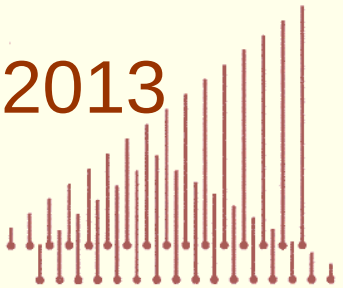
Are Firms Paying More For Performance?

Alex Bryson (NIESR, CEP)
John Forth (NIESR)
Lucy Stokes (NIESR)

Kings College, London, 20th November 2013



National Institute
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Acknowledgements/Disclaimer

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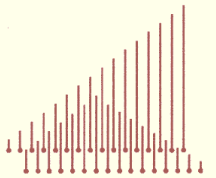
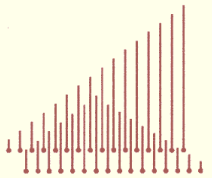
- This presentation includes work based on data from the Monthly Wages and Salaries Survey produced by the Office for National Statistics (ONS) and supplied by the Secure Data Service at the UK Data Archive. The data are Crown Copyright and reproduced with the permission of the controller of HMSO and Queen's Printer for Scotland. The use of the data in this work does not imply the endorsement of ONS or the Secure Data Service at the UK Data Archive in relation to the interpretation or analysis of the data. This work uses research datasets which may not exactly reproduce National Statistics aggregates.



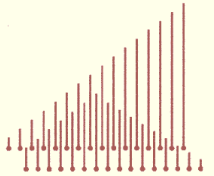
Motivation

- PP raises labour productivity – effort and selection by high ability workers (Lazear, 1986; Prendergast, 1999)
- Evidence from single firm case studies
  - Lazear, 2000: windshields
  - Bandiera et al, 2007: strawberry pickers
  - Shearer, 2004: tree planters
- Traditional puzzle of low incidence
  - 10-15% of workers in Europe
  - 40% in USA (and Scandinavia) (Bryson et al., 2013)
- Lemieux, MacLeod and Parent (2009)
  - PP incidence: 70's-90s: 38->45%
  - Secular trends in monitoring costs and SBTC
- Doubts about Lemieux et al
  - Decline in PP in the USA since (Gittleman and Pierce, 2013)
  - Selection on ability (Heywood and Parent, 2012, 2013)
- What about Britain?



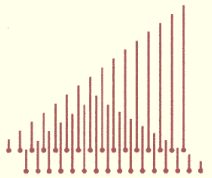
What we do

- Map change in incidence of PP and size of PP payments over last decade in Britain
  - Country in lower ½ of international rankings in terms of PP incidence (Bryson et al., 2013)
- Use large scale nationally representative data on firms
  - Monthly Wages and Salaries Survey (MWSS) and Business Structure Database (BSD)
  - Never been used before for this purpose
- Test 3 hypotheses
  - There has been a secular rise in use of PP
  - PP is procyclical
  - Explanations for trends in PP will be dominated by what happens in Finance



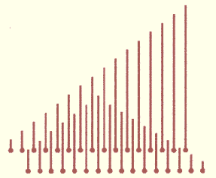
Findings

- Some growth in share of total pay accounted for by bonuses since 2000
- Due to bigger gearing of bonuses to base pay in PP sector
- No substantial change in % of employment accounted for by PP firms
- The increase in gearing of bonuses to base pay is largely accounted for by Finance firms

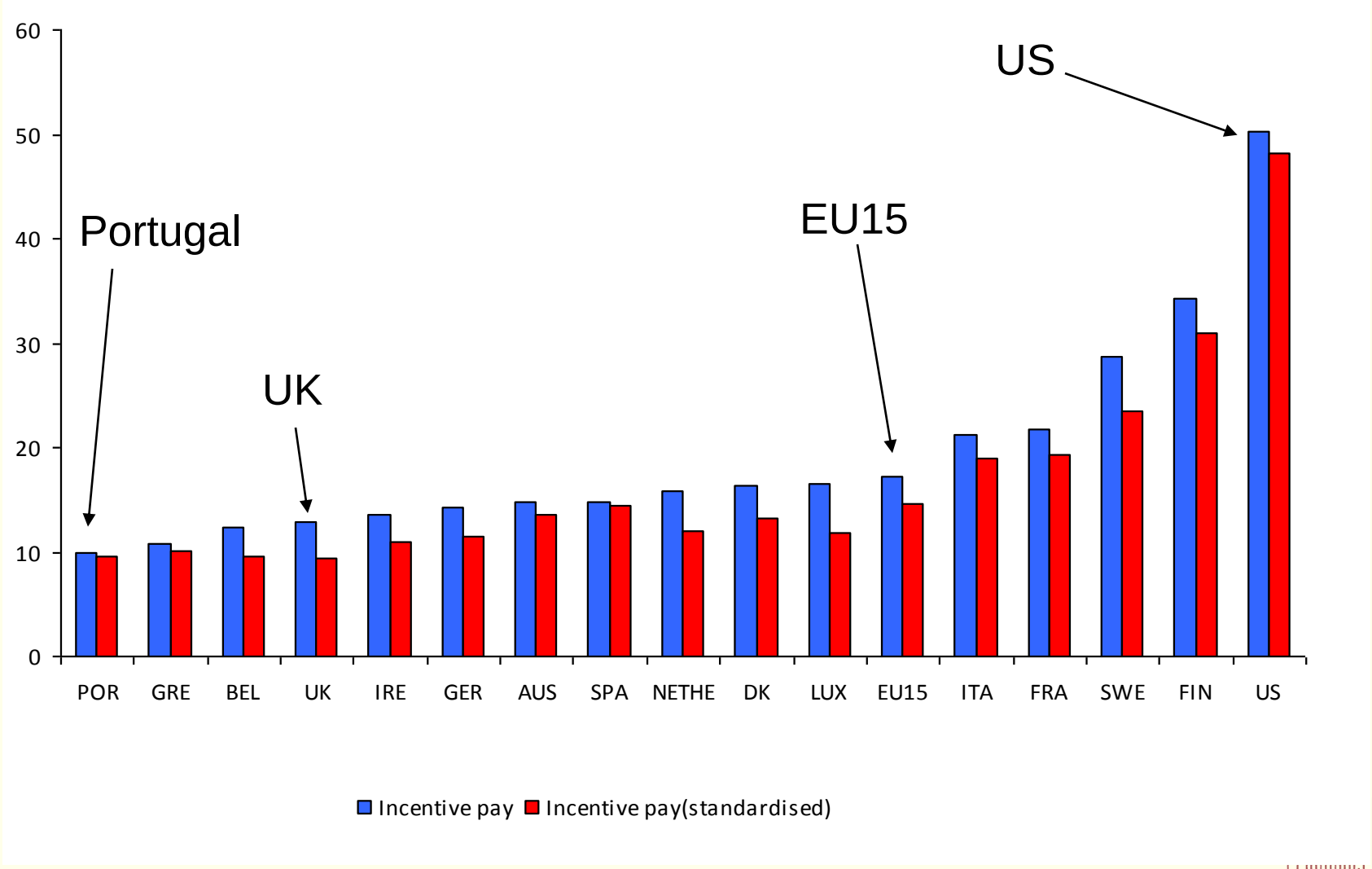


Incidence of PP

- Low incidence in many countries (see chart)
- Not always going to be optimal
  - Costly to monitor outputs
  - Career incentives instead (Prendergast, 1999)
  - Sabotage, gaming etc.
  - Crowding out intrinsic motivation
- But PP an option for employers in most settings
  - This is the premise behind “how good is it?” studies
  - These often invoke the idea of plausible counterfactuals among “like” firms who haven’t adopted PP
- Influences on PP adoption and size of performance payments
  - Worker preferences (risk averse)
  - Trade off between efficiency and insurance
    - Lack of international evidence on size of PP



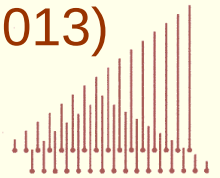
% private sector employees with any incentive pay



Source: EWCS and GSS

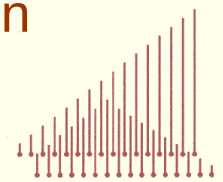
H1: Secular rise in PP and gearing of PP to base wage

- Decline in worker bargaining power
  - Lemieux et al. (2009) link to demise of trade unionism
  - More complex than that (O'Halloran, 2013)
  - Although de-unionisation in Britain no evidence of link to trends in PP (Pendleton et al., 2009)
- Changes in tasks/production technology
  - Falling costs of monitoring output (McGovern et al., 2007)
  - SBTC raises demand for high ability workers attracted by PP (Lemieux et al., 2009)
- Shift to group/organization PP away from piece rate
  - Nature of work (teams etc) and drawbacks of piece rate
  - US evidence of substantial growth in financial participation schemes and group-based PP (Dube and Freeman, 2010; Kruse et al., 2010)
  - In Europe group and individual PP rising (Bryson et al., 2013)
- Gittleman and Pierce (2013): 10pp fall in PP jobs in 2000s in USA



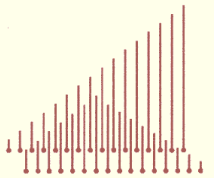
H2: PP is pro-cyclical

- If assume PP is genuine effort to link pay to performance then PP should be pro-cyclical
  - On average individual firm fortunes rise and fall with rest of economy
  - Might expect fixed base pay to be less responsive to economic conditions
  - Strong support in executive compensation literature where it is bonuses that are responsive (Bell and Van Reenen, 2011)
  - For the US Gittleman and Pierce (2012): steep decline in N hours compensated with PP most likely due to “cyclical factors related to the Great Recession”
- Uncertain how *incidence* of PP schemes will respond to cycle
  - Depends on relative bargaining power of firms/workers who will have different preferences for sharing risk in downturn
  - Need workplace or firm-level data



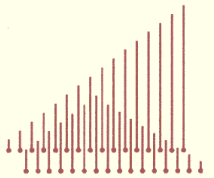
H3: Trends in PP will be dominated by Finance

- Finance sector larger than in most developed economies
- Bonuses important in recruiting, retaining, motivating bankers and traders
    - Big part in growth in wage dispersion at the very top of income distribution (Bell and Van Reenen, 2013; Bryson et al, forthcoming)
    - Potential role in ‘risky’ behaviours

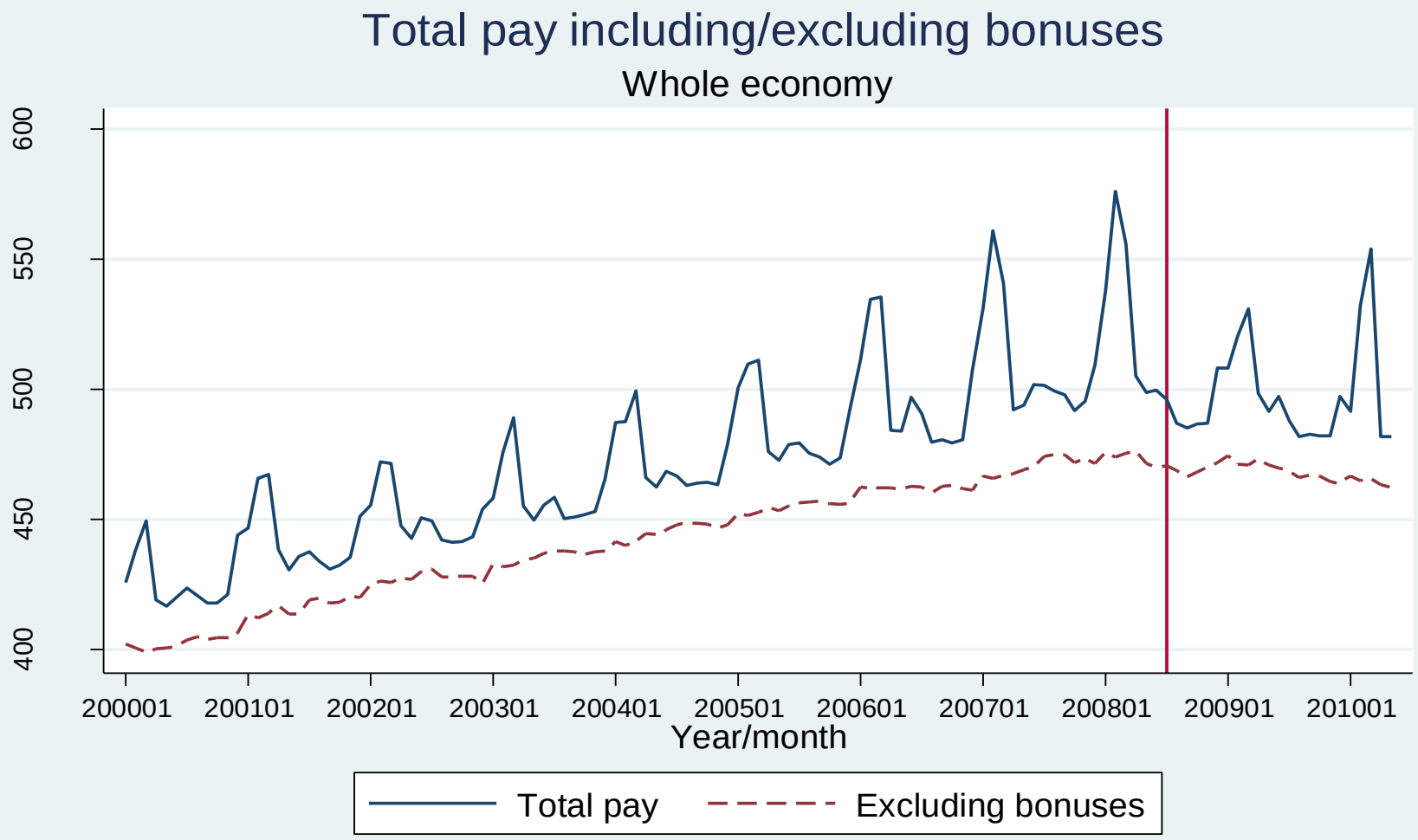


Data: Monthly Wages and Salaries Survey

- 8,500 enterprises (reporting units) per month
- Statutory so response rates 85%
- All industries; excludes enterprises <20 employees
- Census of enterprises with 1,000+ employees remainder sampled with known probability (from IDBR)
- Panel component
  - Out-rotation after 5 years
- Monthly data on wage bill (total gross pay)
- All bonuses in month of payment
  - Bonus, commission, performance pay, profit related pay
- Controls matched in from Business Structure Database
- Data discontinuities mean we begin in 2000 through to 2010 (will be adding 2011 and 2012)
  - Able to replicate ONS aggregate figures

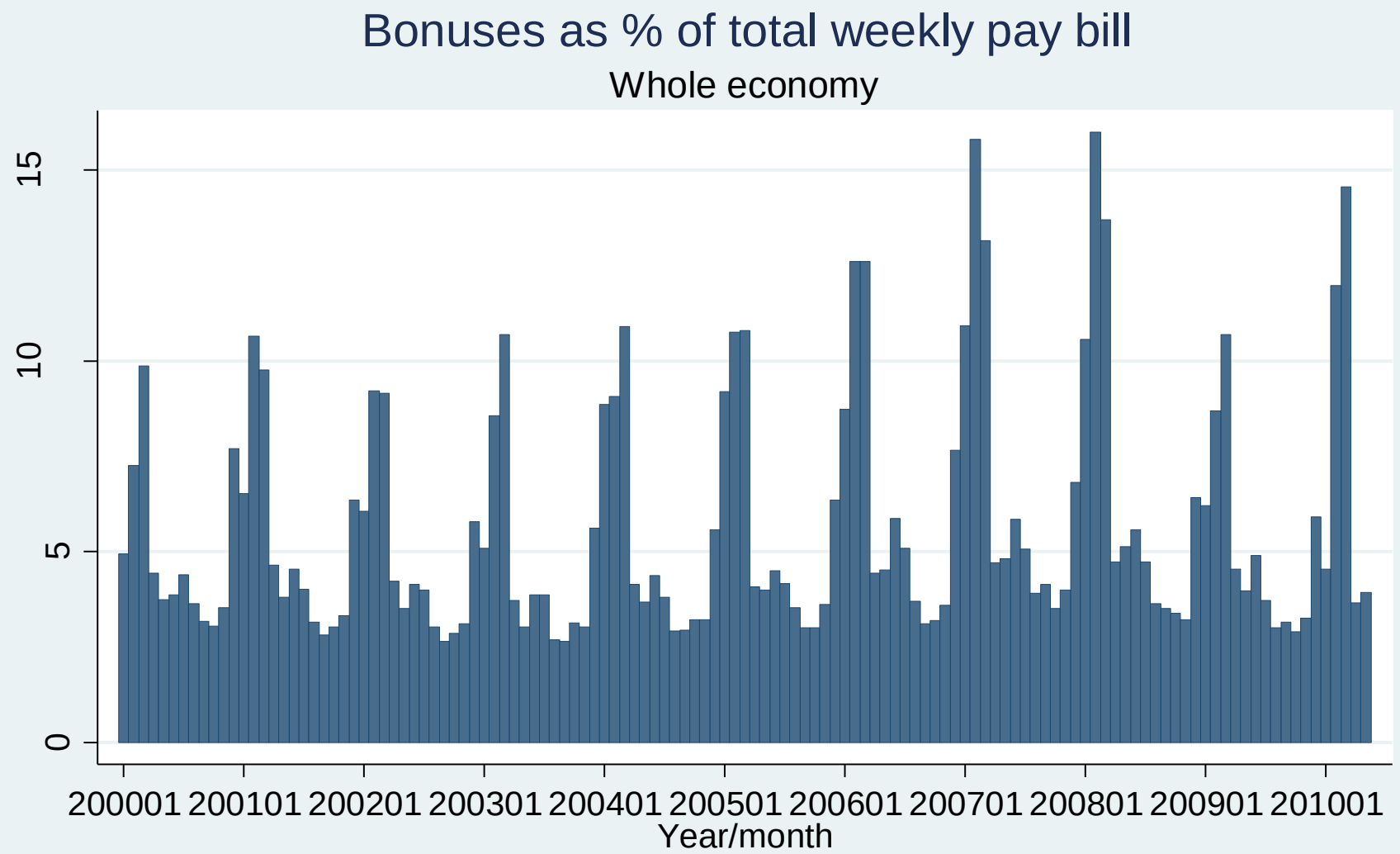


Average Real Wage Bill Per Employee



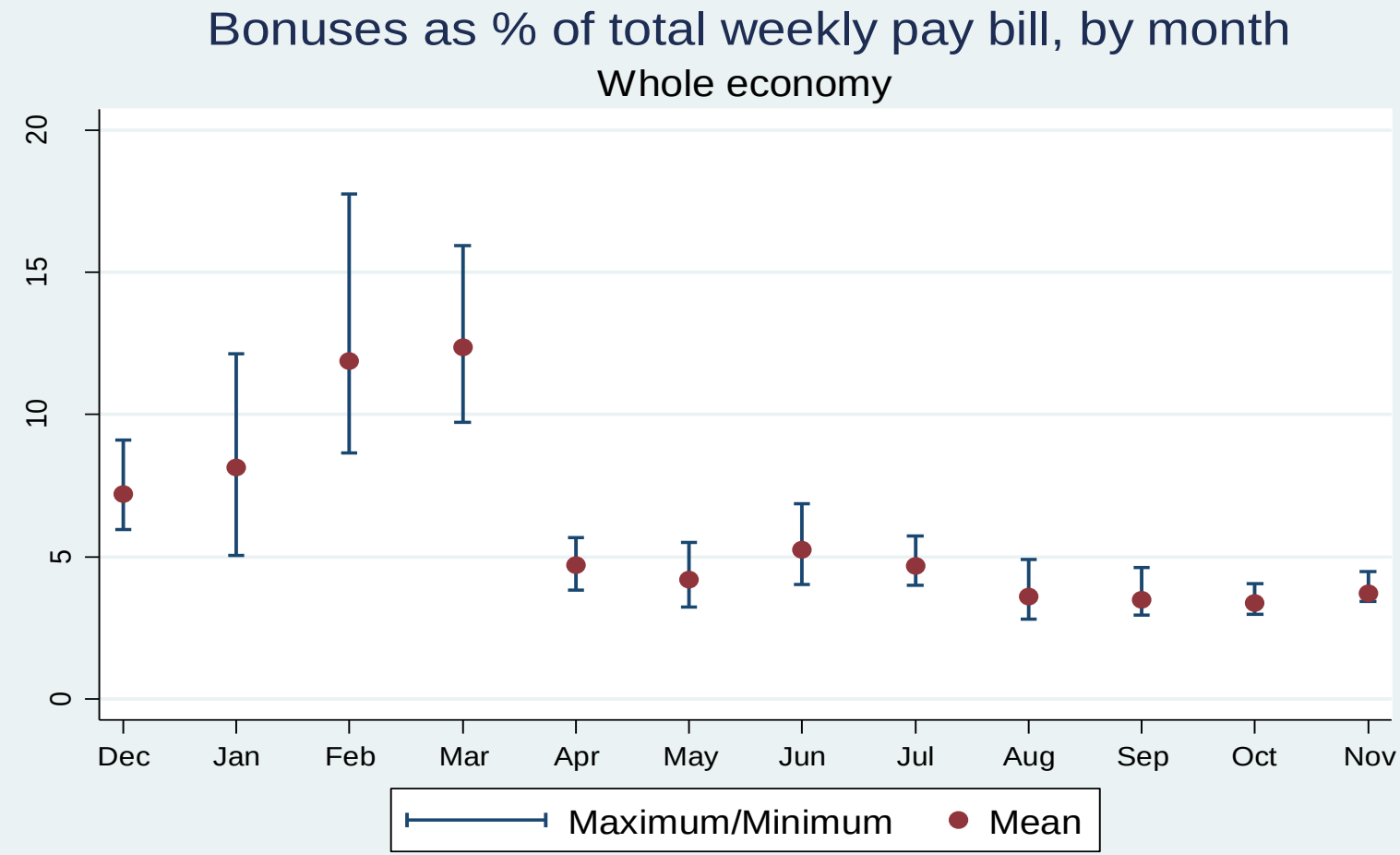
Source: Monthly Wages and Salaries Survey

Bonuses as % Pay Bill



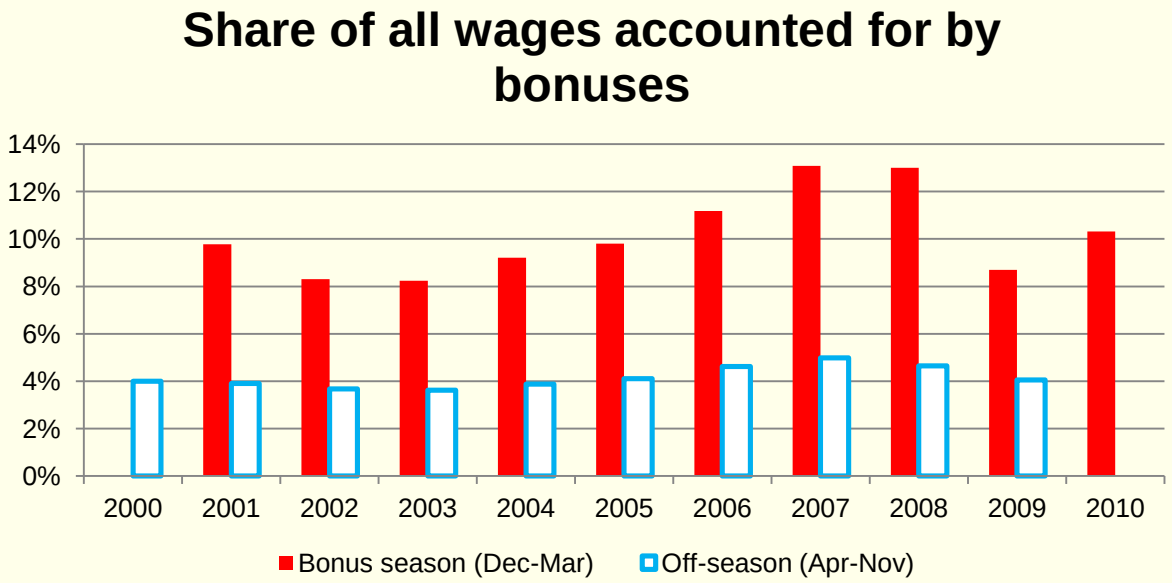
Source: Monthly Wages and Salaries Survey

Bonuses in Low and High Season as % Pay Bill

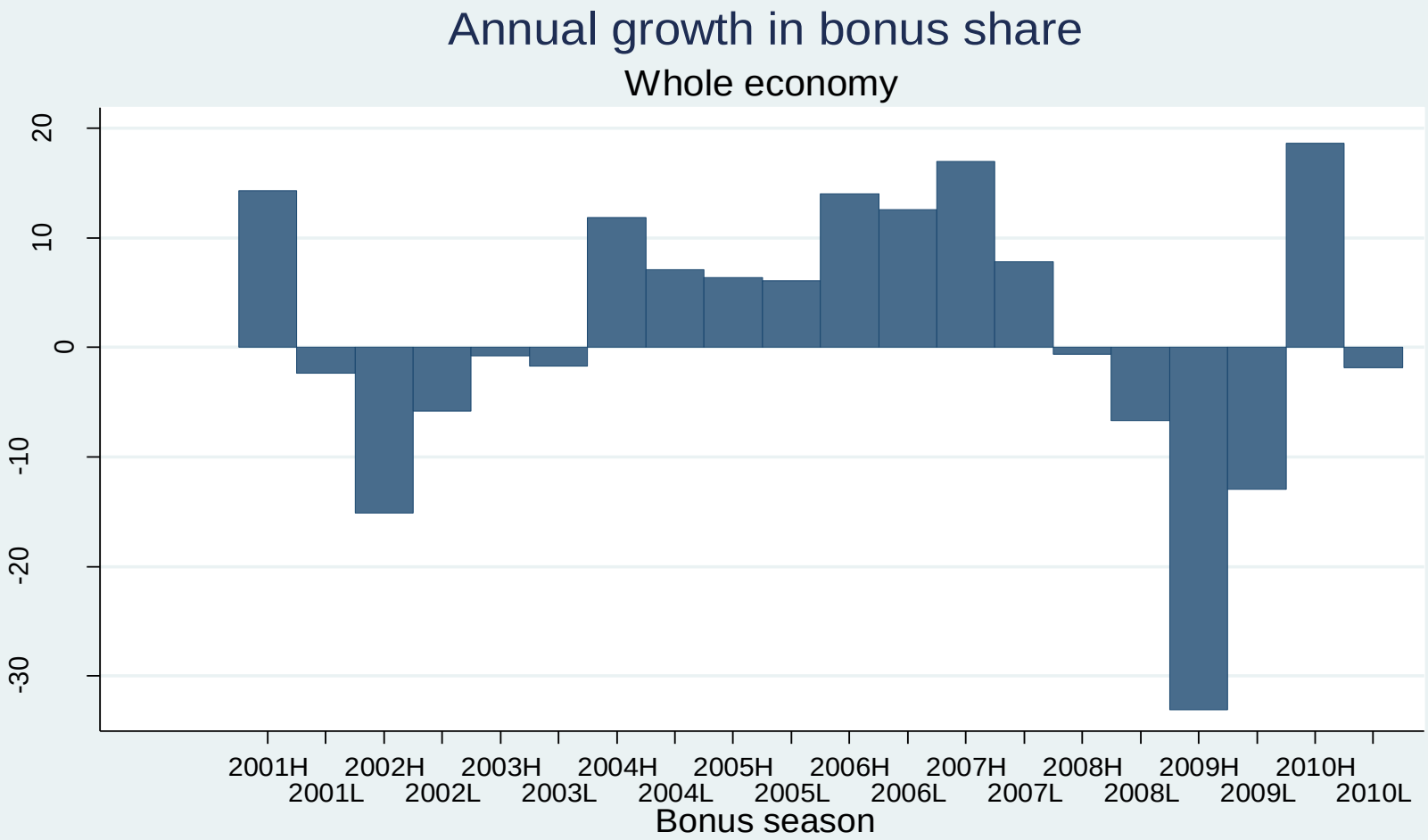


Source: Monthly Wages and Salaries Survey (Jan 2000 - May 2010)

Share of Pay Bill in Bonuses in Low and High Season



Growth Rate in Bonuses Compared to Previous Season



Source: Monthly Wages and Salaries Survey

Decomposing the Bonus Share in Total Wage Bill

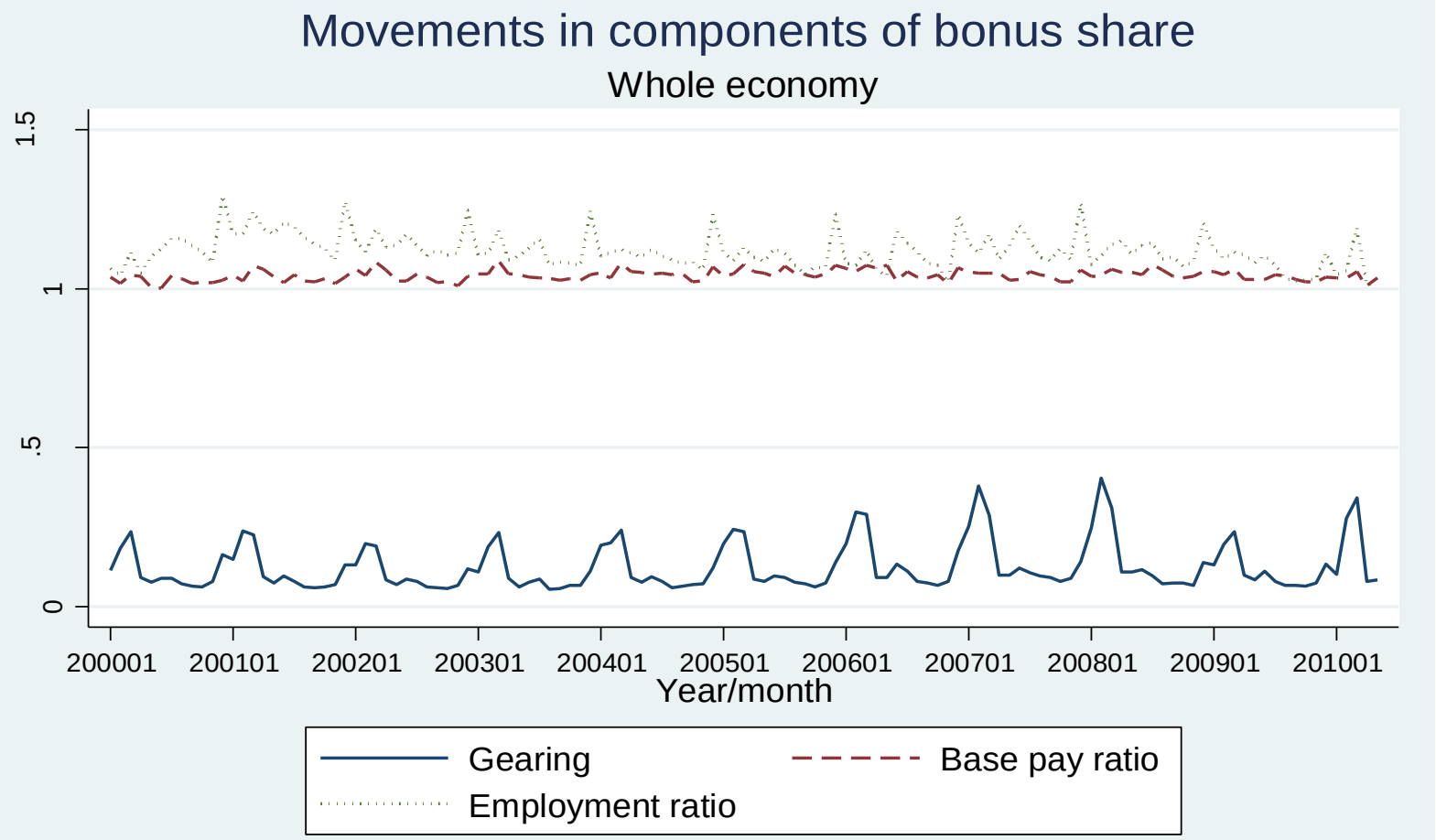
(a) The ratio of employment in bonus paying firms to employment in non-bonus-paying firms (the employment premium in favour of bonus-paying firms) (EP_t)

(b) The ratio of average base pay per employee in bonus-paying firms to average base pay in non-bonus-paying firms (the base pay premium) (RP_t), and

(c) the gearing within bonus-paying firms (the multiplier that bonus-paying firms notionally apply to base pay) (G_{Bt}).

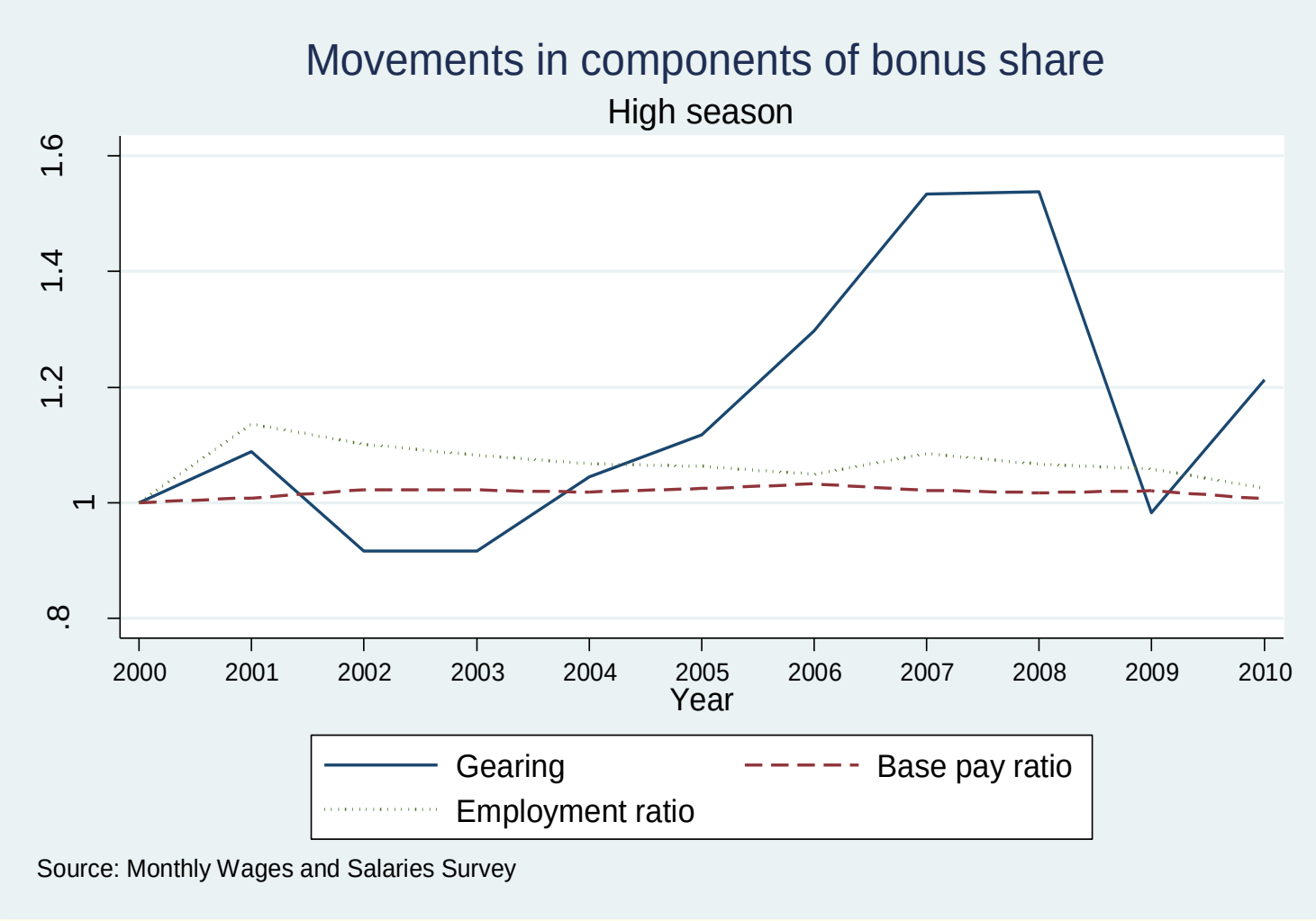
$$B_t = \frac{G_{Bt}.RP_t.EP_t}{G_{Bt}.RP_t.EP_t + RP_t.EP_t + 1}$$

Decomposition of Change in Proportion of Wage Bill Accounted for by Bonuses



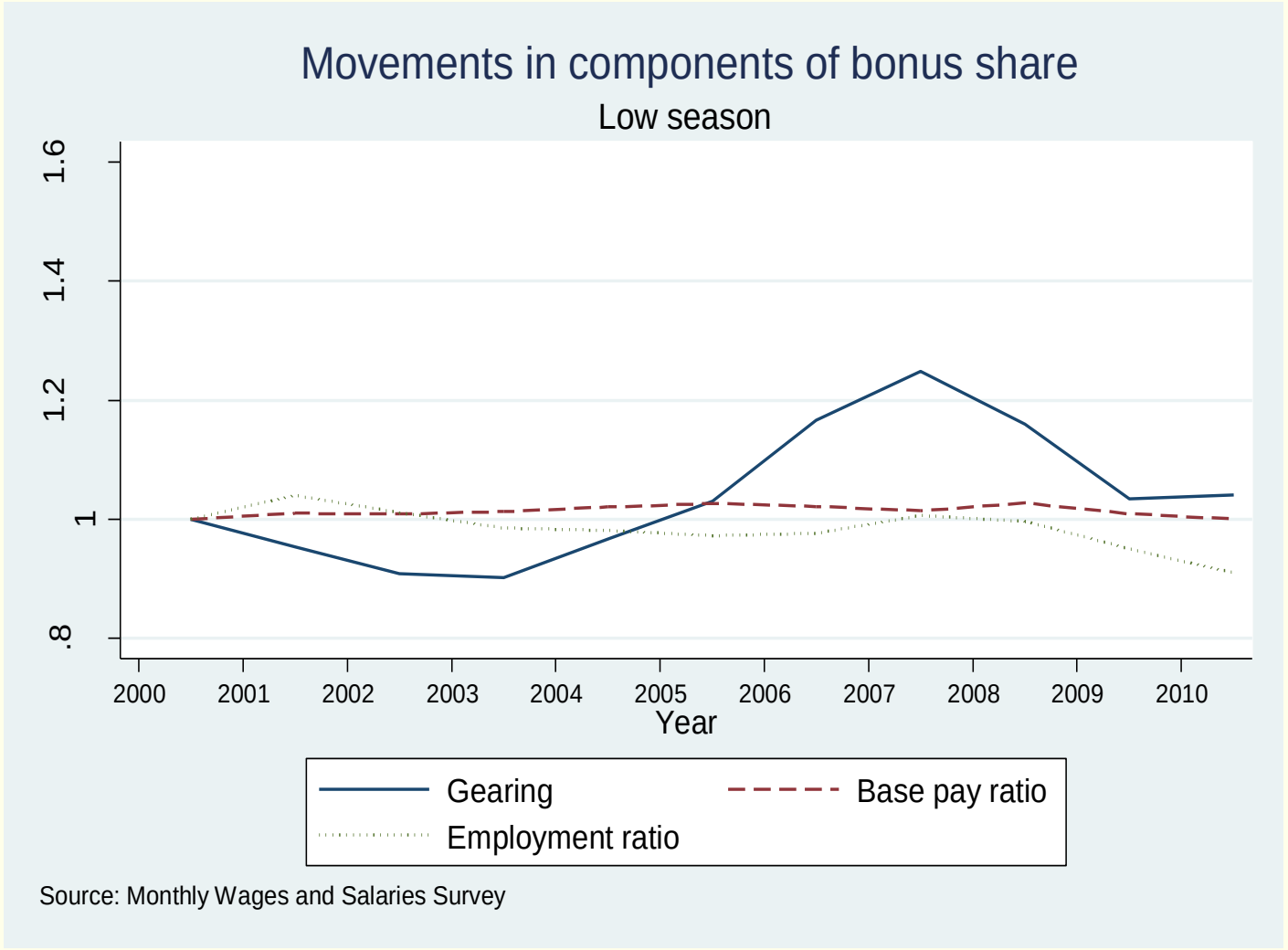
Source: Monthly Wages and Salaries Survey

Movement in Components, High Season



Source: Monthly Wages and Salaries Survey

Movement in Components, Low Season

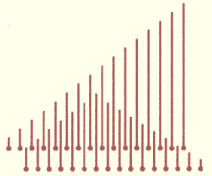


Source: Monthly Wages and Salaries Survey

Shift-share analysis for change in % all pay due to bonuses

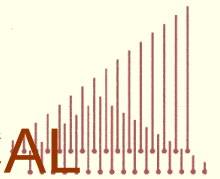
HIGH SEASON								
Levels:				**Changes:**				
Year	**G**	**S**	**B**	**Period**	**Change in B**	**Part due to change in G**	**Part due to change in S**	**Residual**
2000	17.8%	52.6%	8.55%					
2003	16.3%	55.1%	8.24%	2000-2003	-0.32%	-0.66%	0.37%	0.03%
2007	27.3%	55.1%	13.08%	2003-2007	4.84%	4.83%	0.01%	0.00%
2009	17.5%	54.5%	8.70%	2007-2009	-4.38%	-4.29%	-0.13%	-0.04%

LOW SEASON								
Levels:				**Changes:**				
Year	**G**	**S**	**B**	**Period**	**Change in B**	**Part due to change in G**	**Part due to change in S**	**Residual**
2000	7.8%	53.3%	4.00%					
2003	7.0%	53.2%	3.61%	2000-2003	-0.38%	-0.38%	0.00%	0.00%
2007	9.8%	53.8%	4.98%	2003-2007	1.37%	1.32%	0.04%	-0.01%
2009	8.1%	50.9%	4.05%	2007-2009	-0.93%	-0.80%	-0.25%	-0.11%



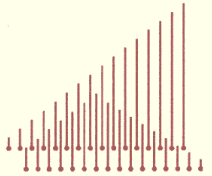
Regressions for employment share, gearing and bonus share

- Two model specifications
  - MWSS: year dummies
  - BSD-MWSS linked: industry, base pay per employee (quartiles), foreign owned, legal status, employment size, N sites, region
- 5pp rise in total pay bill accounted for by bonuses between 2003 and 2008 - half due to compositional change in firms. But becomes –ve sig in 2009 rel to 2003, then bounces back in 2010
- All movement due to gearing. No trend in employment share
- Same results for low and high season
- Implications: increased use of PP in mid-2000s due to increase in size of bonus payments in PP firms, NOT growth in % firms using PP
- Temporary reversal in 2008 recession: PRO-CYCLICAL

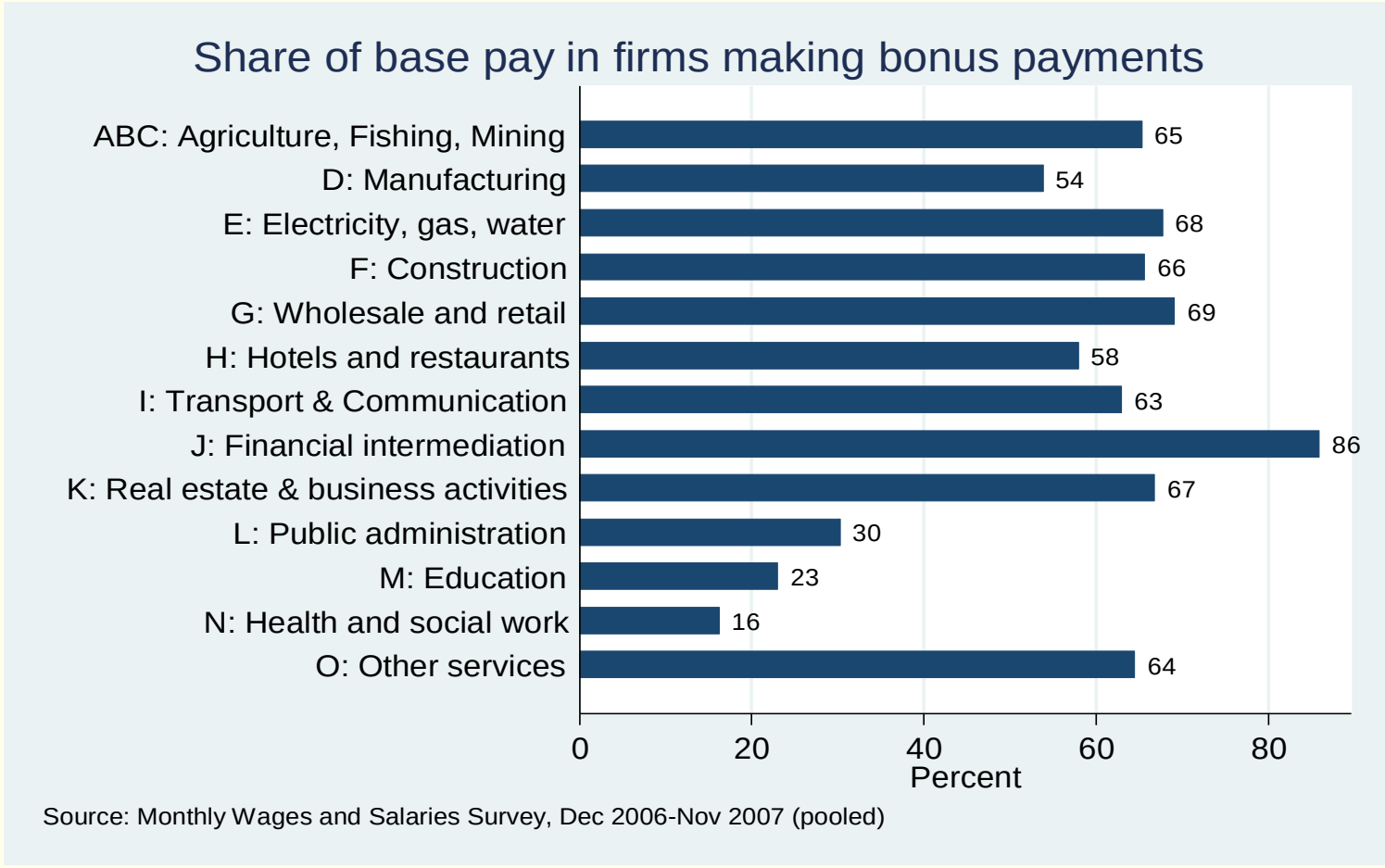


Regressions for Employment Share, Gearing and Bonus Share in "High" and "Low" Seasons, Whole Economy

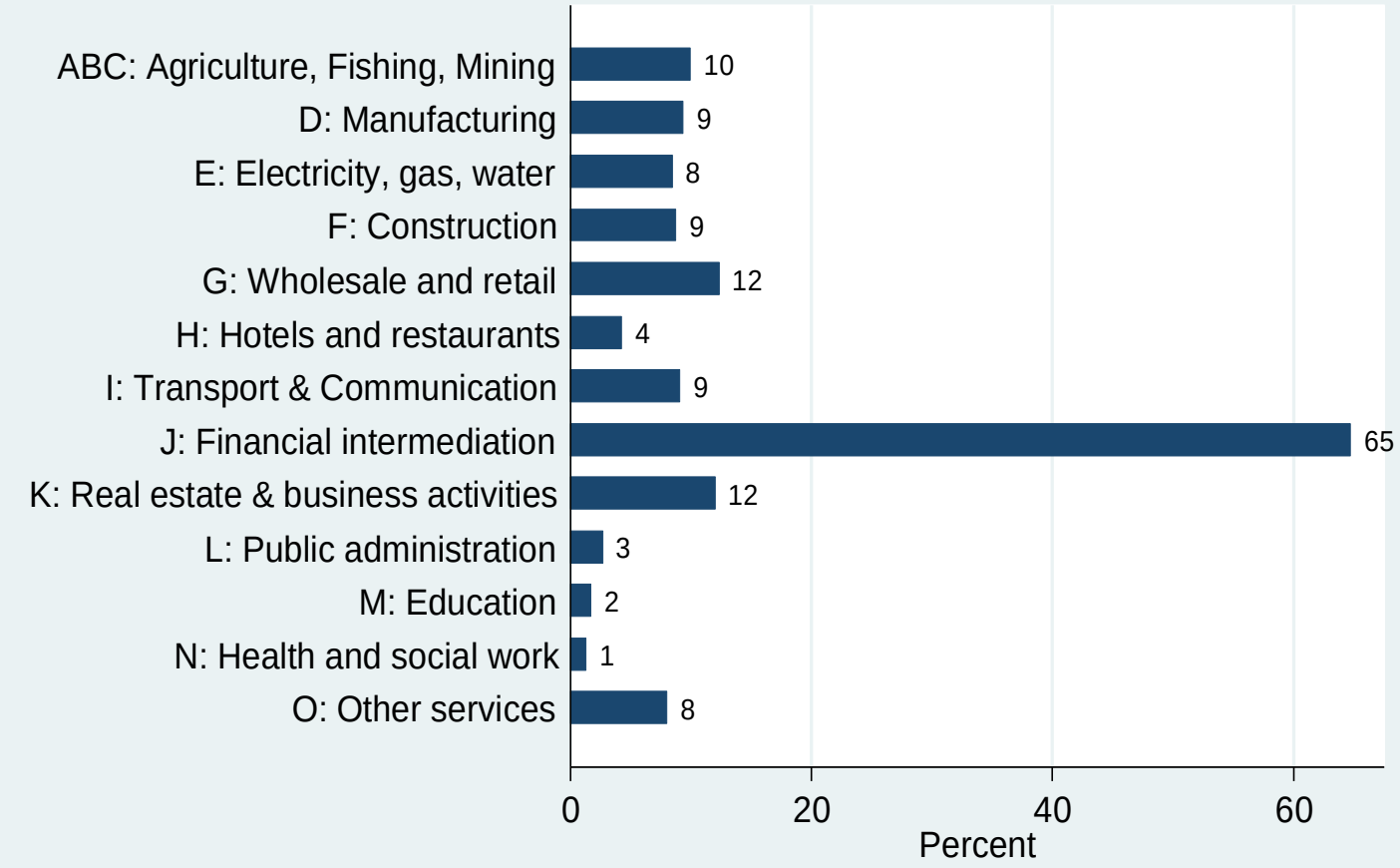
	High season			Low season		
	Emp. Share	Gearing	Bonus share	Emp. Share	Gearing	Bonus share
2003	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
2008	-0.004	0.117***	0.028***	0.001	0.017***	0.007***
	[-0.35]	[4.49]	[5.42]	[0.10]	[4.07]	[3.78]
2009	0.008	-0.064**	-0.016**	-0.018	0.005	0.001
	[0.51]	[-2.63]	[-2.89]	[-1.23]	[1.18]	[0.46]
2010	-0.016	0.031	0.009	-0.027	0.001	0.000
	[-1.06]	[1.48]	[1.91]	[-1.74]	[0.26]	[-0.24]
N	*294,233*	*111,122*	*294,233*	*587,517*	*207,110*	*587,517*
R-sq	*0.210*	*0.108*	*0.427*	*0.209*	*0.051*	*0.097*



% employees in firms paying bonuses 2006/7

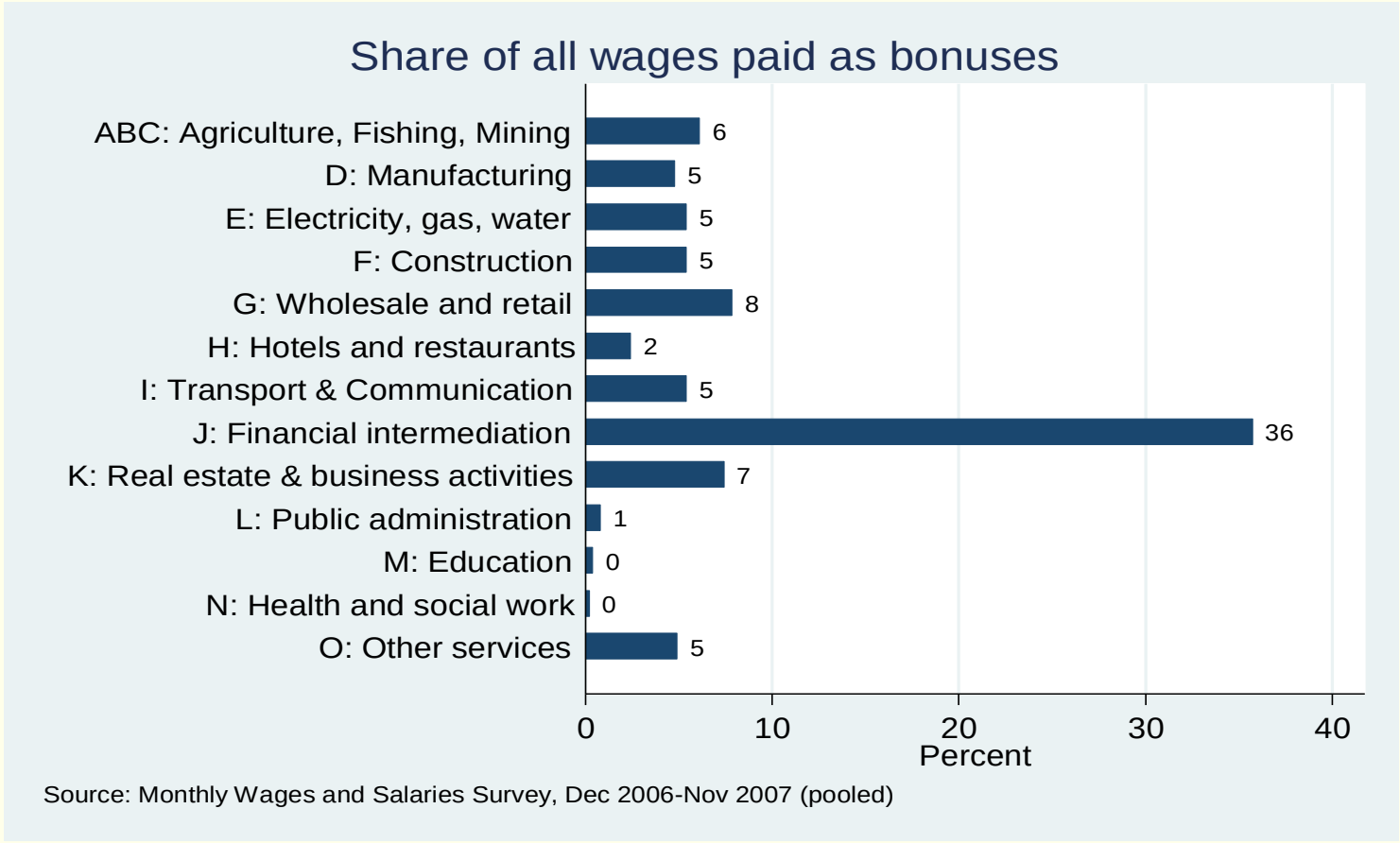


Gearing of bonus pay to base pay, 2007



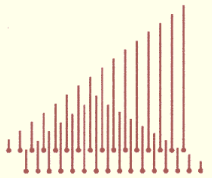
Source: Monthly Wages and Salaries Survey, Dec 2006-Nov 2007 (pooled)

Share of Wage Bill Paid in Bonuses



Why Finance Is Important in Understanding PRP (1)

	Share of all bonus pay	Share of all regular pay
2000	31%	7%
2001	33%	7%
2002	32%	7%
2003	29%	7%
2004	36%	7%
2005	38%	7%
2006	42%	7%
2007	43%	7%
2008	45%	7%
2009	36%	7%
2010	47%	7%



Regressions for Employment Share, Gearing and Bonus Share in "High" and "Low" Seasons

WHOLE ECONOMY						
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	Emp. Share	Gearing	Bonus share	Emp. Share	Gearing	Bonus share
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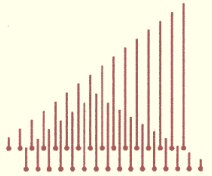
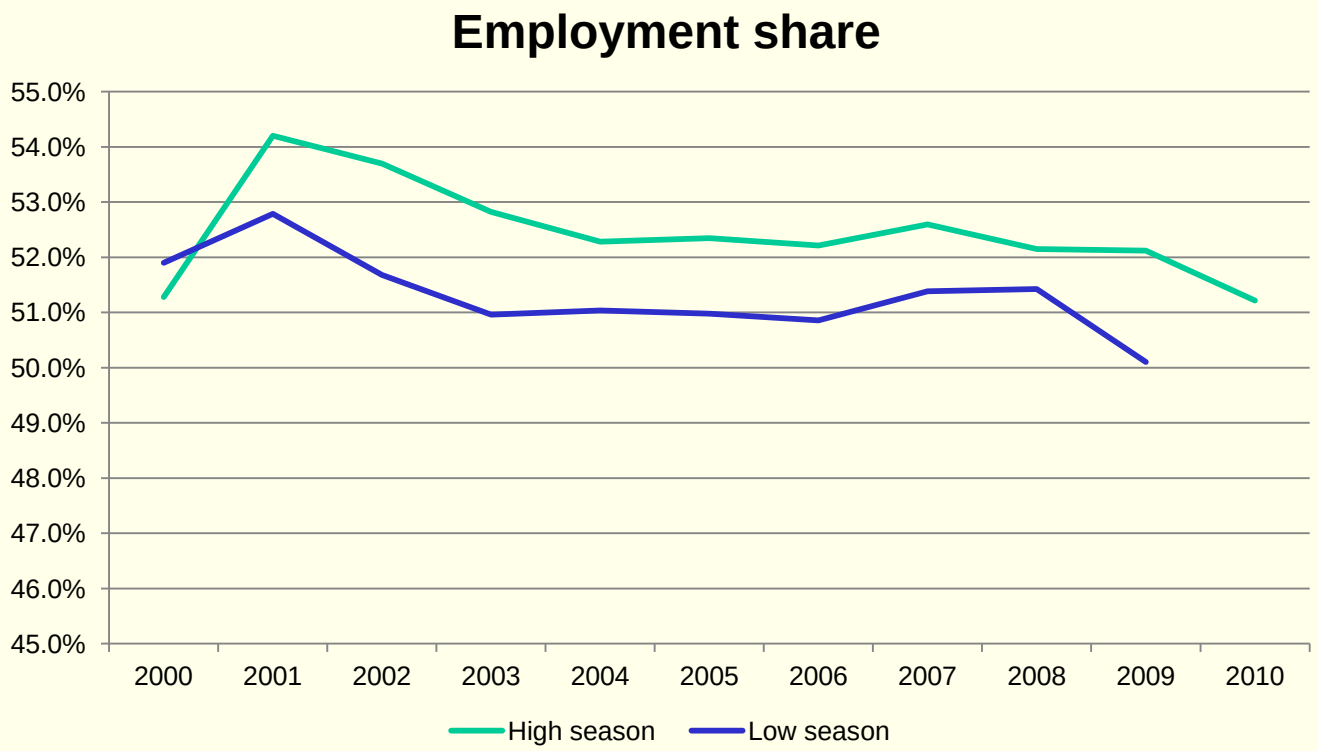
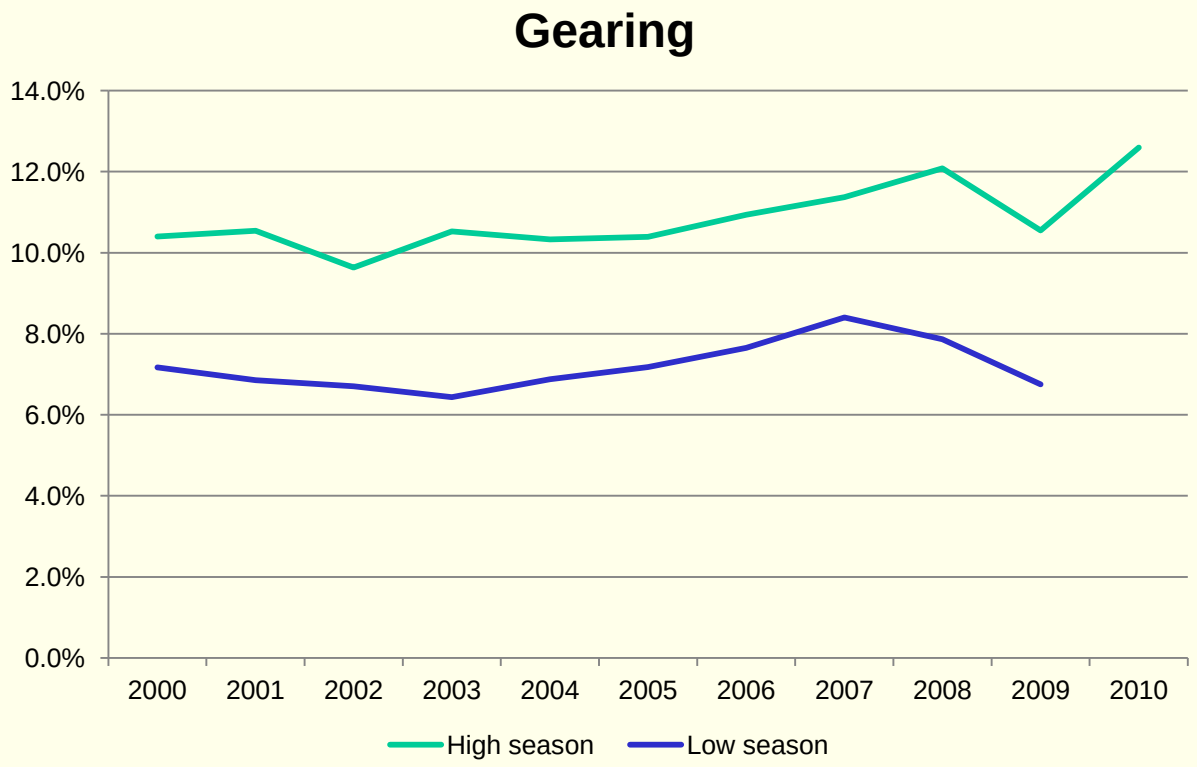
Whole Economy EXC FINANCE						
	High season			Low season		
	Emp. Share	Gearing	Bonus share	Emp. Share	Gearing	Bonus share
2003	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
2008	-0.004	0.012*	0.004*	-0.001	0.012**	0.005**
	[-0.30]	[2.07]	[2.00]	[-0.06]	[3.00]	[2.62]
2009	0.009	-0.015*	-0.004	-0.018	-0.001	-0.001
	[0.54]	[-2.21]	[-1.61]	[-1.15]	[-0.23]	[-0.71]
2010	-0.013	0.018**	0.005*	-0.027	0.001	0.000
	[-0.78]	[2.73]	[2.35]	[-1.62]	[0.28]	[-0.23]
N	*281,920*	*102,765*	*281,920*	*562,368*	*191,227*	*562,368*
R-sq	*0.170*	*0.069*	*0.115*	*0.168*	*0.062*	*0.090*



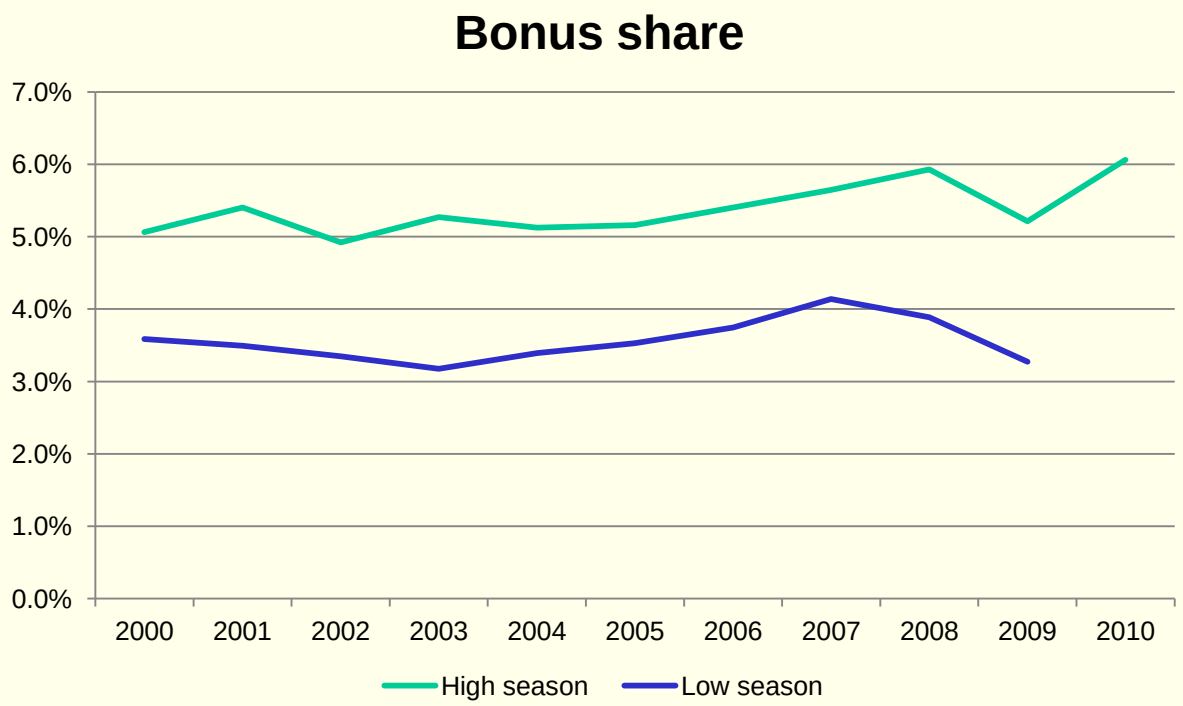
Employment Share in PP Firms exc. Finance



Bonus Gearing exc. Finance

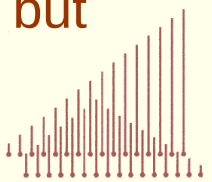


Bonus Share as % Total Pay, exc. Finance



Conclusion

- Secular rise? Yes but...
  - Rising as a % total pay from mid-2000s, mainly Finance
  - No change in employees covered by bonuses/PP schemes in general in 2000s
  - Due to gearing of bonus payments to base pay in PP sector
  - Not consistent with Lemieux et al. 2009
- Pro-cyclical? Yes
  - Big fall in bonuses in Fin and Non-Fin with recession
  - But bounced back in Finance in 2010
- Interpretation
  - Firms needed BIG adjustments in face of this huge recession
  - In non-Finance that meant base pay
    - Falling real wages
  - In Finance it meant bonuses (at least for a while!)
- Britain very different from USA in terms of firms paying bonuses but we see similar response to the cycle



Further Reading

http://niesr.ac.uk/blog/whats-big-deal-pay-performance#.Uopck8QRJc4