

New descriptive details of the labor market in Papua New Guinea: 1999-2018

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All the findings and interpretations are entirely our own responsibility.

Introduction

- Major contribution to understanding of labor market and inequality in Papua New Guinea (PNG)
 - First longitudinal study of wages and sectoral populations
 - Previously literature: 2 short time-horizon survey
- Novel dataset: superannuation database: data from 1980 to 2018
 - Population of private sector formal workers: 250K
- Findings (of earlier real wage paper)
 - Economy-wide conditional real wage growth has averaged about 4.5 percent over 1999-2018
 - conditional real wage growth in the agricultural sector has lagged the services, industry and mining sectors
 - Real wage growth has followed the bust-boom-bust cycle of the macroeconomy
 - Men experience higher conditional real wage growth during the boom, also suffer bigger falls during bust
 - Agricultural sector conditional real wage hardest hit during bust, also lags during boom

Papua New Guinea context

- PNG is classified as a resource rich developing country
 - Low-middle income country (GDP/capital \$4000), resource export/GDP over 60%
 - Highly susceptible to changes in commodity terms of trade
 - Resource sector share of GDP varies from 13% to 34% of GDP over 1999-2018
 - Located in the South Pacific
- one of the poorest countries in the world
 - bottom 25 percent on a wide range of Human Development Index measures (155th in 2019)
 - population 8.78 million (2019)
 - 85 percent of the population of PNG located in rural areas, restricted to agricultural activities
 - remaining 15 percent of the population live in small number of large urban centers.
- labor force 2.73 million in July 2020 (World Bank, 2020)
 - 366,000 workers were employed in the formal sector (both private and public sector) workers (ANU, 2020). Thus, less than 15 percent of the workforce is employed in the formal sector, with the remainder primarily in agricultural production in the non-formal sector.
 - In 2019 the number of formally-employed private sector workers was estimated at 257,000
 - matches closely with the number of active contributors in the Nasfund database

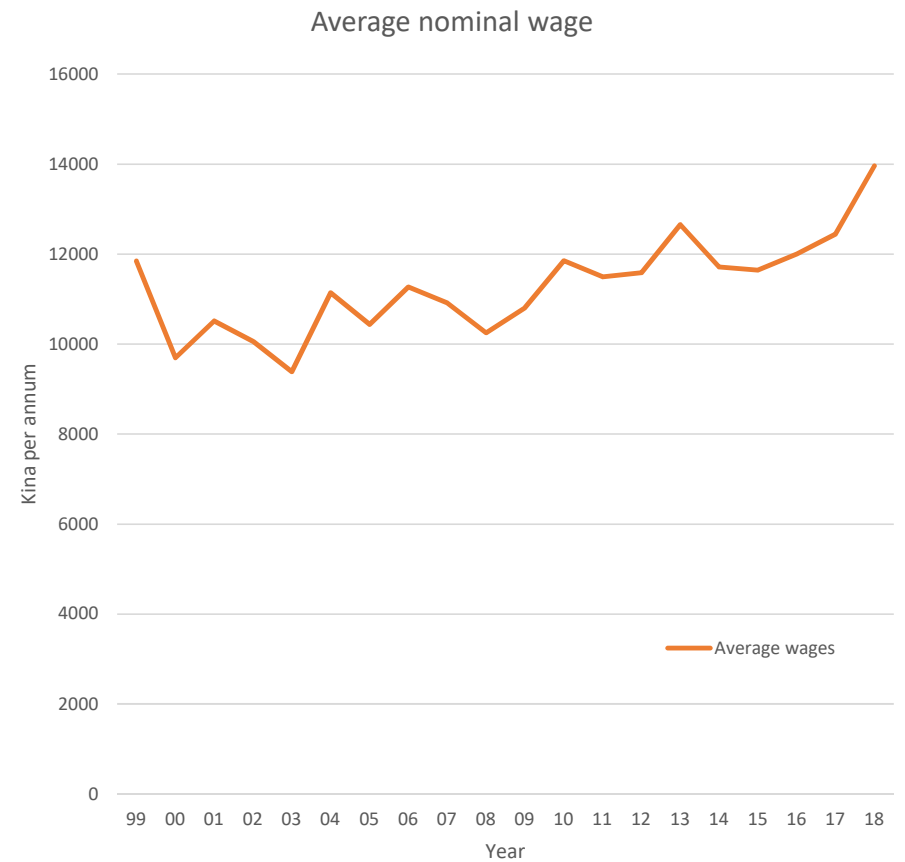
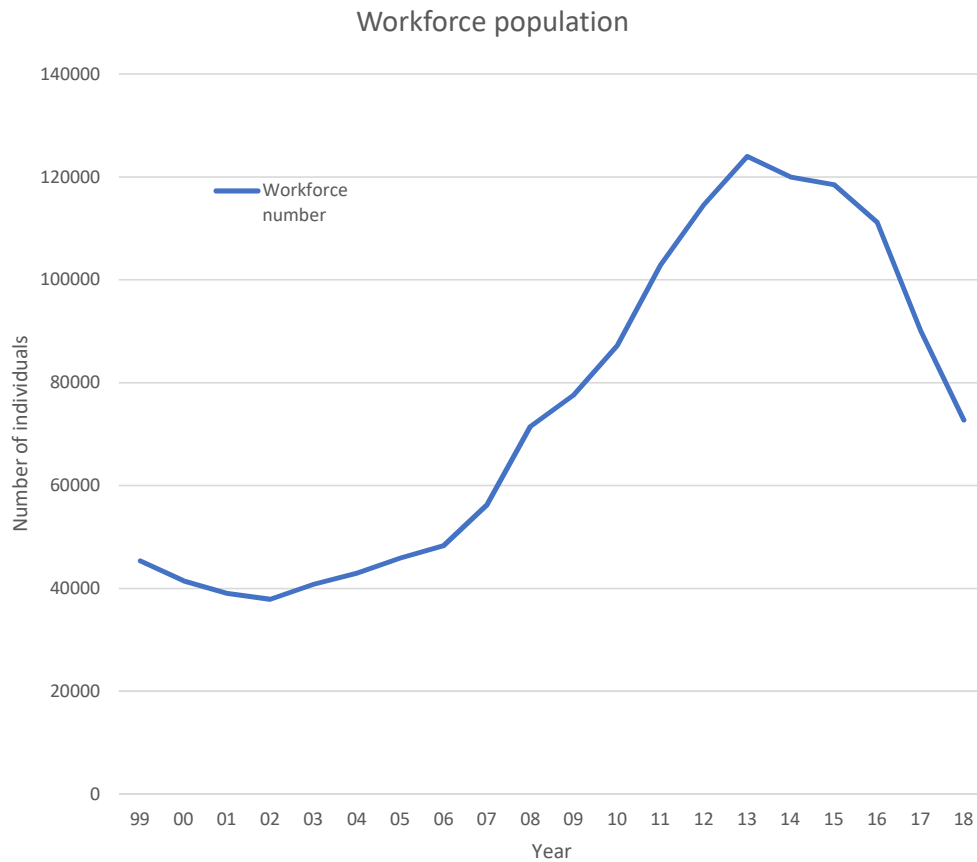
Economic Conditions: 1999-2018

- Three sub-periods: bust-boom-bust :
- **1999-2002 (bust):**
 - Low commodities prices
 - Severe drought over 1995-1997
 - Low growth due to preceding years of poor governance and corruption, and low commodities prices
- **2003-2013 (boom):**
 - large and sustained improvement in the commodity terms of trade leading to robust growth
 - punctuated by the global financial crisis in 2009 (large and offsetting fiscal stimulus)
 - concluded with an investment boom during 2010-2013 (construction of LNG gas project infrastructure)
- **2014-2018 (bust):**
 - End of commodities supercycle and investment boom
 - Low commodity prices and foreign exchange rationing by BPNG (central bank)
 - Recession / sluggish growth in non-resource sector
 - Mining sector boom, but no spillovers to rest of economy (enclave effect)

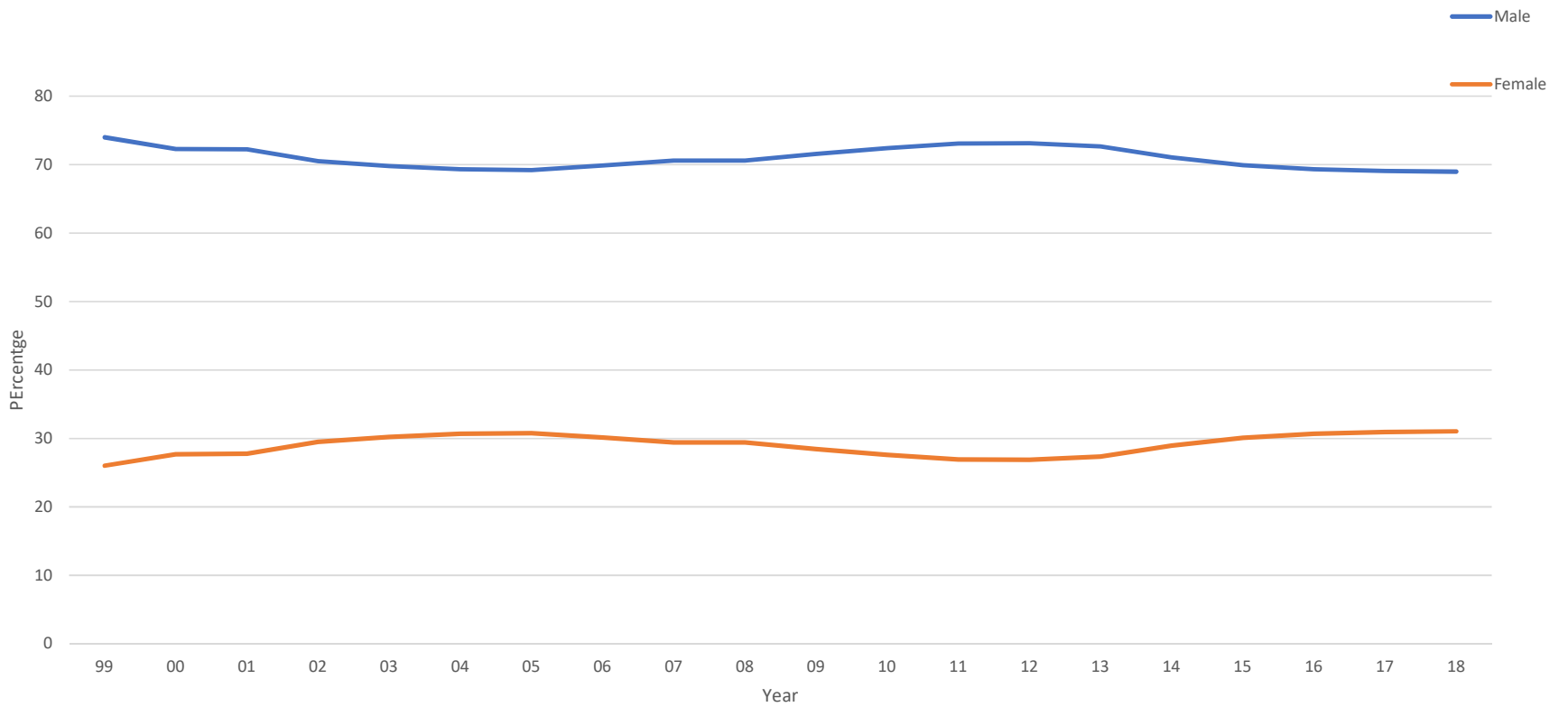
Data

- Nasfund superannuation database: largest private-sector superannuation fund in PNG
- Use four SQL tables
 - General ledger (history of all transactions)
 - Member (individual member employment history: continuing (active) or exiting (inactive))
 - Client (individual member characteristics: age, sex, marital status, number of dependents)
 - Payroll (firm details and location)
- 670,000 unique individuals
- Utilize novel correspondence between the employer and employee contributions
 - annual wage panel for the period 1999-2018.
 - Two alternative wage measures: one for each correspondence
- Merge with the available worker and firm information from all SQL tables
 - panel dataset of annual wages and individual and firm characteristics.

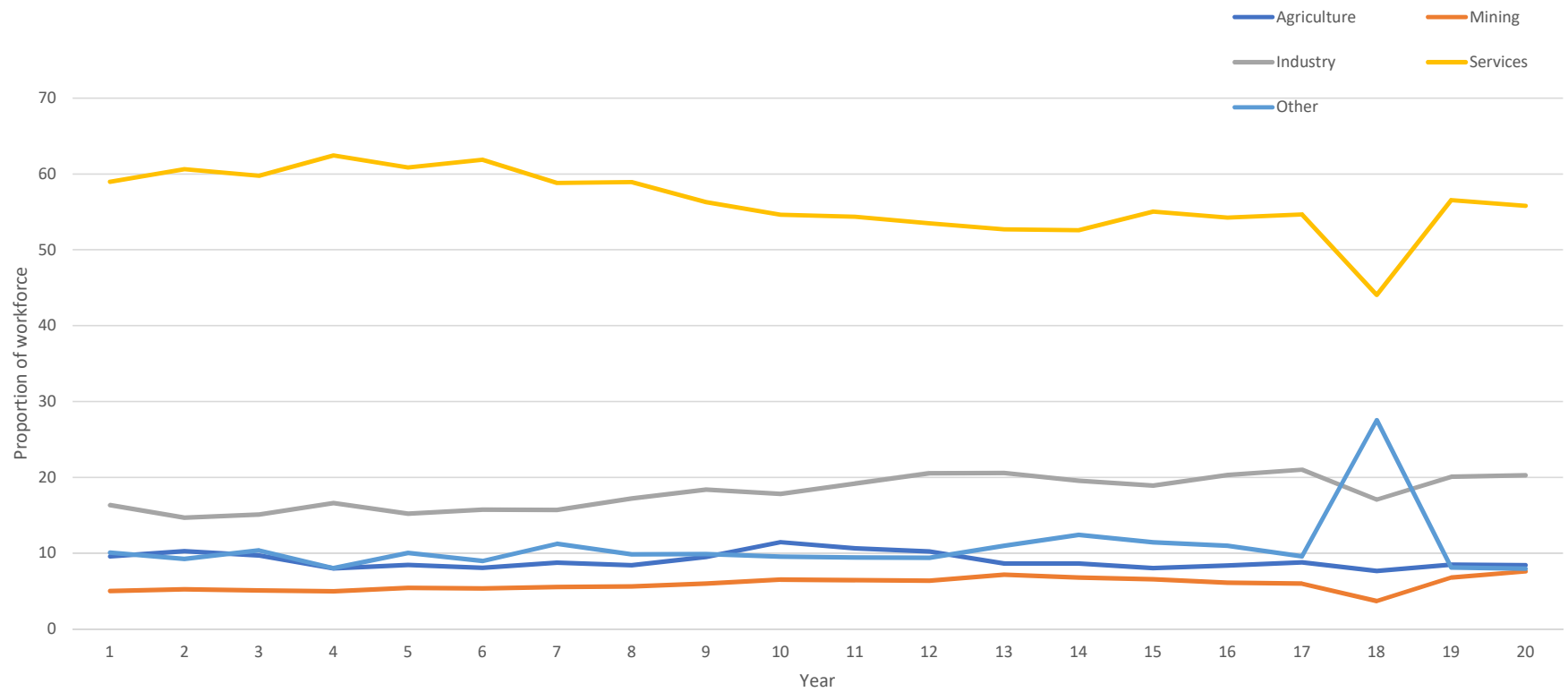
Workforce Population and Average Wage



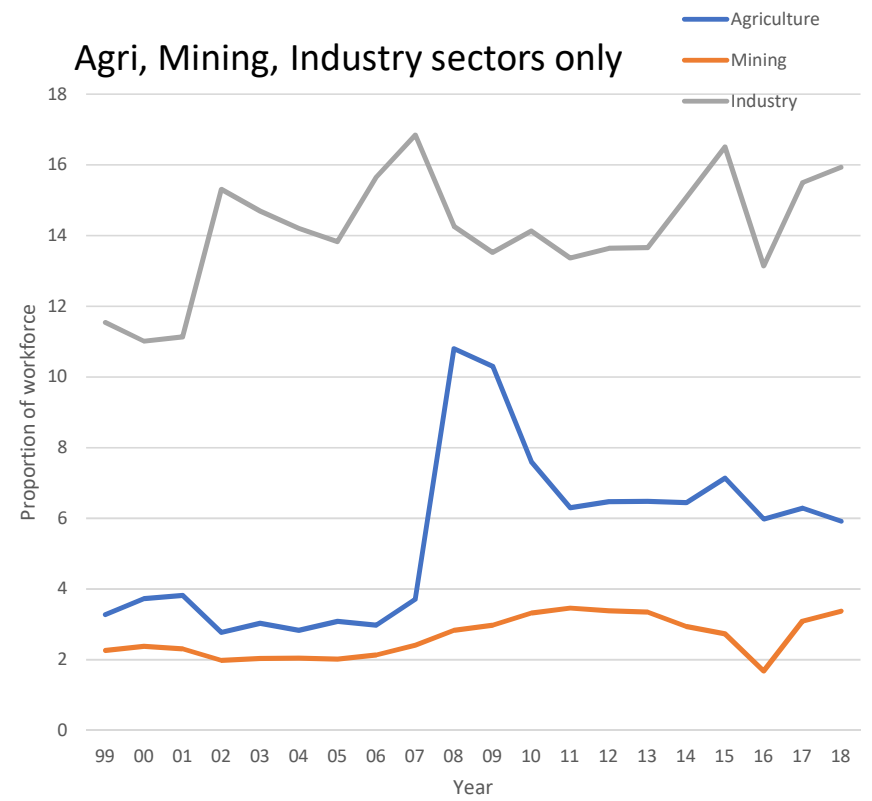
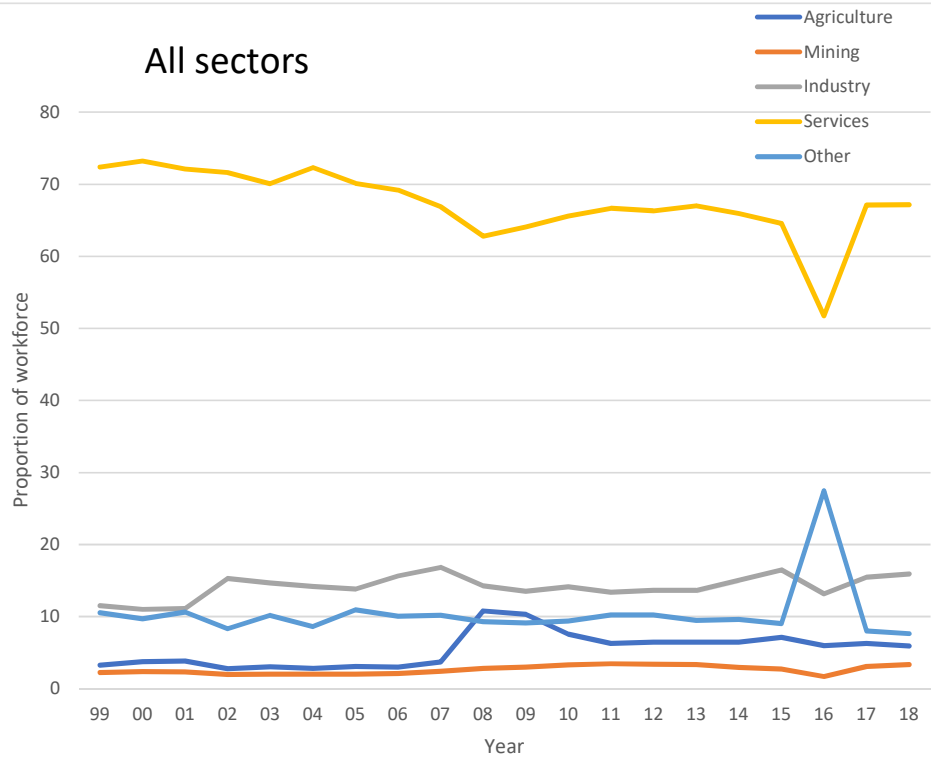
Workforce gender proportion



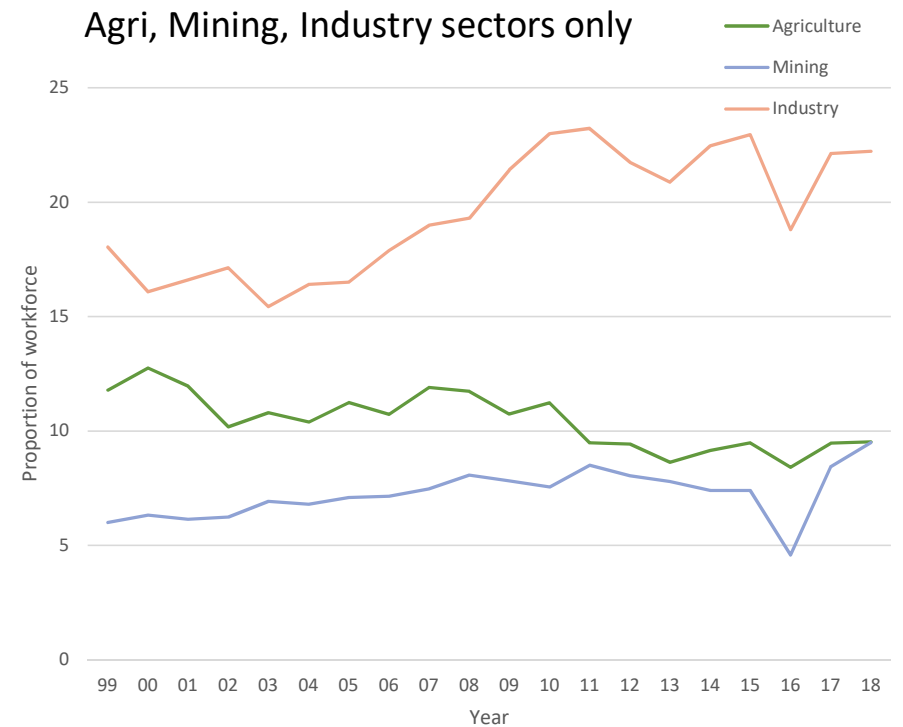
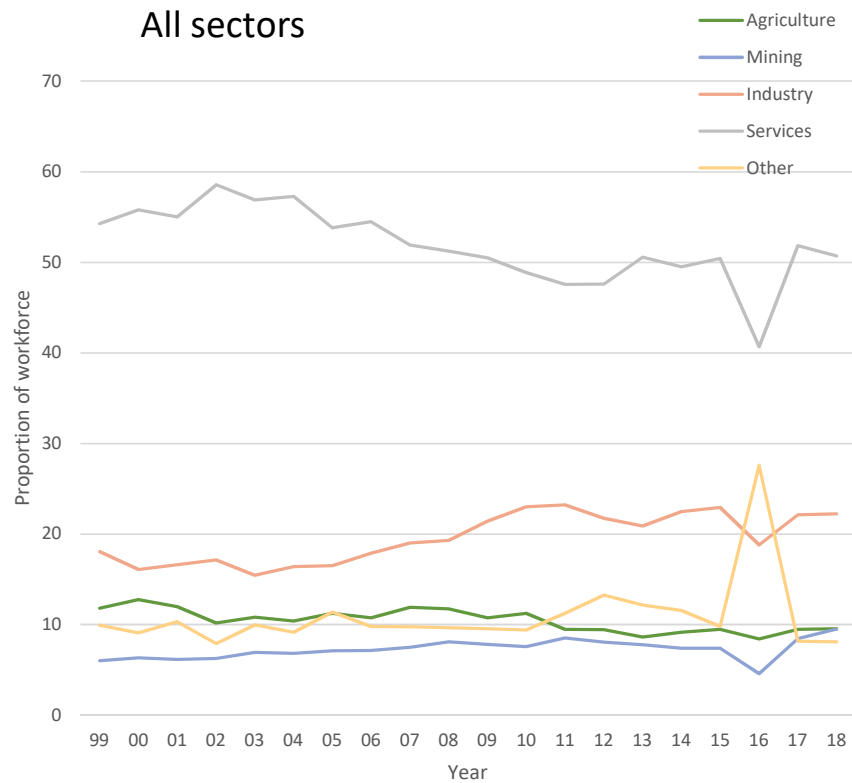
Workforce by sector percentage



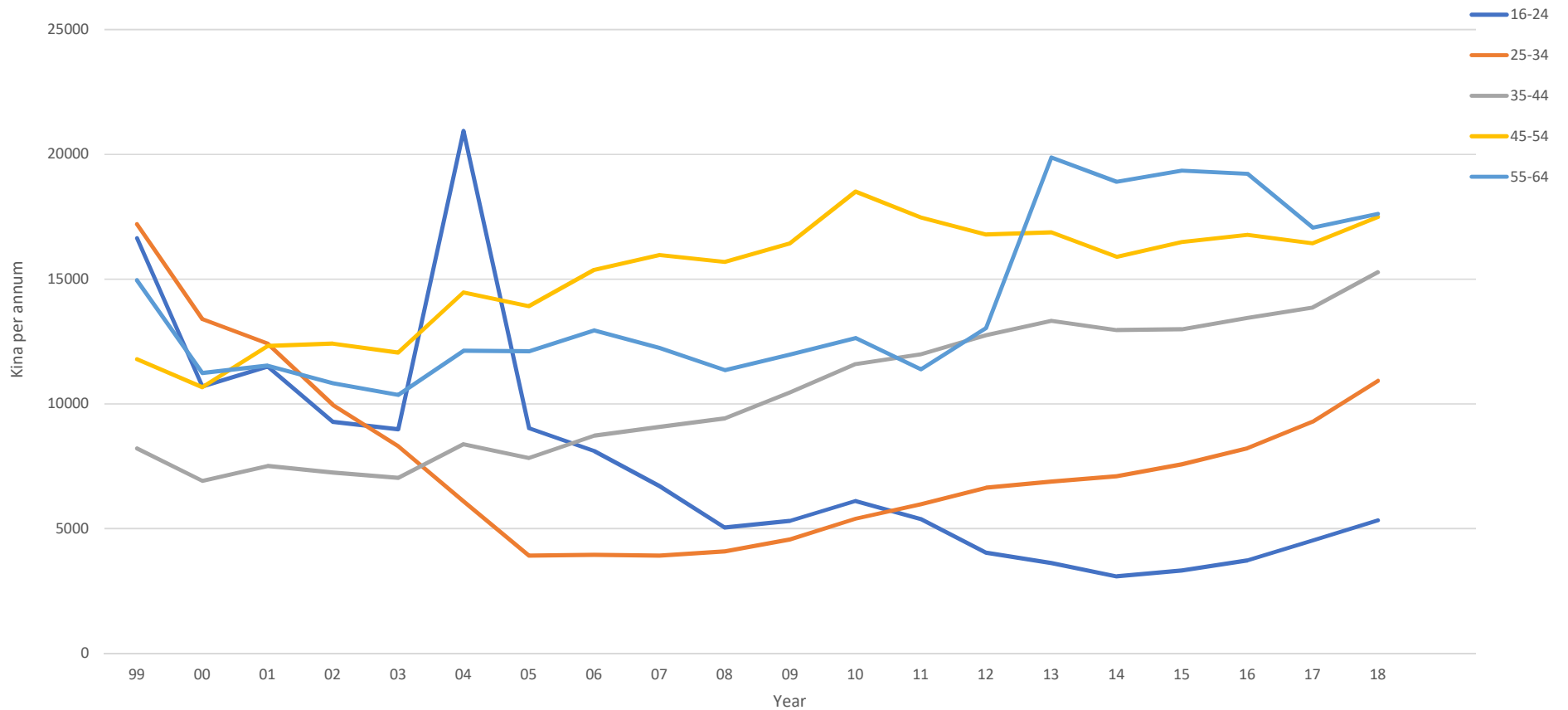
Female workforce by sector - percentage



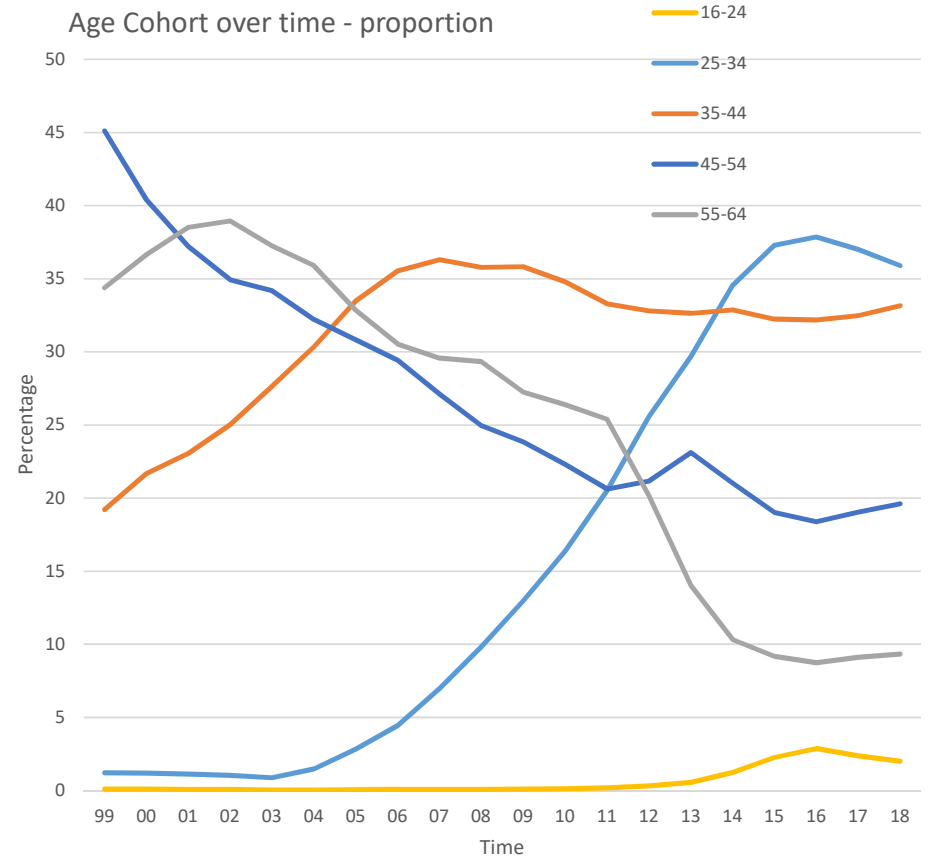
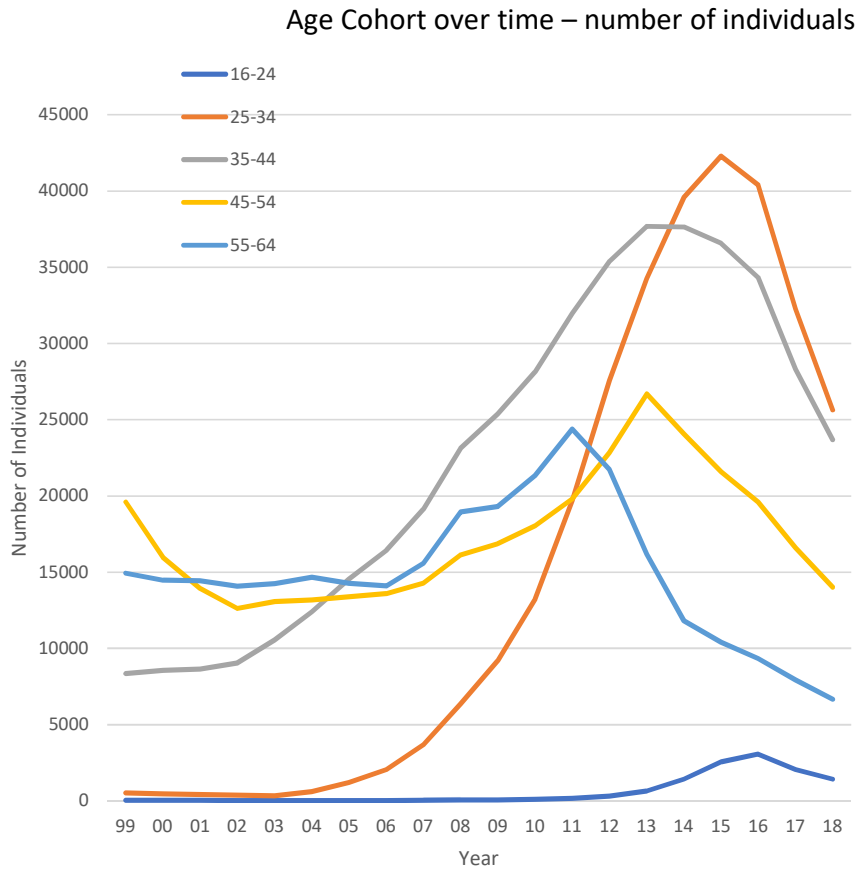
Male workforce by sector - percentage



Nominal Wage by Age-Cohort



Age cohort



Average Wage, Median Wage, Minimum Wage: 1999-2018



Inequality vs Minimum Wage, 1999-2018

