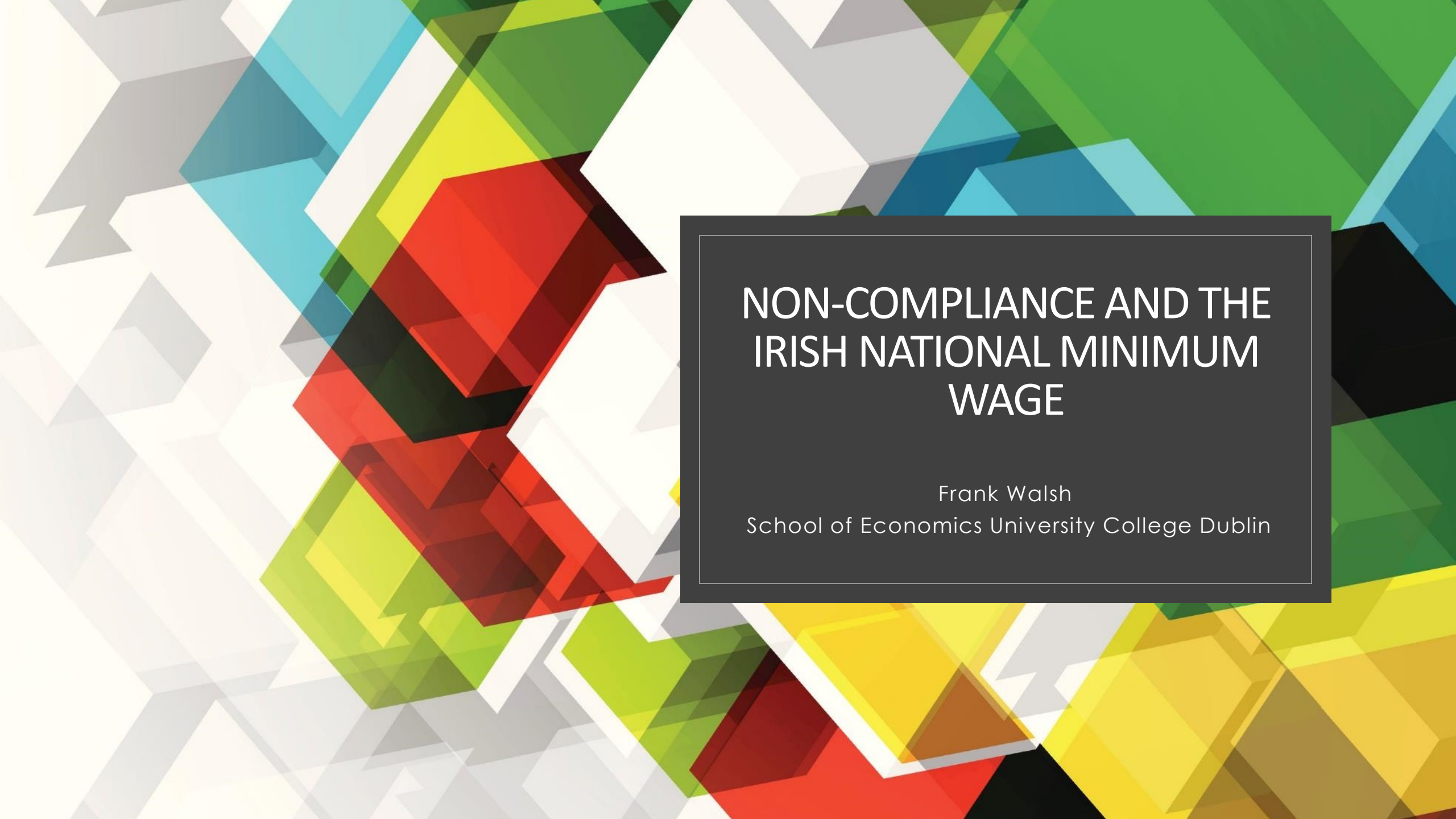




NON-COMPLIANCE AND THE IRISH NATIONAL MINIMUM WAGE

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Introduction

- An important source of good quality earnings data for Ireland was made available to researchers fairly recently
- This matches the Labour Force Survey with the data source entitled “Earnings Analysis using Administrative Data Sources” to create LFS/EAADS
- ***Earnings, Public sector status and weeks worked*** from Administrative data are matched with **some** worker and job characteristics from the Labour Force Survey for the primary employment for 2011-2018
- Non-Compliance with the National Minimum Wage calculated from this data is much higher than estimates from the Labour Force Survey

The Minimum Wage in Ireland to 2018

Date	Hourly Minimum Wage Qualified Adult
1 April 2000	€5.58
1 July 2001	€6.00
1 October 2002	€6.35
1 February 2004	€7.00
1 May 2005	€7.65
1 January 2007	€8.30
1 July 2007	€8.65
19 January 2011	€7.65
1 July 2011	€8.65
1 January 2016	€9.15
1 January 2017	€9.25
1 January 2018	€9.55



Sub-Minimum Wage Rates

- There were three different categories of sub-minimum rates, fixed as a percentage of the national hourly rate. These rates applied to
- those under 18 years of age,
- those over 18 who are in a first job (for up to two years), and
- those over 18 who are undergoing a prescribed course of study or training. Maximum periods of training range from 3 months to 3 years, and training must be certified.
- Small Allowances are allowed for Board and accommodation, while Apprentices, close relatives of the employee and workers in prisons are exempt from the legislation

Sub-Minimum Wage Rates

		% of Minimum Wage
Adult Rate	Experienced Adult Worker	100
Age Based rates	Age <18	70
	First year from date of first employment aged over 18	80
	Second year from date of first employment aged over 18	90
Trainee Rates: Employee aged over 18, in structured training during working hours	1 st One third period	75
	2 nd One third period	80
	3 rd One third period	90

Non-Compliance in Ireland

- McGuinness et al 2020 found rates of Non-Compliance of Less Than 1% of Employees using a question from the Labour Force Survey
- This asks a worker if they are paid at, above or below the Minimum Wage for a Qualified Adult (Stating the money amount)
- There are sub-minimum rates for
- For those who answered they were paid less, they are asked why this is in a follow up question which asks workers if they are paid less due to age or being on a training/experience rate. Workers who choose the “Other” category rather than these are categorised as non-complaint

Data

Observations are dropped if:

- individual employments earned less than €500 per annum
- The duration of employment was less than two weeks in the year
- Earnings were extremely high
- Employer and employee reference numbers are missing
- The Employments are in in NACE sectors A (Agriculture), T (Household Activities) and U (Activities of Extra-Territorial Organisations)
- Not the Principal (highest paying) Employment
- There is a missing value for **ANY** of the variables

	2011	2012	2013	2014	2015	2016	2017	2018
Number of observations	21,988	21,549	17,700	16,782	14,655	13,485	18,117	14,727

- We delete observations aged <20 to minimise the number on age or training based schemes or close relatives or apprentices who may be legally paid less than the minimum wage
- We have no direct data to verify if that we have minimised workers in these categories by deleting under 20s
- According to the LFS the numbers on training rates were negligible

Methodology

- The hourly wage in the “Main” job is
- $HW = \text{Annual Wage} / (\text{Weeks Worked} * \text{Usual Weekly Hours})$
- Annual Earnings and Weeks worked are taken from Administrative data and should have little error, but hours is self reported. We allow for no error, error of 5% or error of 10% in hours
- In measuring compliance we allow that any worker with hourly wage in the following range is deemed “Compliant”

$$\frac{MW}{1 + \varepsilon} < HW^* < \frac{MW}{1 - \varepsilon}$$

Non-Compliance is measured as:

$$HW^* < \frac{MW}{1 + \varepsilon}$$

Rates of Compliance (% of Total Employment over age 20 except LFS Measures)

Year	$\varepsilon = 0$	$\varepsilon = 0.05$	$\varepsilon = 0.10$	LFS	LFS
2011	0.0%	1.7%	3.7%		
2012	0.1%	4.0%	8.1%		
2013	0.1%	4.0%	7.5%		
2014	0.1%	3.9%	7.7%		
2015	0.1%	3.9%	7.5%		
2016	0.1%	4.4%	9.1%	8.6%*	10.0%*
2017	0.1%	4.6%	9.3%	6.9%	8.1%
2018	0.0%	5.2%	9.4%	6.7%	8.1%

The 5% Error possibly comes closes to the rates of minimum wage share in the LFS given in McGuinness et al given the age restriction

Rates of Non-Compliance (% of Total Employment over age 20)

year	$\varepsilon = 0$	$\varepsilon = 0.05$	$\varepsilon = 0.10$	Kaitz Index
2011	4.7%	4.0%	3.5%	46.7%
2012	8.3%	6.7%	5.5%	54.3%
2013	8.8%	7.0%	5.8%	53.5%
2014	8.6%	6.9%	5.7%	53.9%
2015	7.7%	6.3%	5.2%	53.5%
2016	9.3%	7.3%	5.9%	56.3%
2017	9.1%	7.4%	6.0%	56.9%
2018	10.1%	7.8%	6.6%	56.8%

Non-Compliance is much Higher than in McGuinness et al
It rises with the Kaitz index in 2012 and 2016

- A feature of the LFS-EAADS data is that we have an accurate measure of Public sector status from Administrative sources
- We would expect non-Compliance to be lower in the public sector

Rates of Non-Compliance All Years (% of Total Employment over age 20)

	$\varepsilon = 0$	$\varepsilon = 0.05$	$\varepsilon = 0.10$
Public	1.6%	1.4%	1.2%
Private	10.4%	8.3%	6.8%
Semi-State	0.9%	0.7%	0.6%

- Given the low public sector/semi-state rates we will look at private sector workers from now on

Rates of Non-Compliance by Age All Years (% of Total Employment over age 20)

	$\varepsilon = 0$	$\varepsilon = 0.05$	$\varepsilon = 0.10$
21-24	26.4%	21.5%	17.8%
25-34	10.5%	8.3%	6.7%
35-44	6.6%	5.1%	4.3%
45-54	7.3%	5.7%	4.8%
55-64	8.3%	6.8%	5.7%
> 65	12.3%	10.3%	9.5%

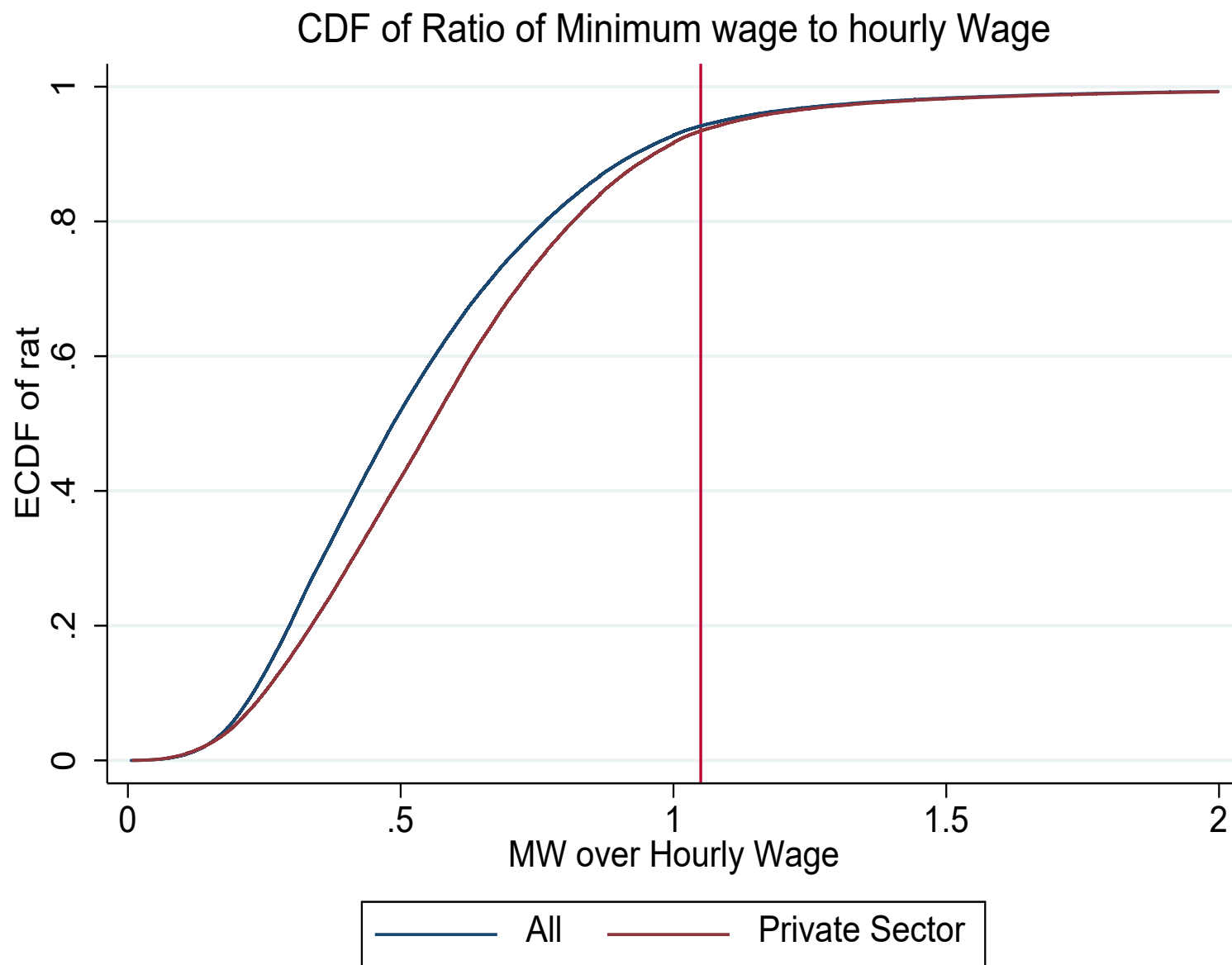
- We see that workers under 25 have very high rates of non-Compliance with almost one in five being non-compliant even when we allow for the largest error term
- Over 65s also have higher rates

Rates of Non-Compliance by Nationality All Years (% of Total Employment over age 20)

	$\varepsilon = 0$	$\varepsilon = 0.05$	$\varepsilon = 0.10$
UK	10.7%	8.6%	7.5%
EU excl IE and UK	12.8%	9.5%	7.4%
Other	12.4%	10.2%	8.6%
Irish	10.0%	8.1%	6.7%

- While Irish workers have the lowest rates of non-Compliance and workers from other countries the highest, the difference across these categories are small compared to other characteristics
- We can also document Occupation and industry groups with very high rates of Non-Compliance

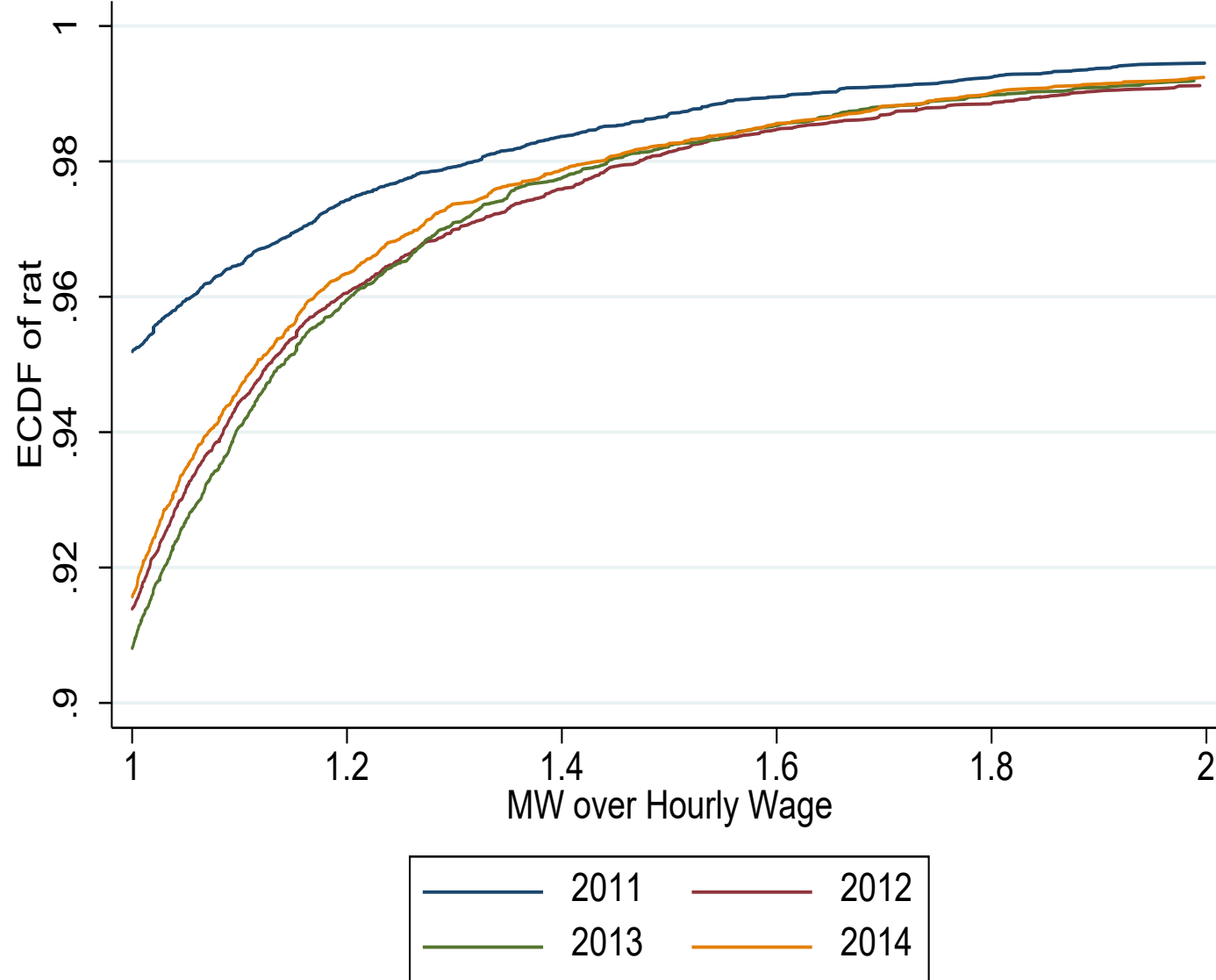
- How much lower than the minimum wage are non-Compliant workers?
- To see this we plot the distribution of Minimum Wage/Hourly Wage for Different Groups



We see the Private sector wage distribution is below the overall. Non-Compliance is higher in the Private sector

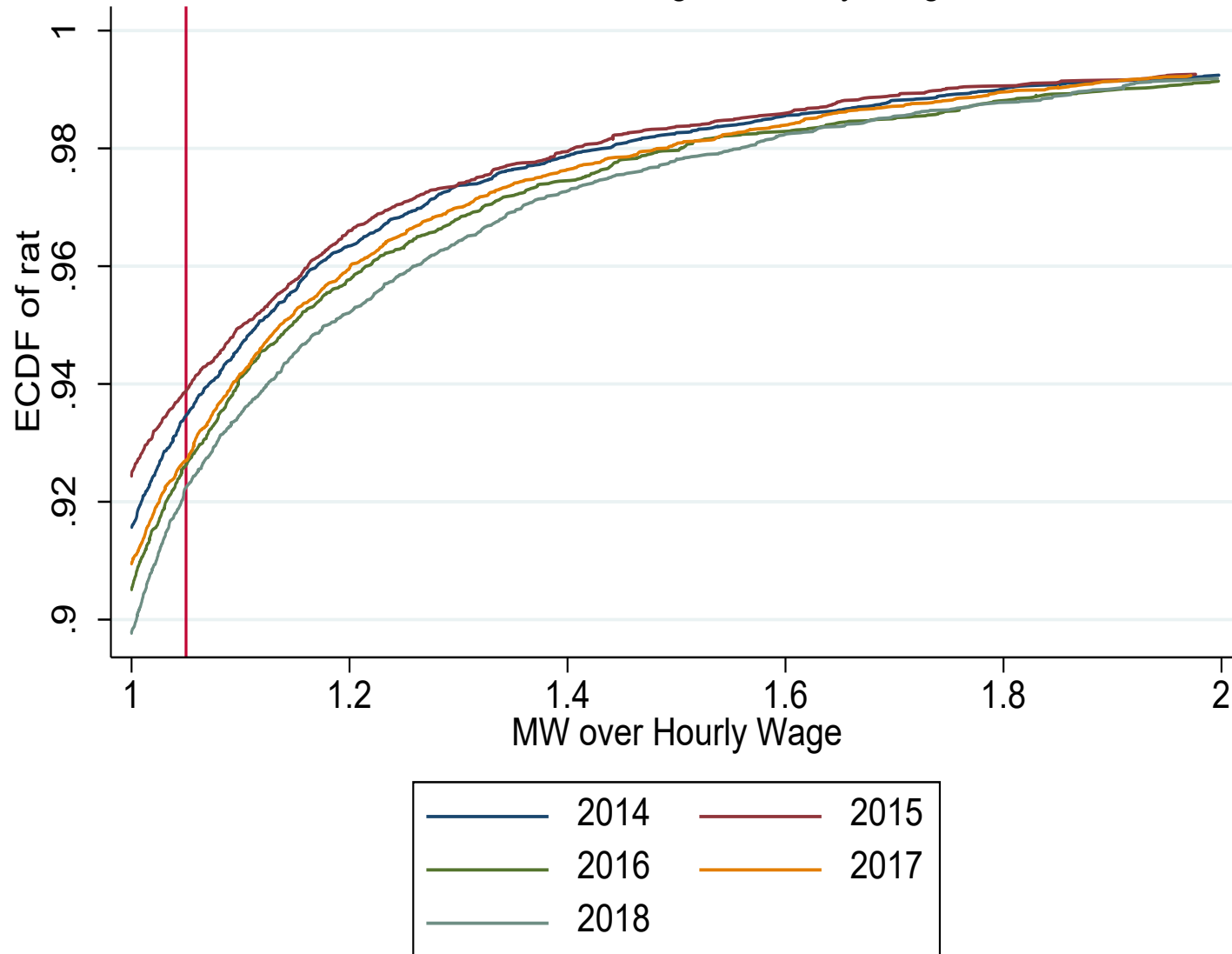
We will Look at a closeup of the region between 1 and 2 for Different groups to see what happens to Non-Compliance

CDF of Ratio of Minimum wage to hourly Wage 2011-2014



We see substantially higher Non-Compliance after 2011. The Median Wage fell (There was a temporary reduction in the minimum Wage)

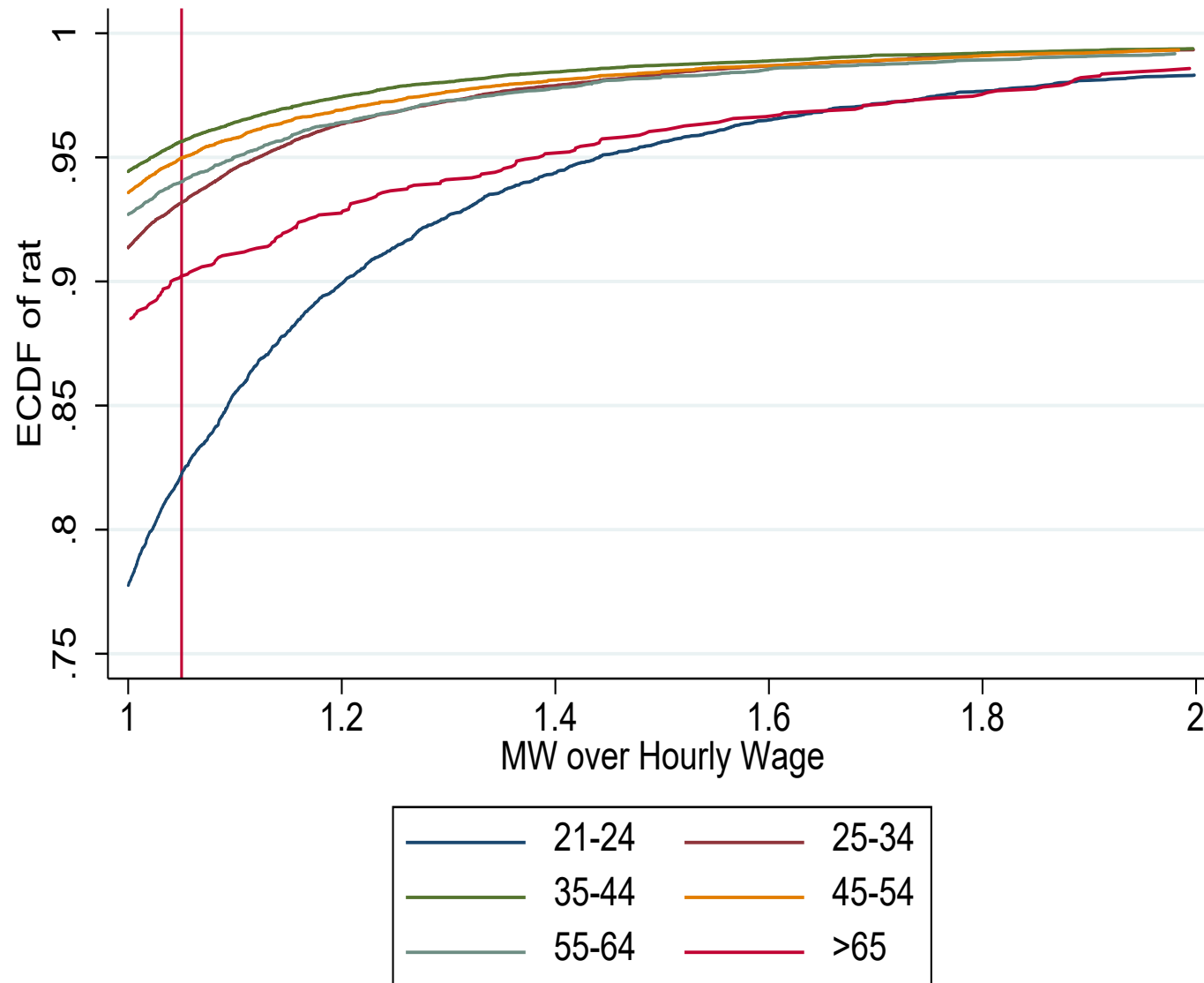
CDF of Ratio of Minimum wage to hourly Wage 2014-2018



We see 2018 is the Lowest curve. That is the curve is shifting down over time

The 98th percentile is roughly where the $MW/HW=1.5$. That is 2% of private sector employees aged over 20 are paid two thirds of the minimum wage or less

CDF of Ratio of Minimum wage to hourly Wage by Age



The youngest and oldest workers have the highest rates of non-Compliance (Especially the Young)

About 5% of the youngest and oldest group are paid less than two thirds of the minimum wage

- We also run linear regressions on the probability of Non-Compliance so that we can calculate the conditional impact of a range of job and worker characteristics on the probability of Non-Compliance
- Allowing for error is particularly important here as there is a danger that many compliant workers will be labelled as non-compliant
- Some of the main effects not seen in the tabulations above
- Workers working longer hours and more weeks are more likely to be non-Compliant
- Males are more likely to be Non-Compliant
- Non-Compliance is increasing over time Nationality still does not matter much

Conclusions

- The LFS-EAADS data indicates that non-compliance is much higher than given by the rate in the LFS
- It is especially high for young workers and a substantial share of workers were paid less than two thirds of the minimum wage
- The rate of Non-Compliance and Compliance increased between 2011-2018
- The prospect of a Living Wage which would lead to a substantial increase in the Minimum wage would lead to an increase in the share of covered workers, but may also raise the possibility of higher non-compliance