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Trends and Determinants of Top Pay in the New Zealand Public and Private Sectors, 1995–2014

Introduction

This article analyses recent trends and determinants of chief executive (CEO) pay in the New Zealand public sector, and of numbers and pay of senior managers in the sector. Comparisons are made with the listed company private sector. It turns out that both CEO pay growth and numbers of senior managers in the public sector have lagged behind those in the private sector, while senior manager pay has moved ahead.

The article complements Hazledine (2016), which was concerned solely with listed private companies over the 1995–2014 period, and to which the reader is referred for detail on the listed company sector and its data. A longer version of

this article is available as Hazledine et al. (2017), and includes an analysis of the apparent broad decline in managerial productivity in New Zealand, with a case study of the University of Auckland.

The first section gives some institutional background to the changing role and remuneration of public sector CEOs in New Zealand over the past three decades. Section two introduces the variables used in the study, and section three analyses the data. Section four concludes by drawing out implications for policy and future research. An Appendix documents the regression models used to explain differences and changes in CEO pay in the New Zealand public and private sectors.

The recent history of public sector chief executive pay-setting in New Zealand

Before the 1984–90 ‘Rogernomics’¹ neo-liberal policy revolution in New Zealand (Hazledine, 2014), most public sector activities in New Zealand – including the activities of ‘trading’ entities, such as the Post Office and the Electricity Department – were organised on departmental lines, with each department run by a permanent head or ‘secretary’ reporting to his (rarely

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– never? – her)² central government minister. In the late 1980s this situation was upturned, in particular following the passing of the State-owned Enterprises Act 1987, the State Sector Act 1988 and the Public Finance Act 1989. Bollard et al. (1996) report that, just during 1987–88, 24 government departments were ‘corporatised’ into state-owned enterprises (SOEs; see Duncan, 1996), and a similar number fully or partly privatised, these all previously having been trading departments, selling products – airport services, electricity, telecommunications, banking, forestry and so on – on the market.

The remaining public sector organisations – which are our primary

foundations of Rogernomics. The basic assumption here was that ‘management’ is a generic skill, applicable in any organisation or workplace by any smart person with a good knowledge of principal–agent (‘agency’) theory. For example, generic managers with zero medical expertise could replace senior doctors and nurses in the running of public hospitals, and *should* replace them, because the medical professionals could not be trusted to not exploit their special position (asymmetric knowledge advantages) to further their own private goals.

A corollary of managerialism was this: if public and private sector managers were basically interchangeable, then their

core central government departments, which operate in the ‘public service’.⁴ For 103 other ‘Crown entities’, their boards come up each year with a figure for their CEOs’ pay, but must then ‘consult’ with the SSC before implementing these (State Services Commission, 2016). Consultation has teeth in the case of the tertiary education institutes and the district health boards among the Crown entities, whose proposed CEO pay numbers must be ‘approved’ by the SSC. Other public sector organisations, mainly local authorities and SOEs, do not come under the jurisdiction of the State Services Commission for CEO pay setting or other matters.

In 1997 the government formally abandoned the idea of a strict private/public CEO pay link, explicitly recognising skills required and responsibilities shouldered by public sector managers which are not generic, and which in particular are not part of most private sector CEO job descriptions.⁵ The state services commissioner put it in these terms:

Chief executives who lead departments with policy advice roles⁶ must understand the capacity of the State to effect change in social and economic conditions. This usually demands an understanding of social policy or economics disciplines. In the case of some roles, this understanding must be evident in a high level of academic qualification. Several chief executive roles demand substantial professional expertise in, for example, the law, science and technology, or accounting ... All chief executive roles demand an understanding of senior management in a public environment, and the responsibilities and accountabilities of that environment. (State Services Commission, 1998, p.15)

The commissioner tactfully suggests that the public sector’s previous participation in market-oriented ‘trading’ activities might, in 1988, have justified the assumption of some strong generic similarity between private and public sector CEO job skills, but this doesn’t

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interest in this article – had imposed on them various quasi-market procedures and constraints: limited-term appointments for CEOs, and annual performance evaluations, with bonuses based on success or not at achieving ‘KPIs’ – key performance indicators – which intended to match the disciplines supposedly enforced on private sector boards and their CEOs by the market. Many issues are raised by attempts to measure success in providing government services in relatively simple formulaic terms. These are not our concern here, but we note that accountability by means of KPI performance assessment remains central to the monitoring of public sector CEOs in New Zealand.

What has changed somewhat, and is relevant to our prime interest in CEO pay, can be seen as a partial retreat from the full-blown managerialist theory that was one of the most theoretically interesting (even, internationally, unique)

remuneration should be closely linked, and driven by market-determined private sector managerial pay rates, as apparently it was – or was supposed to be – in the wake of the 1988 State Sector Act. But if the linking doctrine was applied it must have been at a sizeable discount. The state services commissioner, in his 1998 annual report, reported that base salaries for CEOs in ‘broadly comparable positions’ rose by as much as 130% in the nine years to 1997 in the private sector, but by just 42% in the public service (State Services Commission, 1998, p.16). In real terms, adjusting for inflation, this means that private sector CEO pay increased by 81% and public CEO pay by just under 10%.³

We need to note here the difference between public service and public sector, and the role of the State Services Commission (SSC), and its own CEO, the commissioner. Currently, as the SSC’s 2016 *Senior Pay Report* explains, the commission sets CEO pay for 26 of the 29

really make sense. The retreat of the state from commercial activities via corporatisation and privatisation was well underway by 1988, and well understood to be sweeping in its soon-to-be-completed extent.

The government in 1997 also instructed the SSC to strengthen internal assessment of public service CEOs' performance and the linkage of this to their remuneration. What the government did not tell the SSC how to do was how to set benchmarks for the public service CEO salaries as a whole, given that the administratively useful link – albeit at an increasing discount – with private sector salaries for 'comparable' jobs had been abolished. The commission itself apparently came up with the proposal that was adopted: public service and state entity CEO pay would be 'set against remuneration for chief executives working in the wider public sector', this being mainly the local authorities and state-owned enterprises (State Services Commission, 1998, p.18).

Such remains the situation to date – annual SSC reports right through to 2016 make fairly familiar reading. There is an almost amusing passage in the 2003 annual report. The (same as quoted above) commissioner writes:

In last year's annual report I drew attention to my increasing influence on State sector remuneration as a result of the Commissioner's expanding role in concurring with, or advising Boards of Crown entities on, the terms and conditions of employment of their chief executives ... The process is becoming 'circular'. The more I influence the market, the more it loses its value as a benchmark. (State Services Commission, 2003, pp.12-13)

Indeed. The commissioner was probably right to be worried here, even if he seemed unafraid to run the risk of exaggerating his personal importance in these matters. The 'wider public sector' is, relatively, not very wide. The 2001 New Zealand census reported that total employment in enterprises owned by the central government was 224,000, and in

local government 31,400. Switching employees in SOEs from the central to the local government tally (such then being in essence the wider public sector) would not make a big difference to the size discrepancy.⁷ There must indeed be considerable 'circularity' or interdependence in the setting of the terms and conditions of employment of public and near-public sector chief executives.

So, can we cut through the circularity and identify exogenous factors determining, or at least significantly influencing, public sector CEO pay? Such is our purpose in this article. As well, we will examine the situation of the highest

job titles of these employees were not required to be disclosed. The new data began to turn up in annual reports from 1995 onwards.

The situation for public sector organisations in New Zealand is somewhat different, with pay disclosure apparently a policy matter, though influenced by the Companies Act 1993. Some public sector entities do choose to report CEO and pay band data in their annual reports. Others make this information available to the State Services Commission, which in turn does publish all the CEOs' pay in what is now called the *Senior Pay Report*, covering public services departments, district health boards, tertiary education

As for top pay numbers, these are submitted to the SSC in a form 'consistent with the Companies Act 1993', but only reported publicly in two aggregations: all public service entities, and all tertiary institutions.

paid managers reporting to CEOs. Their pay is not set by the State Services Commission, though we could expect some linkage with what 'the boss' gets.

Variables and data

Data on CEOs and numbers of other employees on high salaries

We have in New Zealand what may be uniquely detailed information on top pay. The New Zealand Companies Act 1993 required companies primarily listed on the New Zealand Stock Exchange (now NZX), and required thereby to submit audited annual financial reports in New Zealand, to in future provide information in those reports not just on the total remuneration of their chief executive (which had not been required before, but was often made available), but also on the numbers of employees earning more than \$100,000 a year, with these numbers disaggregated into bands of \$10,000 – i.e. \$100–110,000, and so on. Names and

institutions, and other statutory Crown entities.

As for top pay numbers, these are submitted to the SSC in a form 'consistent with the Companies Act 1993', but only reported publicly in two aggregations: all public service entities, and all tertiary institutions. We have had to write hundreds of Official Information Act requests to the individual entities and institutions, requesting the pay band numbers first for 2014, and then (this done separately) the earliest year available. Responses to our requests have been generally good, though not universal, with the earliest such data being for 1995, but most for various later years.

The \$100,000 salary minimum remains in place. However, \$100,000 in 1995 is worth almost exactly \$150,000 in 2014, after inflating by the Consumers Price Index. Accordingly, to maintain comparability with early years, the top pay cohort analysed is set to begin at a pay of

Table 1: Descriptive Statistics, Public Sector Organisations

(All monetary variables observed before 2014 are inflated to 2014 prices with the consumer price index)	Maximum	Average	Minimum
Total annual budget, \$millions	4731.4	362.7	1.2
Remuneration of Chief Executive, \$	840,000	378,492	100,000
Total remuneration of all employees earning more than \$150,000, excluding CEO, \$millions	195.7	13.1	0
Total number of employees earning more than \$150,000, excluding CEO	765	61	0
Average annual wage of all other employees, \$	151,500	81,970	55,213
Number of all other employees	8908	1343	4

\$150,000 in 2014 prices. That is, we do not use all the information on numbers of employees earning over \$100,000, except for 1995. Data for intermediate years are pro-rated into higher pay bands according to each year's CPI, as explained in Hazledine (2016).

We will refer to employees earning more than the equivalent of \$150,000 in 2014 prices as 'managers', which most of them must be, though outside the core public service sector lie the district health boards and the universities, in which organisations doctors and professors will often or mostly earn more than \$150,000.

Factors determining CEO pay

There are a number of factors which might plausibly be proposed as likely to affect the level of remuneration received by the men and women who head our listed companies and public sector organisations: (1) internal/organisational factors; (2) market factors; and (3) performance factors.

Internal/organisational factors

It is reasonable to expect that CEOs with more 'difficult' jobs would get paid more. But how is difficulty to be measured? The reports of the State Services Commission often refer to a concept known as 'job size', of which in 2000 there were five 'bands', measured in something called 'Hay points'. We assembled data for four variables that we thought could be plausibly proposed as components of public sector CEO job size:

- the annual budget of the department or other entity;

- the number of senior managers;
- the average pay of senior managers;
- the number of other employees.

Market factors

To the extent that there is a general market for CEO services, then prices paid for such services in this market can be naturally expected to affect salaries offered to and accepted by our New Zealand public sector CEOs. We have noted above the difficulties in finding plausibly exogenous local benchmarks for public sector top salaries. We note now our belief that, at least for English-speaking executives, the market for such talent, in both private and public sectors, has indeed become 'thicker' because more globalised in recent decades. It would be interesting to have some historical research on the backgrounds of private and public sector CEOs in New Zealand. Our expectation is that, 40 or so years ago, most of these would be both local citizens and internal appointments – career or long-service employees of the firm or department they eventually worked their way to the top of. Now, external candidates sourced from all over the English-speaking world can be found leading our large organisations. We use an annual time trend to at least measure, if not explain, long-term shifts in the CEO market.

Performance factors

In the private sector there are financial metrics for CEO performance, including profitability and, perhaps, total revenues. Public sector entities are not-for-profit and their budgets are politically determined.

We have no data on what is included in public CEOs' key performance indicators.

We ended up with a database on 123 public sector organisations, each observed in 2014 and in one earlier year. The only variable for which we have complete data is CEO pay, and the smallest sample is for numbers of non-managerial employees.

Quantitative analysis

Table 1 gives maximum, average and minimum values for six variables reported by our public sector organisations. All monetary values are converted by the Consumers Price Index into 2014 dollars. The numbers in Table 1 will be compared with the matching private sector figures, from Hazledine (2016, Tables 1, 2).

The average annual public sector organisation budget was \$362.7 million, somewhat smaller than the size of the average listed company in 2014, which was \$510 million. The biggest-spending public sector organisation was ACC – the Accident Compensation Commission – which worked its way through \$4.7 billion in that year.

The highest-paid civil servant CEO was – surprisingly – a military man: the chief of the defence forces, who is paid much more than his equivalent in the United States, who in turn receives much less than the three head coaches of the army, navy and air force football teams.⁸ Actually, CEO pay in the New Zealand public sector is higher on average than in the US, and indeed in every OECD country apart from Italy, a fact that we did not find noted in any of the state service commissioners' reports we read.⁹

Nevertheless, the highest-paid New Zealand CEO is not at the top of the overall public sector remuneration list: three doctors in 2014 each billed the Auckland District Health Board more than \$1 million, presumably for contract specialist services. Average public sector CEO pay in 2014 was \$378,000, which was just 56% of the listed company CEO average remuneration.

Total numbers of what we call 'senior managers' – people earning more than \$150,000 – are actually highest for the Auckland District Health Board, which in this case is surely largely due to high pay for medical professionals. Average pay for

Table 2: Comparisons of organisational structure: public and private sectors, 2014

	Ratio CEO pay to budget or sales		Ratio total managers' pay to budget or sales		Ratio budget or sales to number of managers	
	public sector	private sector	public sector	private sector	public sector	private sector
AVERAGE: ALL	0.00827	0.00952	0.06604	0.03909	10,530,066	12,414,646
AVERAGE: SIZE > \$10,000,000	0.00542	0.00672	0.06131	0.03486	11,291,797	12,798,516
AVERAGE: SIZE > \$20,000,000	0.00357	0.00492	0.05683	0.03290	12,111,225	13,337,886

Table 3: Elasticities of employee numbers and top pay: public and private sectors

	Number of managers		Average manager salary		Number of other employees		CEO pay	
	public sector	private sector	public sector	private sector	public sector	private sector	public sector	private sector
Size of organisation or firm	0.70	0.71	0.02	0.00	0.85	0.88	0.16	0.30
Number of managers							0.14	0.26
Average manager salary							-0.05	0.60

other workers in the public sector was about \$82,000, which is much higher than the private sector listed company equivalent figure of around \$65,000. The lowest-paid non-managerial employees work for the Ministry of Social Development; the highest for the Civil Aviation Authority, though this number, being larger than \$150,000, must be wrong.

Table 2 reports averaging of three ratios which give further insights into the employment structures of public and private sector organisations. Averages are calculated first for the full sample, then successively excluding organisations with annual revenue or budgets less than \$10 million, and less than \$20 million, in case the overall picture is distorted by the behaviour of relatively small units.

The first column compares ratios of CEO pay to total organisation size: budget for public sector; total sales revenues for private. In organisations of a given size, private sector CEOs tend to get paid significantly more than the public sector counterparts – 38% more in the sub-sample of larger organisations. The private sector premium could plausibly be linked to the fact that private sector firms have to make profits in competition with other firms, and face the risks of bankruptcy, liquidation and takeover.

Then we calculate, average and compare the ratio of the total payroll for senior managers to organisation size. We see that the private sector firms operate with substantially leaner managerial structures, on average. That is, while the peak of the bureaucratic pyramid is lower in the public sector (lower CEO pay), the base tends to be much broader.

The third column, however, dividing size by the number of managers – which might be interpretable as managerial productivity – shows a much smaller public/private sector differential, implying that the larger total payroll ratio in the public sector is mostly due not to more managers, but to these being more highly paid, further away from the lower cut-off of \$150,000 a year.

Table 3 reports estimates of ‘elasticities’, measuring the quantitative impact of differences in a causal variable, such as organisation size, on differences in the variable(s) of interest. These estimates come from successful econometric modelling of the data, as reported in the Appendix, Table 5.

The most powerful association is between organisation size and CEO pay: in the private sector, a doubling of size goes with a 30% increase in the CEO’s remuneration, whereas the corresponding

public sector elasticity is just 16%. Given that size in the private sector is measured by market revenues, and thus plausibly a key performance indicator for CEOs, the difference is perhaps not surprising.

The number of senior managers reporting to the CEO is linked to the latter’s pay, with an elasticity nearly twice as large in the private sector. There is the suggestion that private CEO pay is marked up on the average pay of senior managers, an effect not observed in the public sector. The elasticity of the number of senior managers with respect to size is very similar across public and private sectors, perhaps reflecting some bureaucratic imperative of modern organisations: double the size/hire, 70% more top managers. However, independently of the size effect there is a very strong secular trend in senior manager numbers in the private sector, which is about two and a half times larger than the trend in the public sector.

As for the average senior managerial salary: perhaps surprisingly, this shows no significant link anywhere with size, but has been trending upwards in the public sector, at more than twice the rate of public sector CEO pay. Overall, we could say that the base of the bureaucratic pyramid of senior managers has tended to

Table 4: Average percentage size-weighted annual rates of growth

	CEO pay	Size	Size-adjusted CEO pay
Spending department	1.04	2.59	0.62
Policy department	3.84	1.56	3.59
District Health Board	1.83	4.09	1.18
University	3.25	3.87	2.63
Listed companies	5.38	6.60	3.40

widen in listed companies, whereas its peak has risen in the public sector.

The elasticity of the number of non-managerial employees with respect to organisation size is also quite similar across sectors, and seems to imply mildly increasing returns to scale. Both sectors – but especially public sector organisations – have, however, been shedding non-managerial labour at quite substantial rates, with negative annual trends of around -6% and -2%.

Next, in Table 4, we partition the public sector into four groups: 29 mainly ‘spending departments’ (e.g. the Broadcasting Commission, the New Zealand Transport Agency); 56 mainly ‘policy/regulatory departments’ (e.g. the Broadcasting Standards Authority, the Ministry of Transport); 18 district health boards; and the eight universities. As well, we have calculated rates of growth for 107 listed companies in the private sector, from the database used in Hazledine (2016). The distinction between spending-oriented and policy-oriented departments is informal, but it does have some empirical bite, as we shall see. We show averaged actual annual rates of growth of CEO pay and organisation size, calculated from the first and last (2014) values of these variables, and weighted in the averaging by the 2014 size of each organisation.

The third column in Table 4 shows the average CEO pay growth adjusted for any changes in CEO pay that can be attributed simply to changes in the size of the department, agency or company, using the estimated elasticities for size effects shown in Table 3.¹⁰

We see that all four public sector groups lag well behind the corporate private sector in growth of both CEO pay and overall size, with public sector policy/regulatory departments or agencies showing the highest CEO salary growth

and the lowest overall size (budget) growth, such that size-adjusted CEO pay growth is actually a little higher for the – generally smaller – policy/regulatory departments.

The spending departments have been particularly circumspect in rewarding their CEOs with pay increases, at just over 1% per year – similar to real pay growth for the New Zealand workforce as a whole¹¹ – and less than this after allowing for increases in the size of these departments. District health board CEOs have also had rather modest pay increases, in a faster-growing sector than average. University vice chancellors have done quite well.

Differing CEO pay paths within different units of the public sector, and between public and private sectors, seem at least consistent with the State Services Commission’s recognition, from 1997, of inherent differences in the skills and experience needed to effectively run private and public sector organisations; these are not the same labour markets.

Overall, some interesting differences emerge from the analysis of our data. For listed companies in the private sector, we can clearly discern a structure of unsurprising linkages between CEO pay, firm size, and pay and numbers of senior managers. The big question remaining (in New Zealand and in other English-speaking countries) is how this structure has, as it were, been inflated over time, such that CEO pay has on average doubled in 20 years.

For public sector CEOs, there is perhaps nothing exceptional about the growth of their pay since 1995, but, cross-sectionally, CEO pay linkages with organisation size and other factors are relatively weak or non-existent. Coupled with the striking fact of little New Zealand’s near leadership, internationally, in how much we pay our state sector

CEOs, we may have to look for political explanations, with these dating from before 1995.

A final note. Politicians are not included in our database, but it is of interest that the pay (excluding allowances) of the most senior public sector CEO of all, the prime minister, has increased annually at the fairly modest rate of 2.3% since 1995, to reach \$429,000 in 2014.¹²

Implications and conclusions

Thirty years on from the Rogernomics upheavals of 1986–88, and 20 years from the adjustments made in 1997, is it now time for a fresh assessment of top pay in New Zealand’s public sector, and of the organisational structures that go with it? We think it is. However – and perhaps surprisingly – it is the private sector which has seen a doubling of CEO pay over the past two decades, and which has generated the largest growth in numbers of high-paid employees. Nevertheless, even though public sector CEO pay has barely grown, it could still be too high: does it really make sense that the professional chief of our tiny defence forces is paid more than his opposite number in Washington, as also are the heads of the major government departments? And are there signs of bureaucratic bloat in the relatively high levels of senior employees in the public sector for given organisation size, and in the upwards creep of their average pay?

1 So nicknamed after Roger Douglas, the crusading minister of finance in the Labour government elected in 1984.

2 The New Zealand Official Yearbook 1978 does not list the names of the heads of the then 40 government departments, but in describing their duties uses ‘he’ and ‘his’ throughout (page 47). The Ministry of Women’s Affairs was set up in 1985, and headed by Mary O’Regan, the first female department head.

3 The Reserve Bank’s inflation calculator tells us that the Consumers Price Index rose by 29% from Q2 1988 to Q2 1997.

4 The three exceptions are the SSC itself, the GCSB (spy agency) and the Crown Law Office.

5 For broader accounts of the advance and (partial) retreat of ‘new public management’ doctrines in the New Zealand public sector, see Whitcombe (2008) and Hughes and Smart (2012).

6 Policy advice is one of three intrinsically public service duties enumerated by the state services commissioner. The other two are: ‘exercising the authority of the state’ (collecting taxes, setting regulatory frameworks); and ‘direct interventions in social and economic conditions’. The general points made by the commissioner in the paragraph quoted above would seem to apply equally to the management of these other duties.

7 Currently, the 11 surviving SOEs generate annual revenues totalling \$5.4 billion, which is about the size of the budget of Auckland City (<https://mcculloch.org.nz/state-owned-enterprises/>).

8 The chief of the New Zealand Defence Force usually receives an annual remuneration package in the \$600–700,000

range. In the fiscal year 2013–14 the incumbent chief left the job, picking up a substantial severance package on his way out. The chairman of the joint chiefs of staff in the US currently receives a salary of US\$15,583 a month, according to Wikipedia. The three football coaches are paid (not by the taxpayer) annual salaries ranging from US\$600,000 to US\$1,600,000.

9 OECD, 2013, Table 5.5, p.107. The comparison is made for the pay of the heads of six government departments: in New Zealand terms Internal Affairs, Finance, Justice, Education,

Health and Environment. We thank Simon Chapple for bringing this interesting information to our attention.

10 So, for example, the adjusted number for spending departments, $0.62 = 1.04 - 0.16 \times 2.59$.

11 Hazledine, 2016, p.198.

12 Pay of members of Parliament increased at the lower rate of 1.6%. See www.nzlii.org/nz/legis/num_reg/psaad1995461/ and www.kiwiblog.co.nz/2014/10/mps_salaries-2.html.

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Appendix: Econometric modelling of CEO pay

Table 5 summarises the results of Ordinary Least Squares regression models for CEO pay in public and private sectors. The modelling approach follows that developed in Hazledine (2016), and is further explained in Hazledine et al. (2017). The main variables were introduced above, in sections two and three. The coefficients of variables entered in natural logarithms can be read off as elasticities, showing the percentage difference in CEO pay associated with a given percentage difference in the explanatory variable. Organisation SIZE is also a determinant of the number of senior MANAGERS and their pay (TOPSALARY), which would result in 'multicollinearity' problems if all three are included as regressors in the model. Basically, the variables would get in each other's way, blurring their individual effects on CEO pay. To deal with this, actual values of MANAGERS and TOPSALARY are divided by their 'forecast' values from separate regressions on SIZE and the time trend variable, YEAR. 'Dummy variables' are

Table 5: Public and Private Sector regressions for CEO pay Dependent Variable: log(CEOPAY)

Dependent Variable: log(CEOPAY)	Public sector		Private sector	
	coefficient	t-stat	coefficient	t-stat
number of observations	158		205	
constant	-9.641	-1.75	-64.922	-9.88
log(SIZE)	0.157	17.30	0.302	20.66
log(MANAGERS/ MANAGERSF)	0.137	7.59	0.265	8.10
log(TOPSALARY/ TOPSALARYF)	-0.046	-0.88	0.597	4.78
YEAR	0.010	3.56	0.034	10.29
DHB	-0.277	-6.88		
FIRE			0.205	2.26
RORHIGH			0.113	2.14
R-squared	0.684		0.751	
adjusted R-squared	0.674		0.744	

included to allow for district health board (DHB), FIRE (finance, insurance and real estate) effects, as well as the possibility that CEOs in particularly profitable listed companies (RORHIGH) get paid more. See Hazledine et al. (2017) for details.

Both public and private sector CEO pay models have reasonably high R² values, given that this is essentially a cross sectional model.