	2.994* [1.593]	1.823 [1.900]	0.255 [1.366]	-1.069 [1.924]	-0.088* [0.050]	0.021 [0.085]	-0.102* [0.052]	-0.078 [0.068]
Speak other language at home	3.653* [2.084]	2.692* [1.545]	2.568 [1.569]	-1.451 [1.636]	-0.061 [0.062]	-0.093 [0.064]	-0.121** [0.054]	-0.055 [0.069]
Speak English very well	1.807 [1.347]	3.287 [2.681]	-0.986 [1.155]	3.720 [3.504]	-0.047 [0.054]	-0.094 [0.067]	-0.070 [0.044]	-0.251** [0.123]
Australian citizen	1.670 [1.745]	8.596*** [2.973]	-0.350 [1.333]	-0.189 [2.487]	-0.022 [0.051]	-0.098 [0.091]	-0.057 [0.046]	-0.046 [0.093]
Oldest child	4.297* [2.244]	2.049 [1.460]	-1.084 [2.206]	-0.147 [1.299]	0.029 [0.066]	-0.123** [0.057]	-0.152** [0.075]	-0.042 [0.049]
Any sibling overseas	3.365** [1.686]	0.536 [1.720]	0.329 [1.561]	-2.933* [1.728]	-0.055 [0.056]	-0.035 [0.073]	-0.098* [0.055]	-0.021 [0.073]
Mother overseas	0.640 [1.908]	3.320** [1.640]	-1.216 [1.948]	-1.367 [1.561]	0.047 [0.074]	-0.106* [0.054]	-0.015 [0.066]	-0.108* [0.060]
Father overseas	-1.343 [1.860]	3.797** [1.566]	-3.569 [3.006]	-0.021 [1.327]	0.247*** [0.090]	-0.162*** [0.051]	0.040 [0.085]	-0.110** [0.051]
English speaking country	0.636 [2.409]	4.343*** [1.586]	-2.038 [1.940]	0.588 [1.354]	-0.074 [0.102]	-0.083 [0.051]	-0.034 [0.089]	-0.078 [0.048]
Close to Australia	2.447 [1.566]	3.035 [2.457]	-0.203 [1.245]	-1.087 [2.506]	-0.050 [0.054]	-0.069 [0.081]	-0.044 [0.045]	-0.192* [0.103]
Non-multiple citizenship country	6.443** [3.093]	2.955** [1.505]	-0.764 [2.589]	-0.450 [1.277]	-0.047 [0.109]	-0.082* [0.049]	-0.152 [0.103]	-0.062 [0.045]
Low income country	4.921*** [1.793]	1.871 [1.988]	1.629 [1.656]	-2.184 [1.764]	-0.085 [0.064]	-0.071 [0.069]	-0.107* [0.059]	-0.107 [0.074]
Less democratic country	3.384** [1.646]	3.323 [2.216]	1.304 [1.391]	-2.535 [1.954]	-0.084 [0.053]	-0.118 [0.085]	-0.080 [0.052]	-0.091 [0.087]
High remittance inflow country	3.078* [1.814]	2.538 [1.955]	-0.677 [1.246]	-0.409 [2.635]	-0.013 [0.059]	-0.126** [0.058]	-0.035 [0.045]	-0.066 [0.088]

**Notes:** Results are from the regression (2). Estimates are obtained from separate regressions. “Yes” (“No”) refers to a sub-group of immigrants with (without) a particular characteristic listed in the first column.

Other explanatory variables include age and its square, education, marital status, health status, household non-wage income, home ownership status, the number of co-residing members of various age cohorts, the regional unemployment rate, regional relative socio-economic advantage index, state dummies, and year and month dummies.

Robust standard errors clustered at the individual level in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

**Table 7b:** Heterogeneous impact of exchange rate fluctuations on other labour market outcomes (cont.)

Separate estimation by	PT employed				Self-employed			
	Female		Male		Female		Male	
	Yes	No	Yes	No	Yes	No	Yes	No
Young	-0.014 [0.067]	0.088 [0.062]	0.093** [0.044]	0.064 [0.043]	0.021 [0.034]	0.008 [0.046]	0.033 [0.036]	0.092** [0.047]
Recent	0.000 [0.064]	0.106* [0.063]	0.107*** [0.039]	0.008 [0.048]	0.019 [0.042]	-0.050 [0.043]	0.030 [0.035]	0.084 [0.052]
Bachelor or higher degree	-0.010 [0.088]	0.099** [0.049]	0.086** [0.042]	0.066* [0.037]	0.107* [0.059]	-0.044 [0.031]	-0.008 [0.035]	0.068 [0.042]
Single	-0.046 [0.137]	0.078* [0.046]	0.216** [0.091]	0.036 [0.027]	-0.107* [0.063]	-0.007 [0.031]	0.010 [0.044]	0.058* [0.033]
Has children	0.069 [0.050]	0.038 [0.093]	0.032 [0.030]	0.127** [0.056]	-0.017 [0.035]	-0.014 [0.045]	0.086** [0.038]	0.013 [0.034]
Speak other language at home	0.062 [0.058]	0.057 [0.070]	0.103*** [0.035]	0.048 [0.045]	0.016 [0.046]	-0.036 [0.040]	0.077** [0.035]	-0.023 [0.052]
Speak English very well	0.028 [0.056]	0.014 [0.057]	0.068** [0.033]	0.110* [0.057]	-0.007 [0.032]	-0.021 [0.054]	0.033 [0.029]	0.110 [0.092]
Australian citizen	0.065 [0.055]	0.139 [0.113]	0.029 [0.031]	0.153** [0.061]	-0.055 [0.037]	0.001 [0.059]	0.044 [0.031]	-0.035 [0.073]
Oldest child	0.067 [0.080]	0.084 [0.053]	0.082 [0.052]	0.055* [0.032]	-0.045 [0.051]	-0.008 [0.032]	0.078* [0.046]	0.025 [0.037]
Any sibling overseas	0.062 [0.055]	0.037 [0.077]	0.084*** [0.032]	0.035 [0.057]	-0.037 [0.035]	0.021 [0.048]	0.040 [0.038]	0.037 [0.044]
Mother overseas	-0.032 [0.080]	0.116** [0.054]	0.042 [0.037]	0.063 [0.044]	-0.021 [0.051]	-0.013 [0.036]	0.013 [0.050]	0.051 [0.034]
Father overseas	-0.128 [0.094]	0.136*** [0.051]	0.087 [0.057]	0.058* [0.034]	-0.048 [0.059]	-0.003 [0.034]	-0.045 [0.058]	0.061* [0.034]
English speaking country	0.086 [0.099]	0.060 [0.053]	0.057 [0.057]	0.070** [0.035]	-0.158*** [0.059]	0.039 [0.037]	-0.059 [0.069]	0.084*** [0.032]
Close to Australia	0.041 [0.056]	0.100 [0.079]	0.046 [0.030]	0.120 [0.078]	-0.013 [0.035]	0.028 [0.060]	0.055* [0.031]	0.050 [0.070]
Non-multiple citizenship country	-0.118 [0.109]	0.119** [0.050]	0.096 [0.071]	0.075** [0.031]	0.109 [0.069]	-0.040 [0.034]	0.094 [0.068]	0.027 [0.032]
Low income country	0.037 [0.062]	0.069 [0.076]	0.077* [0.041]	0.095* [0.052]	0.023 [0.042]	-0.051 [0.047]	0.078** [0.036]	-0.034 [0.054]
Less democratic country	0.020 [0.056]	0.125 [0.087]	0.068* [0.036]	0.067 [0.060]	0.022 [0.034]	-0.055 [0.062]	0.064* [0.033]	-0.042 [0.065]
High remittance inflow country	0.001 [0.065]	0.169*** [0.057]	0.038 [0.033]	0.149** [0.065]	0.004 [0.037]	-0.012 [0.049]	0.075** [0.031]	-0.037 [0.061]

**Notes:** Results are from the regression (2). Estimates are obtained from separate regressions. “Yes” (“No”) refers to a sub-group of immigrants with (without) a particular characteristic listed in the first column.

Other explanatory variables include age and its square, education, marital status, health status, household non-wage income, home ownership status, the number of co-residing members of various age cohorts, the regional unemployment rate, regional relative socio-economic advantage index, state dummies, and year and month dummies. Robust standard errors clustered at the individual level in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

**Table 8:** Estimates for the probabilities of return immigration

Lag of exchange rate	Female					Male				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Current	0.007 (0.009)		0.020 (0.016)		0.023 (0.016)	-0.001 (0.008)		-0.022 (0.015)		-0.018 (0.014)
One year		-0.001 (0.008)	-0.016 (0.014)		-0.033* (0.018)		0.008 (0.008)	0.024* (0.013)		-0.009 (0.015)
Two years				0.003 (0.008)	0.017 (0.013)				0.017* (0.009)	0.034** (0.015)
Observations	13,506	13,475	13,475	13,436	13,436	12,211	12,185	12,185	12,141	12,141
R-squared	0.011	0.012	0.012	0.012	0.012	0.011	0.011	0.011	0.011	0.012
Number of id	2,477	2,476	2,476	2,459	2,459	2,299	2,298	2,298	2,278	2,278
P F test	0.447	0.883	0.431	0.694	0.287	0.876	0.280	0.193	0.055	0.098

**Notes:** Results are from the regression (2). The dependent variable is an indicator taking value 1 if the immigrant moves overseas (and hence is not surveyed in that year) and zero otherwise.

Other explanatory variables include age and its square, education, marital status, health status, household non-wage income, home ownership status, the number of co-residing members of various age cohorts, the regional unemployment rate, regional relative socio-economic advantage index, state dummies, and year and month dummies.

P F test: P value from the F test for (joint) significance of exchange rate variable(s) in the model.

Robust standard errors clustered at the individual level in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

**Table 9: Other robustness checks**

	Female					Male				
	Baseline	Excluding UK	Exclude 2008-09	Older sample	Alternative exchange rate	Baseline	Excluding UK	Exclude 2008-09	Older sample	Alternative exchange rate
Dependent variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Employed	-0.008 [0.042]	-0.007 [0.046]	-0.013 [0.045]	-0.015 [0.043]	0.001 [0.042]	0.042 [0.032]	0.066** [0.033]	0.037 [0.032]	0.030 [0.032]	0.048 [0.031]
Weekly working hours (log)	-0.077 [0.061]	-0.092 [0.064]	-0.085 [0.062]	-0.084 [0.060]	-0.074 [0.059]	-0.074* [0.045]	-0.045 [0.048]	-0.061 [0.045]	-0.038 [0.043]	-0.079* [0.044]
Hourly wage rates (log)	0.016 [0.056]	0.057 [0.059]	0.020 [0.061]	0.004 [0.057]	0.006 [0.056]	-0.017 [0.055]	-0.023 [0.058]	-0.024 [0.056]	-0.033 [0.058]	-0.014 [0.053]
Weekly wages (log)	-0.032 [0.069]	-0.011 [0.072]	-0.039 [0.072]	-0.052 [0.067]	-0.035 [0.068]	-0.101* [0.059]	-0.078 [0.063]	-0.090 [0.057]	-0.084 [0.059]	-0.105* [0.057]
Annual wage working hours (log)	-0.093 [0.092]	-0.172* [0.093]	-0.088 [0.097]	-0.115 [0.094]	-0.062 [0.090]	-0.069 [0.082]	-0.050 [0.085]	-0.075 [0.083]	-0.018 [0.081]	-0.076 [0.080]
Annual wages (log)	-0.032 [0.108]	-0.070 [0.109]	0.023 [0.112]	-0.111 [0.109]	-0.041 [0.105]	-0.115 [0.086]	-0.085 [0.089]	-0.141 [0.090]	-0.075 [0.084]	-0.121 [0.086]
Hours desired to work more	2.669** [1.268]	2.928** [1.348]	2.887** [1.308]	2.529* [1.323]	2.731** [1.219]	-0.453 [1.100]	-1.042 [1.150]	-0.408 [1.117]	-0.653 [1.191]	-0.164 [1.083]
Worked full-time	-0.063 [0.043]	-0.074 [0.046]	-0.067 [0.045]	-0.064 [0.043]	-0.060 [0.041]	-0.075* [0.040]	-0.051 [0.041]	-0.067 [0.041]	-0.062 [0.042]	-0.069* [0.039]
Worked part-time	0.070 [0.043]	0.068 [0.047]	0.076* [0.045]	0.067 [0.044]	0.077* [0.042]	0.069** [0.029]	0.056* [0.030]	0.065** [0.029]	0.041 [0.027]	0.070** [0.029]
Self-employed	-0.009 [0.029]	0.001 [0.031]	-0.015 [0.029]	-0.012 [0.030]	-0.011 [0.028]	0.047* [0.028]	0.058** [0.028]	0.040 [0.029]	0.050 [0.031]	0.045* [0.027]
Changed occupation	0.042 [0.062]	0.058 [0.070]	0.001 [0.067]	0.078 [0.064]	0.045 [0.062]	0.050 [0.051]	0.013 [0.057]	0.076 [0.055]	0.079 [0.052]	0.053 [0.050]

**Notes:** Results are from the regression (2). Estimates for different exchange rates are obtained from separate regressions.

Other explanatory variables include age and its square, education, marital status, health status, household non-wage income, home ownership status, the number of co-residing members of various age cohorts, the regional unemployment rate, regional relative socio-economic advantage index, state dummies, and year and month dummies.

Robust standard errors clustered at the individual level in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

**Appendix Table A1: Variable description**

Variable	Definition	Female	Male	All
<i><b>Dependent variables</b></i>				
Employed	Dummy variable: = 1 if the respondent was employed in the last seven days, = 0 if otherwise	0.63	0.81	0.72
Weekly working hours	The number of hours of work per week in all jobs in the last seven days (hours)	32.68	42.68	38.05
Hourly wage rates	Wage rate per hour = Weekly wages/weekly wage working hours (AUD/hour, measured at 2001 price)	19.03	20.53	19.83
Weekly wages	Total weekly wage earnings in the week prior to the survey time (AUD 1000, measured at 2001 price)	0.38	0.69	0.53
Annual wage working hours	Annual hours spent on wage work in the last financial year =Annual wages / hourly wage rates (hours)	1530.73	2262.97	1914.55
Annual wages	Total wages and salaries from all jobs in the last financial year (AUD 1000, measured at 2001 price)	18.85	34.04	26.06
Hours desired to work more	The difference between the desired and actual weekly working hours (hours)	-1.87	-2.83	-2.38
Full-time employed	Dummy variable: = 1 if the respondent was employed for 35 hours or more in the last seven days, = 0 if otherwise	0.33	0.62	0.46
Part-time employed	Dummy variable: = 1 if the respondent was employed for less than 35 hours in the last seven days, = 0 if otherwise	0.25	0.08	0.17
Self-employed	Dummy variable: = 1 if the respondent was self-employed in the last seven days, = 0 if otherwise	0.06	0.12	0.09
Occupation change	Dummy variable: = 1 if occupation changed (including switching from being unemployed to employed) since last interview, = 0 if otherwise	0.20	0.16	0.18
<i><b>Independent variables</b></i>				
Age	Age last birthday at June 30 (year)	43.37	43.72	43.53
Education	Dummy variables of highest education level achieved: Year 11 and below (the base group), Year 12, vocational education and training (VET) certificate, bachelor or higher			
Marital Status	Dummy variable: = 1 if never married, = 0 if otherwise	0.13	0.18	0.15
Disable	Dummy variable: = 1 if has any long term health condition, disability or impairment, = 0 if otherwise	0.18	0.19	0.18
Non-wage income	Normalized non-wage household income (AUD 100,000)	0.27	0.14	0.21
Home owner	Dummy variable: = 1 if the home that the respondent is living is owned or its mortgage is currently paid off by any member of the household, = 0 if otherwise	0.70	0.68	0.69
Number of residents	Number of people in the household in various age cohorts (0-4; 5-9; 10-14; 15-23;24-64; and others), excluding self (person)			
Length of stay	Length of time since first arrived in Australia to live (year)	24.32	24.70	24.50
ESB	Dummy variable: = 1 if was born in an English Speaking Background country, = 0 if otherwise	0.44	0.52	0.48
Urban	Dummy variable: = 1 if region of current residence is major city, = 0 if otherwise	0.79	0.79	0.79
State	Dummy variables for state of residence: NSW/ACT (the base group), VIC, QLD, SA, WA, TAS/NT			

Regional unemployment rate	ABS unemployment rate in major statistical region (October of interview year) (%)	4.98	4.95	4.97
Socio-economic indicators	ABS decile of Index of relative socio-economic advantage/disadvantage	5.95	6.06	6.00
Real exchange rate	As defined in the main text	763.97	624.10	697.56
GDP	Home country's nominal GDP per capita (USD)	21325	22412	21841
GDP growth	Home country's GDP growth rate (%; GDP is measured at constant domestic prices)	3.28	3.19	3.23
Unemployment rate	Home country's unemployment rate (%)	6.89	6.93	6.91
Distance to home country	The direct distance between Sydney (Australia) and the home country's capital (1000 km)	11.60	11.71	11.65

**Appendix Table A2: Summary statistics by country of origin**

Country	Number of observations	Yearly growth in nominal exchange rate (%)	Yearly growth in real exchange rate (%)	Male (%)	Age (years)	Length of stay (years)	Employed (%)	Weekly working hours	Hourly wage rates (AUD/hour)	Weekly wage earnings (1000 AUD)	Yearly wage earnings (1000 AUD)
Afghanistan	58	4.1	4.3	53	30.0	10.7	33	40.1	20.2	0.3	13.3
S.D.		7.2	10.3		8.7	5.1		13.9	16.8	0.6	30.1
Austria	91	2.5	2.3	46	42.8	37.2	79	36.0	15.0	0.4	19.0
S.D.		7.7	7.5		14.8	13.5		12.5	6.0	0.4	15.6
Bangladesh	176	9.2	8.7	60	37.5	13.0	62	42.3	21.6	0.6	23.7
S.D.		8.7	7.8		9.5	9.9		16.3	19.5	1.0	42.8
Belgium	47	2.3	2.0	36	36.6	27.6	98	45.0	20.7	0.9	41.7
S.D.		7.3	6.9		9.6	10.8		11.9	10.4	0.5	25.0
Bosnia and Herzegovina	25	3.7	5.7	16	49.5	30.3	72	35.8	17.4	0.5	23.6
S.D.		8.5	8.3		8.7	12.8		11.6	5.1	0.5	24.3
Bulgaria	44	1.3	1.9	61	53.7	24.4	45	35.3	13.9	0.2	13.6
S.D.		6.4	6.4		13.7	8.7		12.6	6.2	0.3	16.7
Cambodia	153	5.0	4.8	40	37.8	16.2	45	31.4	11.5	0.2	6.3
S.D.		10.0	10.6		12.3	7.4		12.3	7.0	0.2	11.5
Canada	286	1.9	1.7	40	42.7	21.6	83	37.2	27.4	0.8	40.4
S.D.		5.1	4.7		11.1	11.3		14.1	24.3	0.8	40.3
Chile	63	4.5	2.5	46	41.0	19.6	46	32.4	28.2	0.4	25.7
S.D.		2.6	2.7		13.4	12.6		9.8	16.0	0.7	39.3
China	829	2.5	2.1	40	38.5	13.0	67	37.5	17.6	0.4	20.3
S.D.		8.9	7.5		12.4	8.4		15.1	13.8	0.5	26.2
Colombia	143	3.5	3.6	41	33.4	9.0	71	33.3	18.5	0.4	18.2
S.D.		10.0	9.8		9.0	7.7		15.0	15.5	0.4	17.2
Croatia	278	1.1	1.0	51	49.3	28.3	59	41.1	18.6	0.4	22.9
S.D.		7.6	7.6		12.3	14.1		12.6	11.0	0.5	27.8
Cyprus	78	1.2	1.2	45	51.8	25.2	37	42.3	42.4	0.6	26.8
S.D.		7.2	6.8		10.7	10.8		11.0	26.6	1.1	44.7
Czech Republic	115	-2.1	-2.2	51	46.7	24.5	77	39.2	22.3	0.6	30.8
S.D.		9.3	9.4		12.5	12.1		12.7	10.9	0.6	27.3
Denmark	51	2.1	1.8	18	47.3	25.8	49	31.6	21.5	0.3	18.3
S.D.		8.0	7.8		10.0	16.0		17.9	7.0	0.4	23.0
East Timor	70	7.6	5.2	66	43.7	23.3	53	39.8	17.3	0.4	17.1
S.D.		8.4	6.0		9.8	9.0		6.8	5.2	0.4	19.0
Egypt	227	10.6	10.0	51	45.8	27.6	64	40.0	22.7	0.6	29.1
S.D.		15.7	15.0		12.5	14.9		17.0	14.8	0.7	33.6

Fiji	448	3.2	2.9	54	37.0	15.8	74	42.2	19.0	0.6	27.0
S.D.		5.2	5.8		11.6	11.6		11.4	10.3	0.5	25.0
Finland	44	2.4	2.2	14	44.1	40.6	89	46.0	17.6	0.7	33.7
S.D.		7.6	7.1		6.9	6.7		15.3	6.3	0.4	20.1
France	142	2.5	2.2	58	45.7	26.5	73	38.7	19.2	0.5	23.6
S.D.		7.7	7.4		10.2	11.3		19.3	13.6	0.5	25.9
Germany	701	2.0	1.7	37	49.9	36.9	69	35.7	17.5	0.4	21.6
S.D.		7.5	7.5		11.4	18.2		14.1	14.0	0.5	27.2
Greece	172	0.6	0.5	47	53.3	35.8	43	41.7	14.7	0.3	10.6
S.D.		6.6	6.6		10.4	11.8		14.6	9.4	0.4	18.1
Hong Kong	443	4.8	3.8	43	37.3	17.0	67	36.1	18.9	0.4	21.0
S.D.		9.3	9.0		13.5	10.8		15.8	16.2	0.6	31.5
Hungary	115	1.6	1.9	37	47.3	29.1	63	31.3	18.6	0.4	17.8
S.D.		8.1	8.0		13.3	13.8		14.9	12.0	0.4	20.6
India	857	8.2	7.9	54	41.3	17.3	81	39.1	22.2	0.7	33.2
S.D.		6.7	7.8		11.6	13.0		10.9	11.9	0.6	29.4
Indonesia	288	6.4	6.0	36	39.4	18.3	66	33.1	18.3	0.4	18.2
S.D.		6.2	7.3		14.1	15.1		16.5	13.1	0.5	24.0
Iran	138	36.7	34.4	67	42.6	18.3	81	42.2	20.6	0.7	37.8
S.D.		87.2	82.8		10.3	11.1		13.9	19.5	0.9	50.0
Iraq	144	-5.3	-2.8	59	34.9	8.6	32	33.4	13.2	0.1	5.7
S.D.		16.1	26.0		12.0	4.8		14.3	10.8	0.2	12.0
Ireland	314	1.9	1.8	50	47.2	28.1	81	39.7	17.9	0.6	29.3
S.D.		7.5	6.4		10.6	14.1		14.3	10.7	0.5	26.1
Italy	607	1.3	1.0	44	53.5	41.6	58	37.6	14.9	0.3	14.8
S.D.		7.3	7.2		8.3	9.5		15.2	12.4	0.5	23.0
Japan	222	2.6	2.3	18	37.6	13.3	61	32.1	17.5	0.4	16.2
S.D.		7.8	7.5		8.1	7.8		15.2	19.4	0.6	30.0
Korea, Republic of (South)	50	5.8	5.2	30	33.3	9.8	70	33.6	18.5	0.5	18.1
S.D.		5.2	5.2		10.6	8.2		13.8	14.3	0.7	24.2
Laos	46	5.9	8.2	35	41.8	21.9	70	32.8	16.0	0.4	18.2
S.D.		11.7	9.8		8.6	5.2		12.7	6.9	0.4	21.0
Latvia	7	-0.3	-1.6	100	61.0	55.0	71	11.4	16.6	0.1	3.1
S.D.		4.0	3.4		2.2	2.2		13.2	5.4	0.2	3.8
Lebanon	56	4.8	13.9	50	43.6	26.8	41	34.4	13.2	0.2	6.7
S.D.		11.7	0.0		11.8	13.3		12.1	9.6	0.3	12.5
Malaysia	464	3.3	3.1	38	44.7	22.4	70	35.6	24.1	0.6	27.9
S.D.		8.1	8.0		12.5	10.5		14.3	17.6	0.6	31.2
Malta	143	1.1	0.9	37	52.4	44.4	72	40.3	18.1	0.5	26.9
S.D.		7.4	7.8		7.7	9.8		16.9	9.2	0.5	27.7
Mauritius	192	6.0	5.9	35	45.4	23.5	78	32.2	16.8	0.5	21.8

S.D.		5.8	6.1		12.2	11.1		13.3	11.2	0.5	24.4
Nepal	106	9.3	8.6	70	28.4	6.0	91	32.9	14.1	0.4	17.6
S.D.		6.3	6.7		5.8	5.9		15.0	4.8	0.2	12.9
Netherlands	564	1.5	1.2	49	52.0	39.8	63	40.5	18.1	0.4	23.1
S.D.		7.1	7.4		9.8	14.6		13.5	16.2	0.6	32.9
New Zealand	3109	0.0	0.0	55	41.5	20.9	81	40.5	19.4	0.6	29.4
S.D.		3.7	3.8		12.0	11.6		13.7	15.7	0.6	29.4
Pakistan	76	9.3	9.8	53	36.1	9.5	55	38.4	19.4	0.4	17.8
S.D.		5.3	5.7		9.5	7.8		9.5	12.5	0.6	20.4
Papua New Guinea	279	2.1	3.0	49	39.3	29.2	78	37.3	18.6	0.5	25.8
S.D.		9.1	10.2		9.2	11.8		15.2	14.2	0.6	29.2
Peru	60	3.3	3.0	47	47.0	21.4	90	40.3	30.3	0.9	45.6
S.D.		8.3	7.9		11.2	10.0		11.4	65.0	0.7	32.2
Philippines	1197	4.5	4.4	29	38.1	15.9	74	34.9	16.4	0.4	20.4
S.D.		8.4	8.3		12.3	8.6		13.5	11.1	0.4	20.3
Poland	352	2.6	2.9	44	45.1	23.4	67	37.6	21.3	0.5	25.9
S.D.		11.0	10.1		13.8	11.5		11.5	12.8	0.5	28.5
Portugal	97	1.0	0.5	35	36.2	21.5	65	38.5	15.5	0.4	17.3
S.D.		6.8	6.7		10.8	10.2		14.4	10.0	0.5	23.6
Romania	205	2.1	4.7	46	43.3	17.4	43	43.5	20.4	0.4	19.9
S.D.		7.0	6.5		13.8	6.1		14.4	24.1	0.8	43.6
Russian Federation	118	6.7	7.8	58	44.9	14.3	82	39.9	18.5	0.6	26.4
S.D.		8.1	9.0		9.4	7.2		11.5	14.6	0.6	27.4
Singapore	136	2.1	1.5	51	42.1	25.0	81	37.4	22.7	0.5	24.6
S.D.		7.2	6.7		9.2	14.1		12.4	44.1	0.5	24.1
South Africa	837	8.0	7.4	49	38.1	17.8	84	39.1	18.8	0.6	30.4
S.D.		10.3	8.2		13.5	9.8		14.7	12.9	0.6	33.4
Spain	89	2.8	2.5	65	38.3	20.1	83	38.6	18.5	0.6	26.7
S.D.		7.6	7.2		13.3	11.2		12.9	6.8	0.4	22.5
Sri Lanka	477	9.7	9.2	53	41.5	17.8	77	37.4	20.3	0.6	31.8
S.D.		7.4	8.2		12.8	11.4		12.5	11.5	0.6	38.6
Sudan	58	5.0	2.7	67	37.2	10.5	76	38.0	9.7	0.3	10.3
S.D.		9.6	9.8		13.7	4.7		17.1	9.1	0.5	16.4
Sweden	73	2.3	2.0	45	39.4	24.1	77	36.9	19.6	0.5	27.7
S.D.		3.9	4.4		14.3	15.8		14.1	10.8	0.5	25.0
Switzerland	63	0.9	0.9	54	41.9	15.5	94	30.8	20.0	0.6	30.1
S.D.		6.6	6.2		9.7	13.3		16.2	15.2	0.5	33.2
Taiwan	180	3.9	3.6	39	35.5	17.0	62	33.8	15.6	0.3	13.9
S.D.		6.8	6.0		12.2	6.0		15.2	11.0	0.4	19.1
Thailand	127	3.2	2.8	14	34.5	10.5	55	30.7	14.4	0.2	10.1
S.D.		5.5	4.8		11.4	8.7		16.1	9.1	0.4	17.7

Turkey	151	17.7	21.0	42	40.2	23.2	70	34.4	26.5	0.6	30.8
S.D.		20.6	21.9		10.2	9.4		13.6	15.8	0.6	32.0
Ukraine	70	7.4	9.8	34	39.5	16.1	77	37.8	19.0	0.6	18.3
S.D.		12.5	13.1		13.9	15.3		12.5	11.7	0.6	22.3
United Kingdom	7240	4.2	3.8	51	47.1	31.3	73	38.2	21.0	0.6	29.2
S.D.		6.3	6.4		11.3	13.8		14.7	26.7	0.7	39.4
United States of America	491	5.3	5.1	43	44.7	22.6	79	37.9	24.0	0.7	33.0
S.D.		8.9	8.2		11.5	13.6		14.3	23.1	0.9	40.2
Uruguay	87	13.8	12.5	44	44.0	27.5	69	35.5	18.1	0.4	19.7
S.D.		26.3	21.7		11.0	9.5		9.9	13.6	0.4	18.8
Vietnam	1056	8.3	7.0	42	40.2	18.9	59	37.1	20.4	0.4	21.8
S.D.		9.9	9.6		12.2	7.7		12.5	13.2	0.5	26.5
Zambia	92	5.3	6.6	51	40.0	20.9	86	36.1	22.6	0.8	39.1
S.D.		8.8	10.1		9.1	8.6		10.6	12.3	0.6	30.2
All immigrants	25717	4.1	3.9	47	43.5	24.5	72	38.1	19.8	0.5	26.1
S.D.		10.7	10.4		12.5	14.5		14.3	19.5	0.6	32.7
Natives	107846			48	37.6		75	37.1	18.1	0.5	24.5
S.D.					13.7			15.7	18.4	0.6	29.7

**Notes:** Sample of individual age 16-64. Standard Deviations (S.D.) are reported right below each country's mean statistics. All labour market outcomes, except the employment decision, are adjusted for CPI, using the 2001 CPI as the base.

**Appendix Table A3:** Heterogeneous impact of exchange rate fluctuations on yearly wages - pooled results

Separate estimation by	Female		Male	
	Yes	No	Yes	No
Young	-0.186 [0.159]	-0.228 [0.158]	-0.284** [0.113]	0.036 [0.127]
Recent	-0.290** [0.147]	-0.125 [0.171]	-0.187* [0.107]	-0.067 [0.167]
Bachelor or higher degree	-0.202 [0.222]	-0.167 [0.138]	-0.121 [0.131]	-0.043 [0.116]
Single	0.436 [0.359]	-0.324*** [0.120]	-0.115 [0.265]	-0.082 [0.080]
Has children	-0.310** [0.135]	0.105 [0.238]	-0.040 [0.090]	-0.231 [0.163]
Speak other language at home	-0.395** [0.177]	-0.162 [0.154]	-0.135 [0.112]	-0.033 [0.144]
Speak English very well	-0.255** [0.127]	-0.260 [0.252]	-0.193** [0.092]	0.306 [0.256]
Australian citizen	-0.128 [0.141]	-0.214 [0.294]	-0.127 [0.107]	0.098 [0.212]
Oldest child	-0.275 [0.199]	-0.329** [0.136]	-0.312** [0.157]	-0.006 [0.102]
Any relative overseas	-0.240* [0.146]	-0.124 [0.179]	0.002 [0.112]	-0.150 [0.125]
Any sibling overseas	-0.295* [0.153]	0.045 [0.172]	-0.027 [0.111]	-0.182 [0.169]
Mother overseas	-0.290 [0.222]	-0.029 [0.143]	0.089 [0.137]	-0.198 [0.127]
Father overseas	0.165 [0.222]	-0.187 [0.142]	0.050 [0.217]	-0.179 [0.109]
English speaking country	-0.195 [0.218]	-0.377** [0.147]	-0.037 [0.173]	-0.115 [0.102]
Close to Australia	-0.329** [0.131]	-0.223 [0.227]	-0.164* [0.093]	-0.013 [0.202]
Non-multiple citizenship country	0.325 [0.285]	-0.307** [0.132]	-0.138 [0.250]	-0.070 [0.090]
Low income country	-0.310* [0.170]	-0.193 [0.185]	-0.184 [0.122]	-0.142 [0.137]
Less democratic country	-0.326** [0.150]	-0.253 [0.203]	-0.138 [0.111]	-0.172 [0.162]
High remittance inflow country	-0.389** [0.156]	-0.058 [0.172]	-0.167* [0.090]	0.199 [0.201]

**Notes:** Pooled results are from the regression (1). Estimates are obtained from separate regressions. “Yes” (“No”) refers to a sub-group of immigrants with (without) a particular characteristic listed in the first column.

Other explanatory variables include age and its square, ESB, duration of stay in Australia, migration cohort dummies, education, marital status, health status, household non-wage income, home ownership status, the number of co-residing members of various age cohorts, the regional unemployment rate, regional relative socio-economic advantage index, state dummies, year and month dummies, and home country fixed effects.

Robust standard errors clustered at the individual level in parentheses. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

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