

The Many Still Must Labour

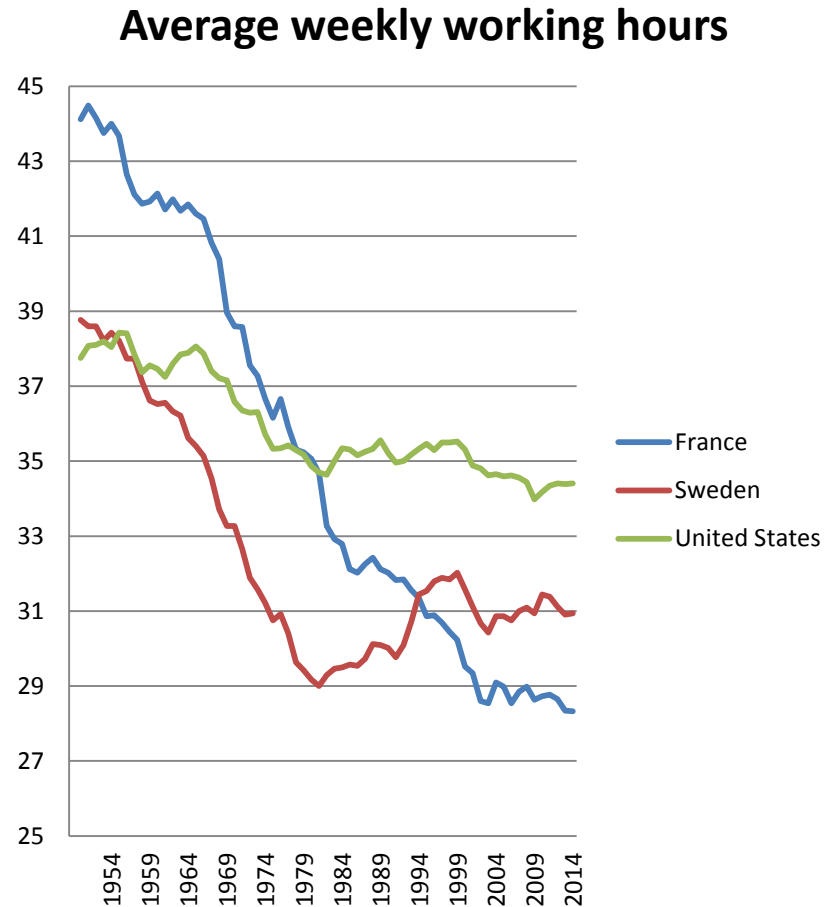
Margaret Hurley
Rowena A Pecchenino
Maynooth University
Preliminary and Incomplete

Changing structure of labour markets

Keynes (1930) predicted advancements in technology would lead to:

"three-hour shifts or a fifteen-hour week"

He was wrong! (at least up to now)



Labour Contracts

Standard Labour Contracts

Post World War II

- Five day week
- Eight hour day
- Fifty weeks a year
- Open ended
- Health and Pension benefits

Lack of flexibility, on both employers and employee side
Security of tenure and income, may be costly (Kalleberg 2003)

Alternative Work Arrangements

Always existed, increasing in importance

- Part-time
- Temporary Agency Work
- Short term contracts
- Self-employment/contracting
- Zero hours contracts

Flexibility, but worries about exploitation

Better work/life balance? (Reynolds Lewis 2011, US)

Social and income insecurity (Rose 2015, France)

Standard no longer

Due to

- demographic changes

- increased labour force participation of women

- older workers extending their working life

- technological advances separating work from location

Growing though still relatively small percentage of labour force in alternative work arrangements and much of the new participation (Katz and Kreguer, 2016, US)

In countries where there are concerns about aging population, the main increase in participation may be in these arrangements (Schmid, 2010, Europe)

Standard no longer: OECD policy brief 2015

‘around 1 in 3 jobs do not fit the traditional model, but the proportion varies between countries—from below 1 in 5 in some eastern European countries to almost 3 out of 5 in the Netherlands’.

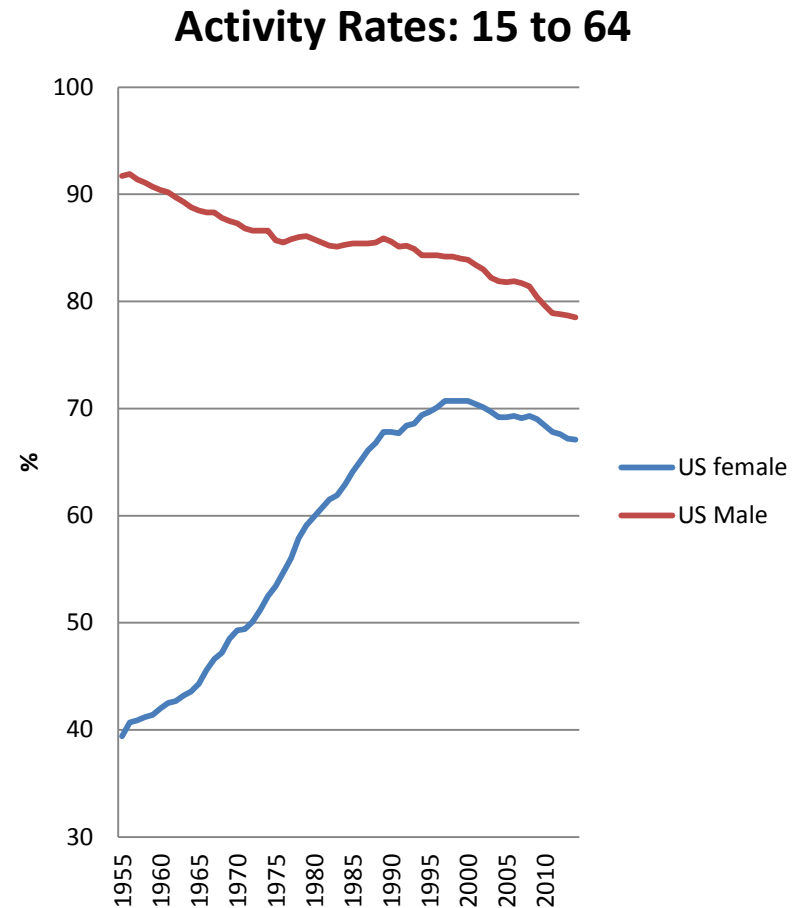
‘The range of workers who do not fit into traditional models of permanent, full-time employment is extremely broad, encompassing entrepreneurs, highly skilled contractors, low-skilled part-timers and others. Clearly, non-traditional work suits the needs of some businesses and individual’

Participation Rates

Post-war standard labour contract based on nuclear family with male breadwinner supporting wife and family
Kallenberg (2000)

Later entry to labour force means reduced participation for men

Women's participation rates increasing, but still ten percentage points below males

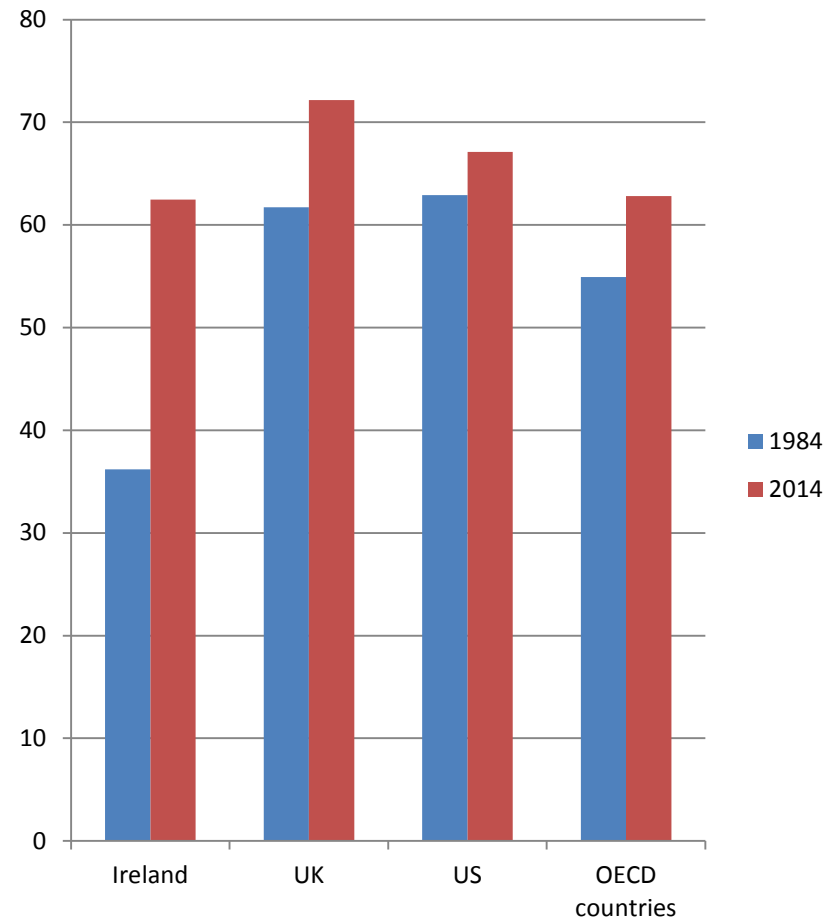


Labour Force participation of women

Increased in last 30 years

Late increase in Ireland,
now close to OECD
average

More flexible working
practices required?
(Goldin 2006)



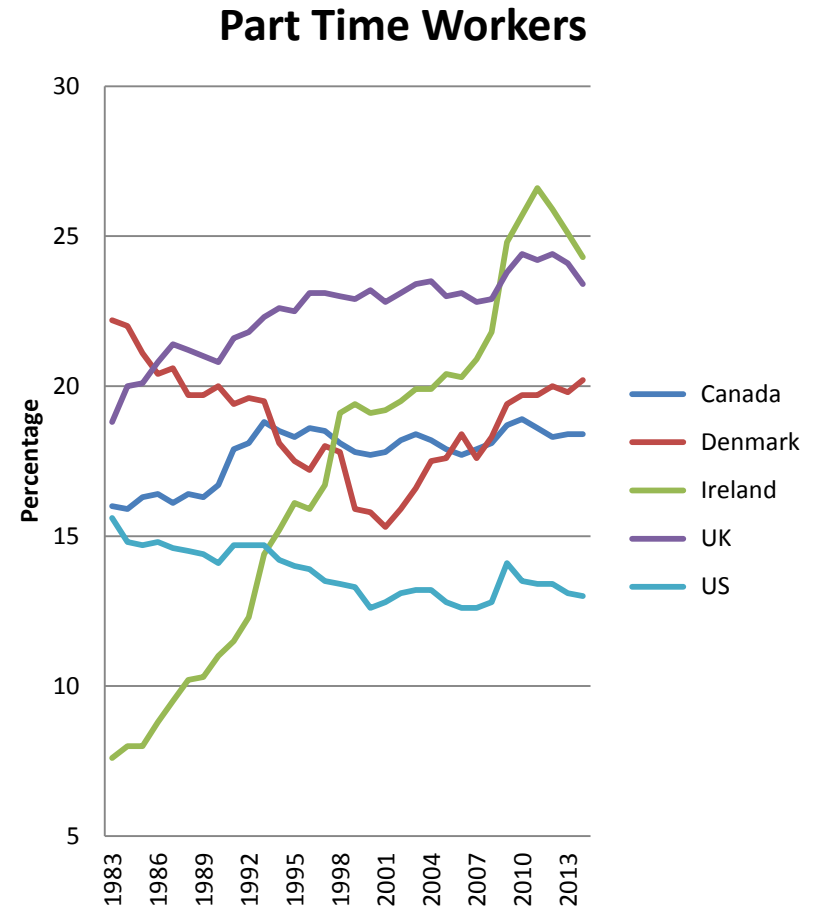
Part-time work

% of Workers, Data Source, OECD.stat

Highly variable between countries

Growing in Ireland, with peak during crisis

Part-time work and poverty not always linked. 1.5 job families have reduced risk of in-work poverty (Bradshaw, et. al. 2010 UK)



Zero Hours Contracts

Flexibility or Exploitation?

Match demand with supply

Manager power

Lack of income security

Small and contested % of
workers on these contracts
(Percival 2014, UK)

Recent (April 1st) banning in
New Zealand seen as a
victory for the unions (Roy,
2016)

but

May increase employment
rates (Wakeling, 2014, Acas
policy paper, UK)

Different contract types co-existing

Potential source of conflict (Kalleberg, 2003)

Can inhibit effective use of teams (Broschak and Davis-Blake, 2006)

Do not provide training (Giudetti and Pedrini 2013)

Both lauded and loathed (Hipp and Anderson 2015, Buddelmeyer et al. 2015)

Labour legal restrictions

Vary across countries, leading to different practices

France: may only renew a short-time contract once (Le Barbanchon and Malherbert, 2013), leading to insider/outsider issues and lots of short term contracts

Overtime (time and a half) must be paid in Canada, not required to be paid UK (Metcalf and Dunwar, 2010)

Modelling the different contracts

Models:

1. No flexibility in labour contracts: single worker type
2. Some flexibility: two worker types
3. More flexibility: three worker types

We show that where flexibility exists will often be valuable in the *real option* sense

Real options

Incur upfront cost (option premium) for the right but not the obligation to 'do something' later, (exercise the option)

Delay a decision until more information is at hand

Real Options in Labour Contracts

Reducing flexibility removes options which may be valuable

Option to increase labour input when more information is at hand

Co-existence of different worker types show that these options must be valuable

The producer's problem

- Demand is uncertain

$$y$$

- Production takes time, depends solely on labour input

$$q = q(N) = N$$

- Price taker in input market, at wage w

- Two states, high and low demand with subjective probability of low state π

$$y \in \{\underline{y}, \bar{y}\}$$

- Costs of deviating from realised demand, quadratic

$$L^o(q - \underline{y}) = a(q - \underline{y})^2$$

$$L^u(\bar{y} - q) = b(\bar{y} - q)^2$$

Loss or disutility functions

High cost of over
producing

$$a > b$$

- High ticket items
- High storage cost items
- Items that obsolete quickly

High cost of
underproducing

$$a < b$$

- Customer loyalty important

Producer's Problem

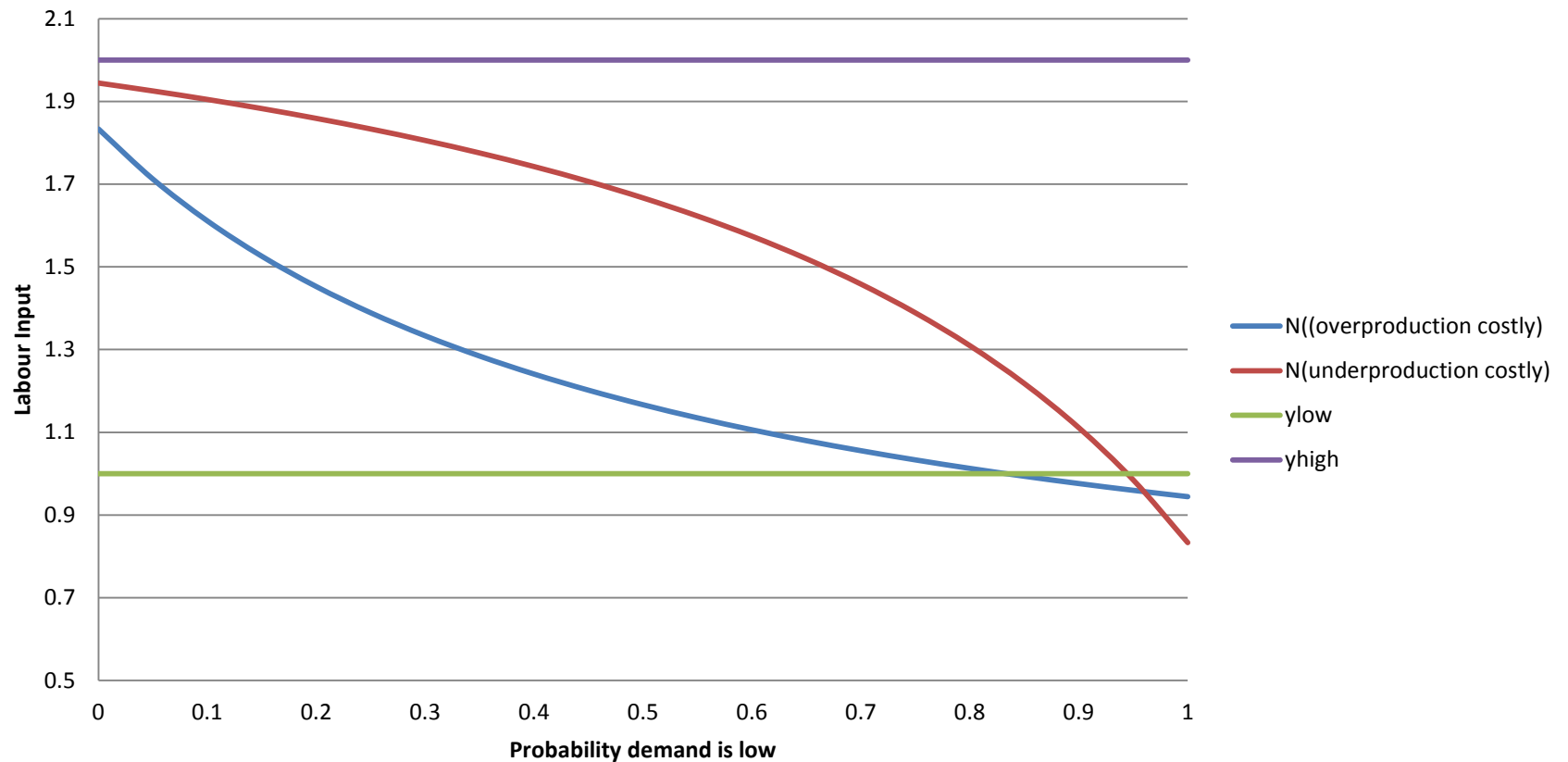
Price taker in labour market, wage rate w , choose the number of workers to minimise costs of production

$$\min_N Costs = C(\pi, a, b, \underline{y}, \overline{y}, w)$$

Producers facing uncertainty, with no flexibility, take a middle path, and incur losses with either outcome

$$N = f\left(\pi, \alpha = \frac{9}{3}, \beta = \frac{3}{9}, y_{low} = 1, y_{high} = 2, w = 1\right)$$

Model 1



Model 2: Contingent Workers

During the production process, signal is received

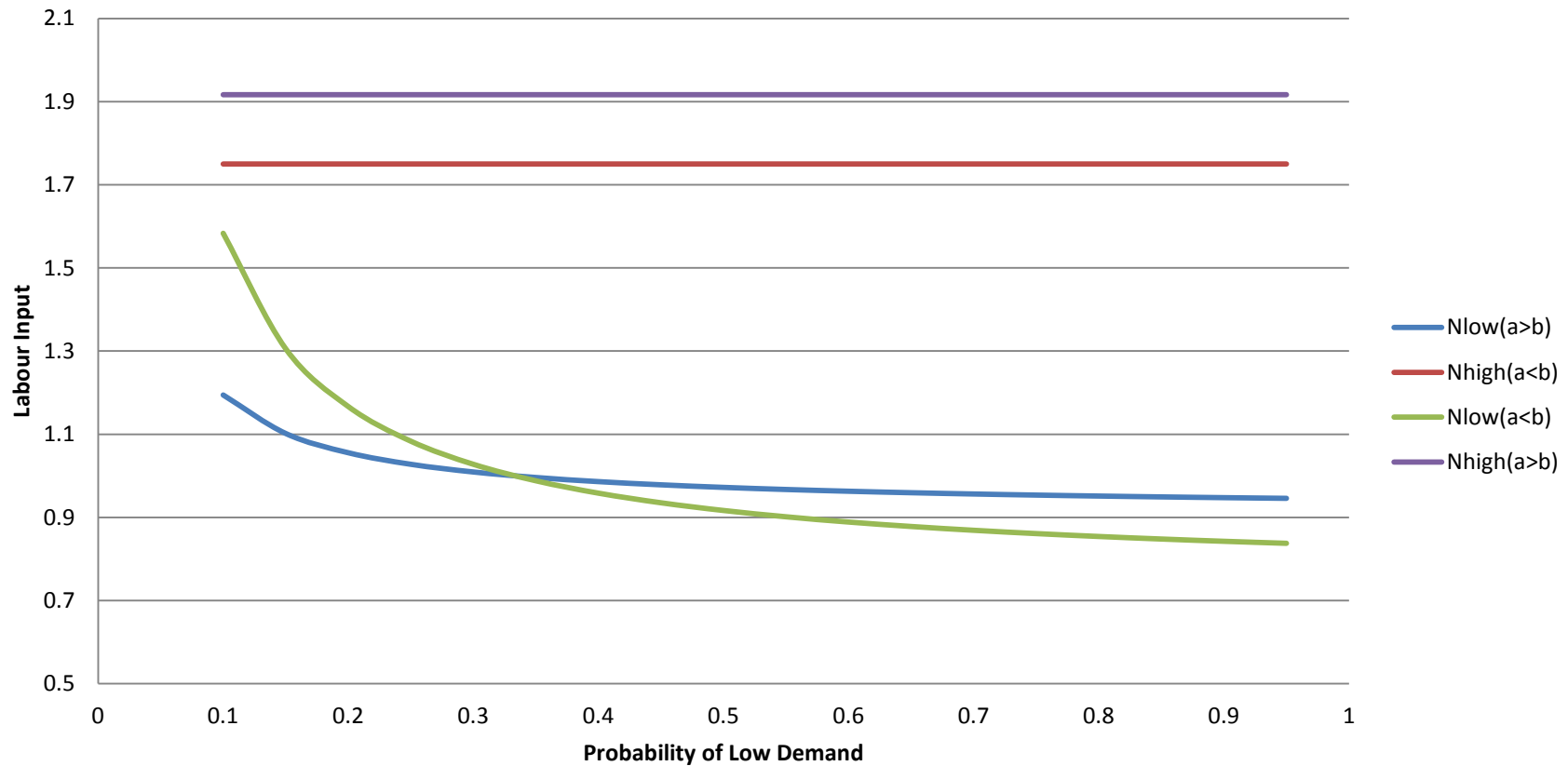
If high, hire more workers, at a wage premium ω

Overtime for current workers or call on demand workers

Segmented markets

$$N = f\left(\pi, \alpha = \frac{9}{3}, \beta = \frac{3}{9}, y_{low} = 1, y_{high} = 2, w = 1, \omega = 1.5\right)$$

Model 2



Model 2: Results

Number of standard workers
fewer than before

- Decreases with probability of low state
- Decreases with sensitivity to overproduction
- Independent of sensitivity to underproduction

Number of contingent
workers

- Increases with probability of low state
- Increases with sensitivity to overproduction
- Increases with sensitivity to underproduction

Model 2: Results

As long as there is a wage premium, two types of workers will coexist in the high state of demand

Total labour input may increase

Net returns to labour may increase

Model 3: Three worker types

Standard workers: Insiders

Contingent workers: Wage premium ω

Non-contingent: Outsiders on wage discount θ

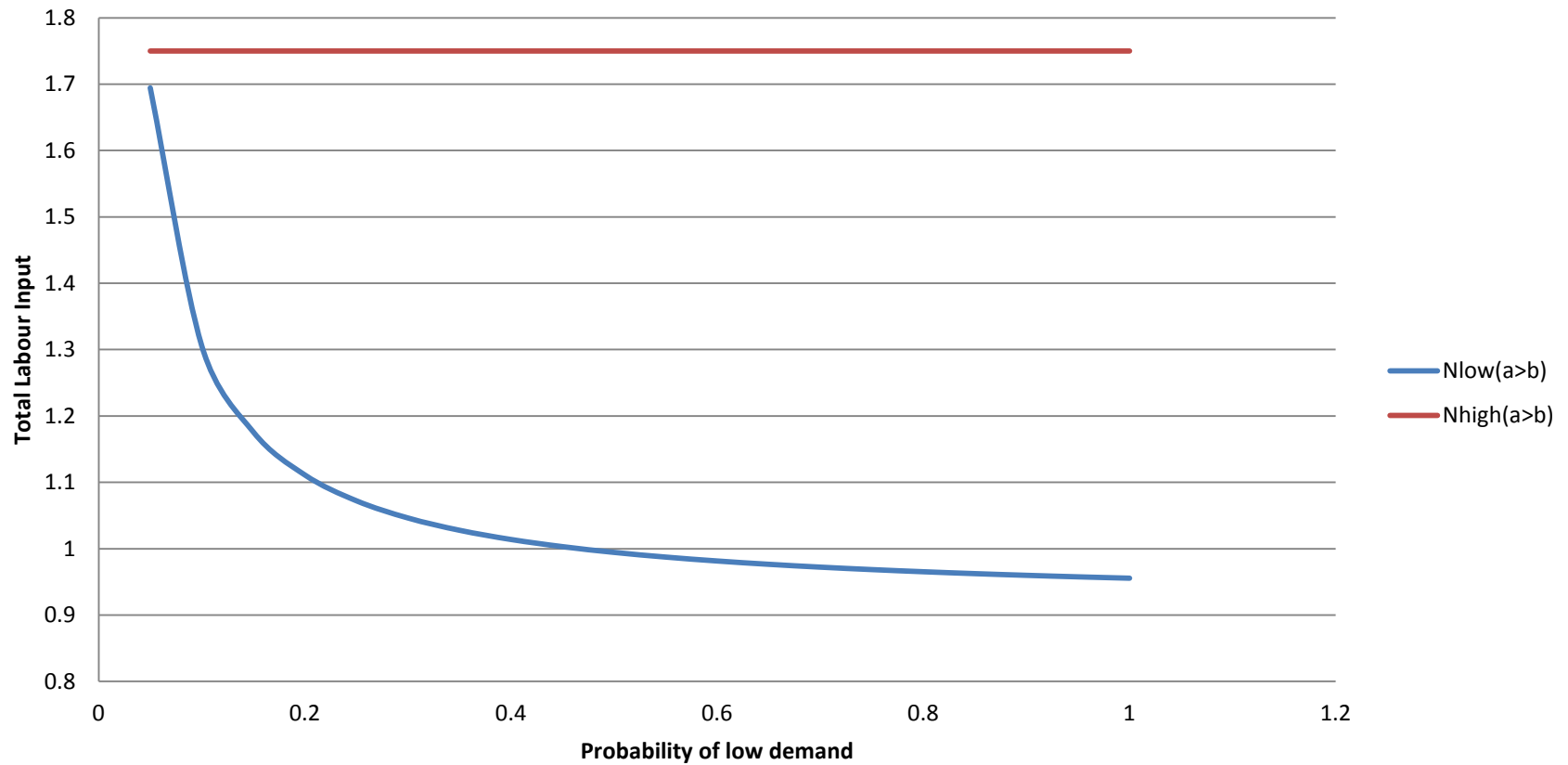
Model 3: Hiring pattern

Flexibility of advantage to the firm

- Hire only the minimum of insiders, replace with outsiders
- Low demand: Sum of insiders and outsiders fewer than model 2, depending on discount factor θ
- High demand: Use contingent workers as model 2

$$N = f\left(\pi, \alpha = \frac{9}{3}, \beta = \frac{3}{9}, y_{low} = 1, y_{high} = 2, w = 1, \omega = 1.5, \theta = .8\right)$$

Model 3



Conclusion and Further Research

Simple model of labour market in presence of uncertainty

- Explains the co-existence of different work practices
- Legal prohibition of flexibility options costly to firms

Further work

1. Employee's perspective
2. Balance of rights