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Market or racket?
Demystifying executive pay

pwc

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Introduction

The level of executive pay in the UK, and its growth since 2000, are often presented as being manifestly absurd. But research shows that most of the increase can be explained by market forces, and in particular the growth in size of our largest companies.

This paper is part of a series of papers where we seek to shed light on aspects of the executive pay debate using rigorous analysis and drawing on robust academic evidence. Along the way we hope to debunk a few myths. The series has been inspired by our involvement on the Steering Committee of the Purposeful Company Taskforce, run by the Big Innovation Company. This Taskforce has brought together academics, economists, think tanks, investors, and companies to look at how the UK governance and capital markets environment could be enhanced to encourage the development of companies driven by purpose, acting for the long term. The evidence is that a growth in number of such companies would be hugely beneficial to UK growth and productivity. We've been working in particular on the executive pay workstream, looking at how pay should be reformed to incentivise and reward long-term thinking.

Working with leading academics in the field we've looked at the best evidence available to identify where the real problems are, and where they are not. For the interested reader, the Interim Executive Remuneration Report produced by the Taskforce Steering Committee can be found *here* and contains a comprehensive list of academic references. In this paper we take a practitioner's perspective and interpret the conclusions using UK data for the FTSE-100. As a result our referencing is less extensive.

This report is our own take on the evidence and should not be taken to be the views of the Purposeful Company Taskforce or its Steering Committee.

We are, however, indebted to the Steering Committee members, for the opportunity to collaborate on what has been a fascinating project. We are also especially grateful to Professor Alex Edmans of London Business School[1], one of the leading academics in the field, for having the patience to guide us through the academic literature on executive pay, and for inspiring us to explore many of the ideas in this series.

Self-evidently absurd?

The argument that there's a market failure in executive pay is often based on the fact that it's gone up. A lot. For example, a frequently quoted statistic is that executive pay has roughly tripled since 2000 whereas the FTSE-100 is only trading broadly in line with its level of that time. Equally, the ratio of median FTSE-100 CEO pay to National Average Earnings has increased from around 60x at the start of the century to closer to 140x today. Surely no one person is 'worth' 140x another. The manifest absurdity of the ratio is taken by some commentators to prove the case that CEO pay is out of control without further debate.

But closer analysis of the nature of the market for CEO pay, and the data, leads to a more nuanced conclusion. Xavier Gabaix and Augustin Landier published one of the most significant papers on executive pay in the Quarterly Journal of Economics in 2008[2]. Titled 'Why has CEO pay gone up so much?' the authors sought to build and test a model of the executive pay market to determine the extent to which the increase in CEO pay in the largest companies was a function of the result of market forces as opposed to market or governance failures or excessive rent seeking.

1 www.alexedmans.com

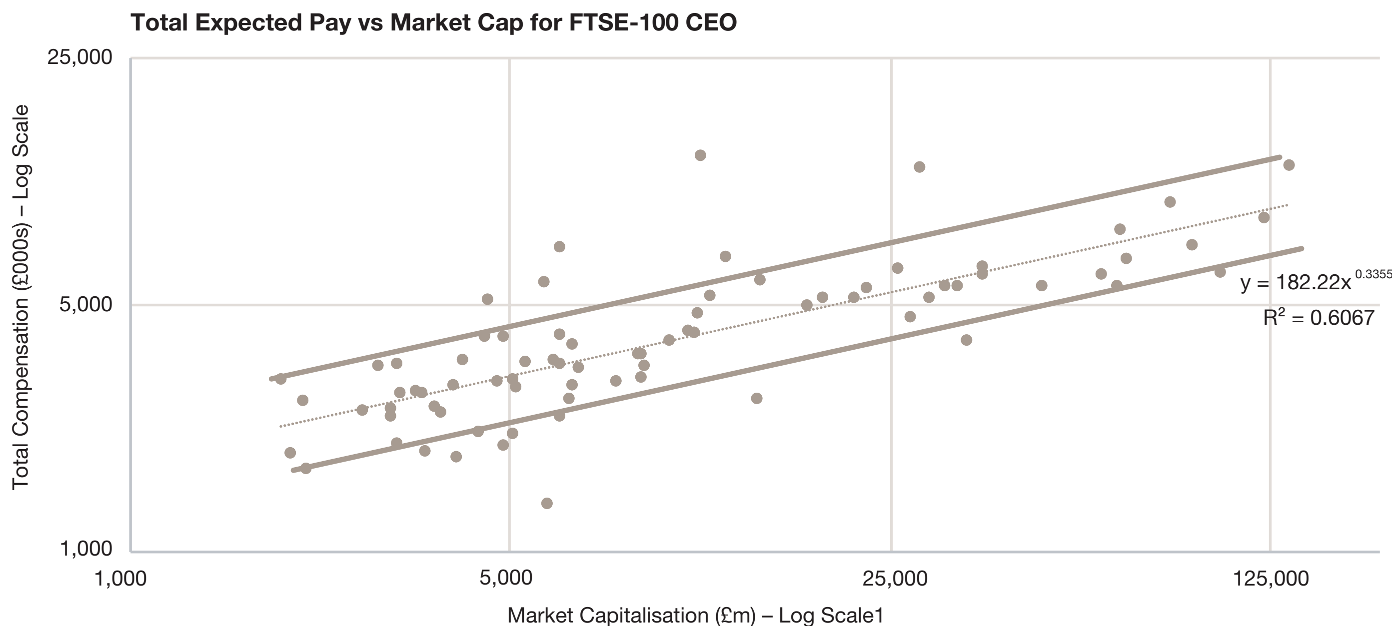
2 Gabaix, X. and Landier, A. (2008), 'Why has CEO Pay Increased So Much?', *Quarterly Journal of Economics* 123, 49-100

CEO pay depends on company size

Gabaix and Landier showed that in a market equilibrium, company size is the critical factor in determining a CEO's expected pay in the largest companies in an economy.

It makes sense that shareholders of a larger more valuable company are prepared to pay more to get the right CEO than for a smaller company: the stakes are simply higher. Gabaix and Landier's contribution was to develop a theory that explains why the increase of pay with company size is not linear, but in line with a power law – in other words, pay does not double for each doubling in market capitalisation, but rather increases by around 25%. This is one of the most robust and consistent findings in executive pay. The chart below illustrates this relationship for the FTSE-100, showing that, without controlling for industry, package mix, or company performance, the market capitalisation[3] of a company by itself explains over 60% of the variance in pay opportunity.

Figure 1: Total expected pay for FTSE-100 CEOs versus market capitalisation



Source: PwC database, Datastream. Both expected pay and market capitalisation taken at the point of approval of the relevant company's policy in 2014. Expected pay calculated assuming 65% achievement against incentives, based on historic FTSE-100 average across bonus and LTI combined.

The solid lines show one statistical standard deviation from the trend line. Note that six companies pay materially above the one standard deviation variance, and pay an average of around 100% more than the market trendline for their market capitalisation. We come back to this point later.

[3] Gabaix and Landier's preferred size measure is total market value, adding the value of debt to the market capitalisation of equity – in one of the short-cuts in this practitioner's guide, we have employed the more commonly used size measure of market capitalisation

Explaining growth in CEO pay over time

Gabaix and Landier's second observation was that CEO pay levels in large companies in a given market should also be in proportion to the typical size of a large company in that market.

This means that as the market capitalisation of companies changes over time, CEO pay levels in the economy should change in proportion. This creates a potential explanation for the increase in executive pay levels over the last three decades. Their model shows that as firm size increases over time, CEO pay levels are expected to increase broadly in proportion – i.e. a doubling of firm size leads to a doubling of pay. By contrast, *at a point in time* a firm with double the market capitalisation of another is expected to pay only around 25% more on average.

Gabaix and Landier showed how their model could explain much of the increase in US CEO pay during the 1980s and 1990s. But what about the UK?

Comparisons of pay and performance in the FTSE-100 commonly start around the turn of the century. A common statistic is that FTSE-100 CEO pay has roughly tripled since 2000 whereas the FTSE-100 is still trading broadly at the same levels. The accusation made against CEO pay – that it has soared while the FTSE has floundered – itself recognises that there's an accepted natural justice in CEO pay levels increasing if companies become larger and the jobs are consequently proportionately more important. However, the year 2000 is a particularly convenient starting point for those wishing to make the most negative case about executive pay. The market had yet to collapse from its dot.com peak (just two years later the FTSE had halved). And the full impact of the great international convergence in executive pay that took place in the first years of this century was yet to play through.

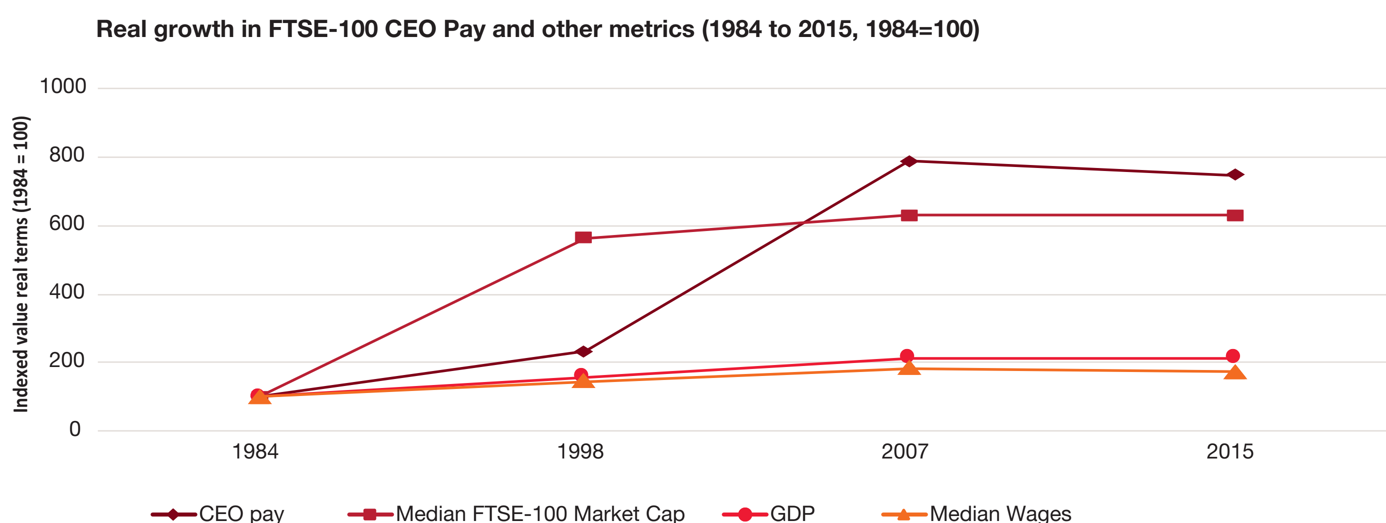
A more valid reference point is to start in the early 1980s. This was the point at which western economies started the move away from the regulated and restrictive practices of the 1970s towards a more free-market oriented and deregulated approach. The dismantling of exchange controls, growth in trade, reduced individual and corporate taxation, and deregulation in financial services led to a significant change in the structure of developed economies. For the UK, 1984 represents a convenient start point for analysis and not because of its Orwellian connotations. This was the year that the FTSE-100 index was established, and broadly coincided with the widespread liberalisation of western economies, which logically led to a free-market approach to top pay.

We can divide the following 30 or so years into three distinct phases from a pay perspective:

1984 to 1998 – Globalisation of business	• Deregulation • Growth in trade • Reduction in corporate and personal tax
1998 to 2007 – Globalisation of pay	• Shareholder and governance involvement in pay • Enhanced disclosure • Increased global mobility and pay convergence
2008 to date – post crisis period	• Economic downturn • Increased regulation of pay • Pay retrenchment

The chart below shows key statistics in real terms from the book-ends of these three periods, namely 1984, 1998, 2007, and 2015.

Figure 2: Real levels of CEO pay, company size, GDP, and median national wages



Growth (% pa)	1984-1998(%)	1998-2007(%)	2007-2015(%)
Med FTSE-100 CEO pay	6.2	9.1	(0.4)
Med FTSE-100 market capitalisation	13.1	0.8	0.0
Real GDP	3.3	2.2	0.0
Real Wages	2.7	1.8	(0.4)

Note: From 1998 we use the Manifest Executive Director Total Remuneration Survey 2016, which provides a consistent source of expected pay data for FTSE-100 CEOs. We have used median Total Remuneration Awarded. For years where the survey does not disclose a median figure we have used 80% of the average in line with the ratio for years where both figures are shown. Comparable survey data for 1984 are not available. For this year we triangulate between three data sources: Abowd, J. and Kaplan, D. (1999) 'Executive Compensation: Six Questions That Need Answering, Journal of Economic Perspectives 13(4), 145-168; Guy, F. (2005), 'Earnings distribution, corporate governance and CEO pay', International Review of Applied Economics 19(1), 51-65; and Tatton, S. (2014), 'Executive remuneration in the FTSE-350 – a focus on performance-related pay', A report for the High Pay Centre from Income Data Services. This analysis consistently gives rise to an estimate of just over £200,000 pa for total CEO pay in 1984, at 1984 prices, for a company with revenues of the median FTSE-100 company. Economic data taken from The Bank of England 'Three Centuries of Macroeconomic Data' *http://www.bankofengland.co.uk/research/Pages/onebank/threecenturies.aspx*

Over the entire thirty year period CEO pay increased around 7.5x in real terms as compared with a 6.3x increase in size of the median FTSE-100 company. In other words, the change in typical size of large UK companies can explain about 80% of the increase in CEO pay. However, the change was far from even over the three decades, with the growth in company size leading the increase in pay by around a decade. The period from 1984 to 1998 saw a six-fold increase in real terms in the size of the median FTSE-100 company, but only a doubling in real levels of executive pay. By contrast over the decade to 2007, pay quadrupled while company size increased only modestly.

Some time lag between pay levels and company size is to be expected. Significant changes in CEO pay levels only happen every few years and are particularly triggered by changes in CEO. It would also take some time for changes in company size to be viewed as permanent. But what would have caused CEO pay to take off during the decade from 1998? We can hypothesise a number of factors.

First, UK executive pay disclosure rules were significantly enhanced in the late 1990s following publication of the Greenbury Report. This created greater transparency around executive pay levels, which allowed the market rate of pay to be more clearly determined. Second, labour mobility increased, driving the great international convergence in pay levels. The UK has long been a very open economy, but overseas recruitment increased, leading to the situation today where around half of the CEOs of large UK companies are non-UK nationals. This led to a widely observed period of international convergence in pay levels over the period up to 2006 (see for example our publication *What goes up must come down*).

These changes together led to a dramatic clearing of the market in UK CEO pay, which by the end of 2007 had converged with, or even exceeded, international market norms and the levels that would be expected from the growth in company size.

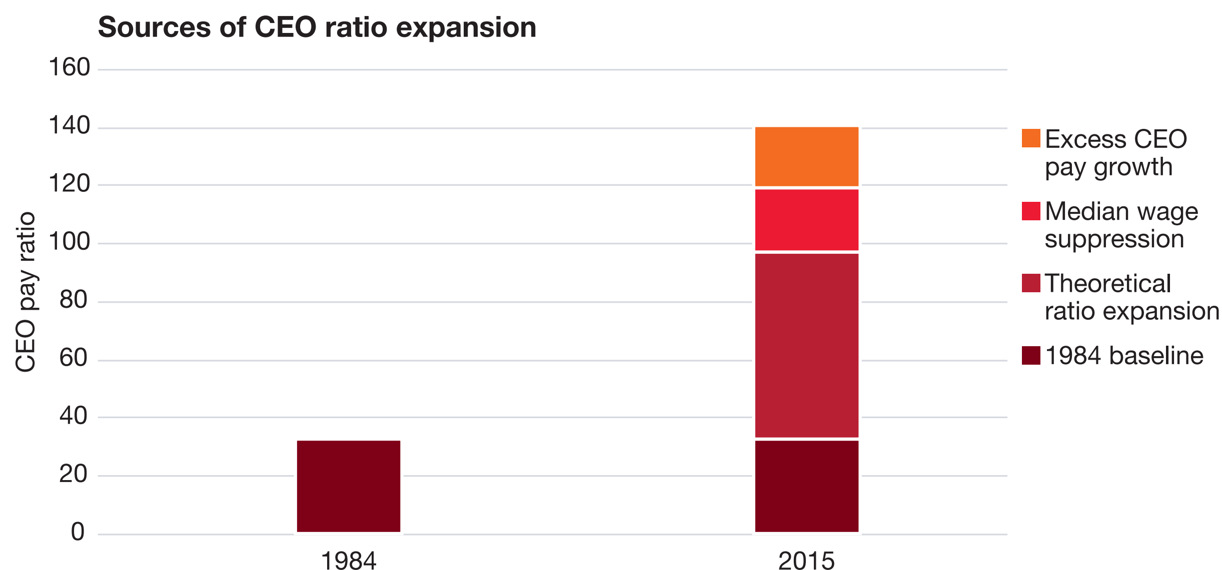
A widening pay gap

The rapid increase in the size of FTSE-100 companies compared to the economy led to an increase in CEO pay levels far more rapid than the increase in the wage of the typical worker.

Indeed whereas CEO pay grew about 20% more than the typical company size, by contrast the median wage grew around 20% less in real terms than the UK economy. As a result the ratio of median FTSE-100 CEO pay to national average earnings increased from 33x to 141x over the three decades.

If CEO pay had increased purely in line with the typical size of a FTSE-100 company, and if median earnings had growth in line with GDP, then the ratio would have expanded from 33x to 97x. This could be considered the 'theoretcial' expected ratio expansion. The difference between the actual and theoretical ratio is driven approximately half each by the suppression in growth of median wages compared to GDP and excess CEO pay growth over and above the growth in typical company size.

Figure 3: Breakdown of sources the increase in CEO pay ratio



So the expansion of the pay ratio between 1984 and 2015 can be explained 60% by the growth in size of large companies relative to the economy, 20% by the underperformance of median wages compared to the economy, and 20% due to excess CEO pay growth over and above the rate of growth of company size. This suggests that solving the 'problem' of excessive pay ratios requires at least as much attention to be paid to pay at the bottom as to pay at the top. Indeed probably more so, as the evidence suggests (see our publication *Time to listen*) that public concerns about inequality are more closely linked to personal employment prospects than to the level of inequality itself.

Explaining the excess growth in CEO pay

Why did CEO pay 'overshoot' the growth in company size by 20% between 1984 and 2007? There are several possible explanations, which require further research.

Gabaix and Landier themselves admit that the increase in company size is not the only possible explanation for the increase in CEO pay. And even growth in company size cannot fully explain the increase seen over the last three decades. So what else could be going on?

1

First, executive pay may have been at an artificially low point by the end of the 1970s, given the unique economic and policy context of that decade. The 1970s were a high water mark for regulation, for share of wages in GDP, and for levels of personal taxation. We may therefore have simply seen some normalisation from an abnormal base point.

2

Second, the risk in pay packages went up significantly. Contract terms were reduced from two years or more to 12 months, final salary pensions phased out, use of performance pay increased and performance conditions toughened. A CEO's pay changed from being around three quarters fixed in 1984 to two-thirds variable by 2007. At the same time CEO tenure reduced and hence total earning potential became more risky.

3

Third, CEO pay may simply have grown excessively. The CEO pay market is arguably unstable because the cost of a CEO is so immaterial compared to the finances of a large company. Indeed Gabaix and Landier's model showed that the equilibrium level of pay is sensitive to contagion from relatively small numbers of companies overpaying. Bereskin and Cicero demonstrated this effect empirically using Gabaix and Landier's model, showing how a change in takeover protection law for Deleware companies in the US had a significant impact on pay levels across the market during the 1990s[4]. In the UK context the financial services bubble may have caused a contagion effect. Philippon and Reshef[5] documented an excess pay bubble amounting to approximately a 50% pay premium in financial services because of deregulation. Although financial services only forms around 9% of the UK economy, Gabaix and Landier's model suggests that 9% of companies overpaying by 50% can cause a contagion effect of 20% in top pay levels across the market, in line with what has indeed been observed.

[4] Bereskin, F. and Cicero, D. (2013), 'CEO Compensation Contagion: Evidence from an Exogenous Shock', Journal of Financial Economics 107(2), 477-493

[5] Philippon, T. and Reshef, A. (2009), 'Wages and Human Capital in the US Financial Industry 1909-2006, National Bureau of Economic Research, Working Paper Series, 55

The issue of contagion is worth pausing on. The median FTSE-100 company is worth approximately £8bn. Even an amount of £20m is only one quarter of one percent of the value of the company. One of the flaws of the pay-for-performance paradigm is that with CEO pay being such a small cost relative to company size, amounts vastly higher than current norms can be justified by reference to performance. After all, if the CEO doubles the value of an £8bn company isn't even £100m a small price to pay?

This may make remuneration committees and shareholders insufficiently scrutinising of maximum quantum provided it is delivered for strong performance. Yet the work of Gabaix and Landier, reinforced empirically by Bereskin and Cicero, is that above-market wages in a relatively small portion of companies can lead to substantial wage contagion across the market. Indeed Gabaix and Landier's model suggests that the six FTSE-100 companies paying on average twice the market rate contain within them the seeds of a 40% increase in the market benchmark over time. This level of impact is just a theory, but such contagion must be avoided, particularly at this juncture in our politics. Very robust scrutiny by shareholders and remuneration committees of any quantum increase is therefore appropriate.

Other evidence

Could the rise in CEO pay simply be down to corporate governance failings at listed companies or excessive managerial power? See for example the work of Bebchuk and Fried[6]. We do believe there is a significant role for the 'managerial power' hypothesis to play in explaining executive pay practices. However, this influences our views on pay design, calibration, and disclosure more than on pay levels.

The management power hypothesis states that management teams use a range of strategies and exploit weaknesses in the corporate governance model at listed companies to extract economic rents in the form of excessive pay. However, it is hard to see how management power can play the major part in explaining the increase in CEO pay over the last three decades. The period of growth in pay in the UK coincided with a period of strengthening governance and increased shareholder rights. While studies do show a correlation between weak governance and high pay, the impact tends to be of the order to 10% of so, and much lower than the increases seen. Also, evidence shows that private equity owners and hedge funds, who do not suffer from the same agency problems as joint stock companies with dispersed shareholders, do not cut pay when they take companies private, although they change many aspects of a business' operations.

Finally, research has shown no systematic change in the pay of company CEOs compared with the other top 0.1% of taxpayers in the US and UK over the last two decades. Instead the growth in CEO pay has been mirrored by the growth in earnings of those at the top of many scarce skill occupations, be it in private companies, asset management, media and entertainment, and sports.
This also appears to apply across countries with research showing pay levels at large companies broadly to have converged between Europe and the US by 2006 (see for example Conyon *et al* and references therein[7]). In our view, CEO pay is part of a broader economic phenomenon whereby those with scarce skills are able to ply their trade, and earn returns, on a vastly expanded scale from the past. This wider context of inequality does not make the problem any less challenging, but we need to recognise the problem for what it is and what it is not, if we are to develop effective solutions.

[6] See for example Bebchuk, L. and Fried, J. (2003), 'Executive Compensation as an Agency Problem', Journal of Economic Perspectives 17(3), 71-92

[7] Conyon, M., Fernandes, N., Ferreira, M., Matos, P., and Murphy, K. (2013), 'The Executive Compensation Controversy: A Transatlantic Analysis', in Boeri, T., Lucifora, C. and Murphy, K., 'Productivity, Profits, and Pay', Oxford University Press, 57

Bringing it all together

What can we conclude from all this about the market for CEO pay?

- Overall, UK CEO pay levels, and increasing pay ratios, are much more explicable by reference to rational economic forces than is commonly supposed. CEO pay has risen broadly in line with company size over the last thirty years, and is not out of line with pay levels in other scarce skill occupations. The rise in CEO pay can therefore be seen as part of a broader economic phenomenon of increased returns to scarce skill in an economy that offers greater opportunity for highly skilled individuals to operate at scale.
- CEO pay has stopped going up. Since the financial crisis, executive pay has declined slightly in real terms and has become harder to earn through increased deferral and holding periods, and the application of malus and clawback conditions.
- References to the FTSE-100 as a group of companies suggests a level of comparability over time that really does not apply. The median FTSE-100 company is now over six times bigger in real terms than was the case 30 years ago, and three times bigger relative to GDP. The scale and importance of the jobs leading these companies has been transformed.
- At the same time, CEO pay has become more risky, with the decline of pensions, the growth in performance-related pay, shortened tenure, and reduced contractual protections.
- 60% of the expansion of the ratio of CEO pay to median national earnings since 1984 can be explained by the growth in the size of FTSE-100 companies. Of the remainder, half can be explained by suppression of median wage growth relative to GDP, and half by excess CEO pay growth. In other words, excessive expansion of the pay ratio is at least as much to do with pay at the bottom as it is to do with pay at the top.
- Not all of the growth in CEO pay over the last three decades can be explained by company size. 20% of the growth in CEO pay over the last three decades cannot be explained by company size. This may be explained by the increased risk in CEO pay. Or it may be explained by pay contagion from excessive practices in a subset of the economy, e.g. financial services. The executive pay market is vulnerable to bouts of inflation.

Lessons for policymakers and practitioners

- ✓ CEO pay levels are more explicable by market factors than they first seem, when seen as part of a transformation of the UK economy over 30 years.

- ✓ Assuming that CEO pay levels are out of control and unjustifiable is likely to lead to the wrong policy conclusions. Inequality is clearly a big political problem, but we should not assume it is easily fixed by addressing a 'market failure' in CEO pay – the extent to which pay is too high because of a market failure is likely to be limited, and there is unlikely to be a cost-free way to reduce CEO pay to a major extent.

- ✓ Draconian measures may simply lead to UK listed companies being disadvantaged compared to private or overseas companies and lead to further shrinkage in the UK's listed sector.

- ✓ Low growth of pay at the bottom has contributed significantly to the excess widening of the ratio between CEO and wider employee pay, and is arguably a greater driver of concern about inequality. Policies must focus on both the denominator and numerator of the ratio.

- ✓ Outliers matter. The CEO pay market can be unstable and subject to contagion of high pay levels from a minority of companies overpaying. Actions that create more pressure on outliers may help continue to reign in executive pay. Shareholders should continue to put pressure on remuneration committees to justify packages that are excessive relative to market norms and remuneration committees should beware a narrative that allows any amount to be justified by performance.

Contacts

Fiona Camenzuli

T: +44 (0)20 7804 4175
M: +44 (0)7739 876723
E: fiona.camenzuli@uk.pwc.com

Sean Drury

T: +44 (0)20 7212 5552
M: +44 (0)7715 771294
E: sean.drury@uk.pwc.com

Dean Farthing

T: +44 (0)20 7212 5323
M: +44 (0)7739 873164
E: dean.farthing@uk.pwc.com

Tom Gosling

T: +44 (0)20 7212 3973
M: +44 (0)7714 226430
E: tom.gosling@uk.pwc.com

John Harding

T: +44 (0)161 247 4542
M: +44 (0)7801 042607
E: john.l.harding@uk.pwc.com

Daniel Harris

T: +44 (0)1293 594547
M: +44 (0)7771 974777
E: daniel.harris@uk.pwc.com

Phillippa O'Connor

T: +44 (0)20 7213 4589
M: +44 (0)7740 968597
E: phillippa.o.connor@uk.pwc.com

Marcus Peaker

T: +44 (0)20 7804 0249
M: +44 (0)7808 404044
E: marcus.peaker@uk.pwc.com

Julian Sansum

T: +44 (0)20 7212 1652
M: +44 (0)7919 057454
E: julian.a.sansum@uk.pwc.com

Jon Terry

T: +44 (0)20 7212 4370
M: +44 (0)7720 555397
E: jon.p.terry@uk.pwc.com

Paul Wolstenholme

T: +44 (0)20 7212 6225
M: +44 (0)7956 464102
E: paul.wolstenholme@uk.pwc.com

Alastair Woods

T: +44 (0)20 7804 8102
M: +44 (0)7834 250359
E: alastair.woods@uk.pwc.com

Tim Wright

T: +44 (0)20 7212 4427
M: +44 (0)7899 958330
E: tim.wright@uk.pwc.com

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