TEACHER SALARY RELATIVITIES: A BENCHMARKING APPROACH

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New South Wales, like other states in Australia, is facing a crisis in education. The average age of secondary teachers in NSW has now reached 49 years. Some estimates suggest that up to 50 percent of the current teacher workforce in the State will leave the teaching profession in the next five years and that the numbers of new teachers entering the profession will fall well short of that number (MCEETYA[1] 2003). The questions must be asked: what has contributed to the development of this situation and what can the Government do to rectify the problem? A major contributing factor relates to the current industrial relations system and the system of wage determination for teachers in NSW.

One of the key issues is the rigidity of the NSW teacher wage system, as reflected in *OECD Indicators 2004*. The OECD statistics for 28 of its member nations show that Australia was ranked eighth for initial starting salaries for teachers[2]. Teachers at the top of the scale in Australia, however, were only ranked fourteenth. In addition, in the period between 1996 and 2002, starting salaries for teachers in Australia increased by 27 percent in real terms, but for those teachers on the top of the scale the salary increased by only 3 percent in real terms. This has created a situation where starting salaries for teachers are quite attractive, but as teachers progress up the teaching salary scales the salaries lose their attractiveness and are no longer competitive to other comparative occupations.

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1 MCEETYA is the Ministerial Council on Education, Employment, Training and Youth Affairs

2 This was based on the salaries of lower secondary teachers with minimum training in equivalent US dollars converted using purchasing power parities (PPP's).

Recent industrial disputes between State governments and teachers' unions have raised the issue of teacher salary relativities in labour markets. Whereas comparative wage justice was once a key feature of the industrial relations system, the current enterprise bargaining system features salary productivity trade-offs as the basis for determining agreements and salary movements for teachers in the last decade. What has been lost in this process is comparative wage justice for public sector employees, who operate outside flexible labour market conditions. Increasingly public sector employees see that the current wage determining process results in a further decline in their salaries compared to those of cognate professions in the non-public labour market. As a result, it is our contention that increasingly employees in public sector occupations, such as teaching, are concerned about comparative wage justice - how much do I earn in comparison to those in other professions?

This paper attempts to develop data that examines teacher salary relativities by using a new benchmarking methodology, applied to salaries in the labour market for 2002. Initially the paper examines the current teacher salary fixing setting in NSW. It then evaluates traditional comparisons of teacher salary relativities that have been used previously and examines their limitations. Finally, the paper explicates a new benchmarking methodology for comparing teacher salaries to those in the wider labour market and draws conclusions on the impact of the labour market on teacher salaries based on the data generated by the benchmarking methodology.

This research presents a much more detailed comparison with private sector salaries than has been the case in previous comparisons. The reason that earlier comparisons of teacher salaries with private sector salaries in Australia have been limited has been because of the difficulties in obtaining comprehensive, up-to-date private sector salary data and job descriptions that would enable accurate comparisons with the salaries and duties of teacher positions. This lack of data, when added to the intrinsic difficulties in making valid comparisons of teacher positions with private sector occupations, has made any defensible comparisons of teacher salaries with private sector salaries very difficult. This research takes advantage of the presence in Australia of human resource consultants with large and widespread national and international practices that have current and comprehensive databases on substantial numbers of private sector positions and the salaries and responsibilities

attached to them. The opportunity to access this information makes this research distinctive and allows for a more realistic examination of the issues of what are the real monetary differences between teacher and private sector positions and the extent to which the salaries for these positions are comparable.

Setting Teacher Salaries

One of the main features of current enterprise bargaining processes in Australia is the trade-off between remuneration and improvements in productivity and/or working conditions. An attempt by teacher unions to go outside the enterprise bargaining process in having State industrial relations tribunals deal with teacher remuneration has had limited success. Accordingly, current versions of enterprise bargaining do not allow for comparative wage justice. In the most recent State award settled in NSW in 2004, the Industrial Relations Commission of NSW (IRC) only allowed for changes in work value as the underpinning concept in basing the decision to award increases in remuneration for teachers. Teachers argued for higher remunerations in the 2004 salary case on the grounds of: improvements in the productivity, efficiency and quality of work of teachers; a significant risk of a future teacher shortage; a decline in the relativity of teachers' salaries to both average earnings for employees generally and average earnings for professionals; and increased levels of qualifications of teachers (IRC, 2004). Attempts by teacher unions to have issues of comparative wage justice and market forces introduced into industrial cases were rejected as outside the jurisdiction of the case as a result of the current industrial relation system.

Advocates of the current enterprise bargaining system argue that this system more truly reflects the underlying forces of supply and demand in labour markets and thus allows labour resources to be allocated more efficiently. However, others such as Webster *et al.*, argue that the 'entrenched inflexibilities in the payments system have contributed towards chronic shortages of qualified teachers in specialised teacher labour markets and poor incentives for excellent teachers to remain in teaching'(Webster *et al.*, 2004:2).

Under the current system of remuneration, teachers in NSW have been granted salary increases because work values have changed in the last decade (since the last work value case in 1991). Teachers have successfully argued that their workload has increased: they play greater roles in the students' social support, must assess in different ways, implement new syllabuses of greater complexity and difficulty, self manage school resources and accept enhanced accountability procedures and greater professional responsibilities. For these increased work values they have received salary increases in 1999 and 2004. For a considerable period wage determination in the teacher labour market has not reflected: salary movements in other (and cognate) professions, the underlying forces of supply and demand, and the overall labour markets situation in Australia.

Features of Teacher Labour Markets

Whereas in 'perfect' labour markets both buyers and sellers are well informed and behave rationally and flexibly in their negotiations, the teacher labour market as a whole does not operate like this. The Departments of Education and Training (DET) use staffing formulae to allocate teachers to schools. Schools are constrained in what they can offer by their individual school budgets, number of students and salary scales negotiated by the State and Territory Departments of Education. However, recent developments in the private sector and public labour market are influencing the operation of the teacher labour market, as supply and demand forces impinge on the operation of the educational labour market.

In Australia, teacher salaries in public schools are the same throughout each State. Even many Catholic Systemic schools[3] have had very similar wage structures to the public schools. The heavy reliance on Federal and State Governments for funding of non-government teacher salaries and the institutional role of industrial tribunals in wage setting have lead to this pattern developing. Teachers are also constrained by personal

3 The structure of the school system in Australia is divided into three educational providers. They are Government (72.3 percent of students); Catholic (Systemic) 17.7 percent and Other Non-Government (Independent) 10 percent (Schools, Australia, 2001, 4221.0).

factors that reduce mobility and their imperfect knowledge about jobs and job opportunities.

The operation of the teacher labour market has some other features. All research on the motivation of teachers points to the importance they place on their work and the conditions under which they work. While it is true of much of the labour force that remuneration is not the only consideration when seeking a position, it is certainly true of teachers. Studies by Dinham (1995), and Dinham and Scott (1996,1997) concluded that the greatest source of teacher satisfaction in NSW schools is pupil achievement and the sense of teacher accomplishment that occurs as a result of that. In addition, the opportunity to teach subjects in which they are deeply interested plays a key role in the job choices of teachers and in their decisions to apply for new positions. However, as teacher salary relativities decline in comparison to other professions, it may be that remuneration becomes a more important factor in teacher recruitment, attrition and wider teacher policy decision-making. In addition, while performance based remuneration systems are being developed internationally (Kellor 2005), in education, they are not a major feature of the Australian education system at this time.

Current Issues in the Teacher Labour Market

There is an emerging shortage of high school teachers in Australia, with major shortages predicted in 2007 as 27% of the profession reach retirement age (MCEETYA 2003). Currently these emerging shortages are only in particular fields and geographical locations, but there are projections that these could become more widespread. The National and State Skill Shortage Lists for Australia (DEWR 2003) show that there is a nation-wide shortage of high school teachers in:

- Manual Arts/Tech Studies (Technological and Applied Studies in NSW);
- Maths;
- Physics/Chemistry; and
- General Science.

In addition there are shortages of high school teachers in individual states in the areas of:

- Music;
- Languages;
- Home Economics;
- Information Technology;
- Senior English;
- Special Needs;
- Agricultural Science; and
- Physical Education.

A number of studies on teacher supply and demand undertaken by Preston (2000, 2002), commissioned by the Australian Council of Deans of Education, also identified particular shortages in identified subject areas and locations. Preston's analysis has also been confirmed by the recent Australian review of teacher education in Science and Mathematics (Kwong Dow 2004). This is also a global problem. An UNESCO-ILO study (2002) reported that the global teacher shortage was causing a decline in the quality of education. The study found that the number of school-aged children had outpaced the growth in the number of teachers worldwide in the 1990s, packing classrooms in some developing countries with as many as 100 students per teacher. At the same time, the study revealed that declining working conditions and low relative salaries in the industrialised nations had discouraged new recruits to the profession, creating shortages and threatening to diminish the quality of education at a time when the need for new knowledge and skills is growing dramatically. In addition teacher shortages in wealthier countries such as the USA, UK, Canada, Australia and New Zealand are causing a drain on poorer countries as higher wages were attracting teachers to the highest bidding countries. For example, in 2001 the Chicago school district, as part of its Global Educators Outreach Program, hired 36 teachers from more than 20 countries, including countries such as Kenya and Bangladesh (American Teacher 2001).

Despite the growing number of successful university completions in Australia, fewer newly qualified graduates are entering the teacher labour market. The Commonwealth Department of Education, Science and

Training (DEST 2003) reported that, while the overall number of people graduating from university in Australia increased over the decade to 2001, the number of people completing a university qualification in the field of teacher education decreased by 13 percent to 19,400 in 2001. Three-quarters of the students who completed university courses in 2001 in the field of teacher education were women. Similar patterns occur in the number of people commencing and continuing study in teacher education courses. In 2002, there were 72,400 people studying a university course in the field of teacher education, including 30,900 people who commenced in 2002. Almost three-quarters of these groups of students were women. From 1983 to 2000 the proportion of higher education students studying education declined from 21.3 percent to 10.6 percent. Across Australia the actual number of education students fell from 74,314 in 1983 to 73,680 in 2000.

The Industrial Relations Climate in Education

The operation of enterprise bargaining in Australian teacher labour markets since the late 1990's has created a new industrial relations climate. This climate has lead to an increase in industrial disputation, a greater focus on teacher salaries and, in mid and late 2004 for the first time, plans for merit-based teacher salary setting to retain high performing teachers. A significant feature of the current teacher industrial climate is a perceived decline of teacher salaries relative to other professions in the community and thus an associated reduction in the perceptions of the value of teaching by current teachers and potential labour market entrants. According to Webster, Wooden and Marks (2004:10), 'although there appears to be no analytic studies of labour market motivations of teachers, a recent survey by MCEETYA on the main factors that would assist retention listed remuneration as the top factor over reduced work loads and improved employment conditions'.

The general argument has been that teachers' salaries in Australia have declined in comparison to average weekly earnings in the last twenty years and, as a result of this, fewer university graduates are entering teaching and more teachers are leaving teaching to go into non-teaching public sector or private sector employment. These arguments are supported by the following data:

- Over the 15 years to 2000, the average weekly earnings of full-time adult non-managerial secondary teachers increased by 76 percent while for primary teachers it increased by 75 percent. In comparison the average weekly earnings of full-time adult non-managerial professions increased by 86 percent in this period (Australian Bureau of Statistics 2003).
- Thirty five percent of those employed with teaching qualifications in Australia were employed in occupations other than teaching or teaching related occupations (Australian Bureau of Statistics 2003).

Webster, Wooden and Marks (2004) have contested this argument. In the first place they assert that data on teacher attrition show that teachers leaving the profession tend to retire rather than seek other positions in the private sector. In the second place they argue that the reduced number of teacher education students currently in training reflects underlying quotas and resource allocation rather than the student demand for places. Recently the Australian Council of Deans of Education has argued that the quarantining of teaching from the 25 percent HECS increase will further reduce places, despite increased demand, as universities decide that providing more teacher education places will become uneconomic.

Despite this varied evidence it can be hypothesised that declining teacher salary relativities will have a number of adverse impacts on the teacher labour market. Potential high quality entrants could be dissuaded from entering teacher training. High quality teachers may seek employment outside of school teaching. In subject areas of shortage, in direct competition with the private sector, teachers could be forced to teach outside their area of subject expertise. If teacher and private sector employment become more convergent in terms of conditions then it could be expected that salary relativities become more important. The following sections of this paper present data to develop insights on these hypotheses.

Comparing Teacher Salaries with the Salaries of other Professions

Making salary comparisons between teachers and other occupations is an indicator used when arguments are being presented for an increase in teacher salaries. However, comparing salaries in a number of professions requires making judgements about the level of qualifications required, the amount of responsibility in different professions, the structure of work and its appraisal, the relationship between remuneration, experience and performance, and the quantity as well as the quality of work.

The issue of how to make a valid comparison is made more difficult by the changing relativities of some of the dynamic elements in any comparison: for example, the formal qualifications required for entry into the teaching profession. Teachers do not now stand out from the rest of the work force as they once did because of their qualifications, even though the average level of their qualifications is higher than most groups in the workforce.

Judgements about comparative levels of responsibilities are made difficult by the nebulous nature of this concept. At first glance it could be argued that the typical teacher has comparatively less responsibility than the equivalent employee in the private sector. Normally private sector remuneration reflects management responsibility within the organisation. It is difficult to compare private sector management responsibility with those of teaching, although one could ask how many workers in private industry have to supervise up to thirty individuals and achieve at least satisfactory outcomes on $40,000 to $55,000 per annum. Outcomes targets for private sector employees are fundamentally different to those of teaching, especially as teachers' outcomes targets tend to be longer term due to the nature of their work with students. Recent changes to occupational health and safety and child protection legislation place greater demands on teachers' management roles and levels of responsibility.

Making judgements about the comparative consequences of failure to perform between teaching and private sector employment also makes salary relativity comparisons difficult. It is often said that teachers are not subjected to significant performance appraisal systems, which are a

feature of the private sector. However, there has been a fundamental change in teacher appraisal, especially in NSW and Western Australia, with the development of new teacher performance systems. Acceptance of teacher appraisal is now a feature of enterprise bargaining negotiations and outcomes. The failure to punish poor performance in teaching is seen to be similar to the situation in other public sector positions. Private sector employees, however, are seen to be more clearly exposed to the consequences of poor performance because their performance can be related to the financial performance of their employers. It could be argued that the poor relative salaries in teaching does not encourage better academic performers to become teachers. In addition the better performing teachers can gain higher salaries outside teaching in the private sector.

A further basis of comparison is that of experience. Both schools and private employers use the demonstration of successful experience in selecting staff and in granting incremental salary increases for existing staff. While all such judgments are beset with difficulties, there is a particular difficulty in applying this to teachers because of the difficulty in measuring some aspects of teacher work, such as productivity. For most teachers, teaching and its related activities are their dominant tasks, yet proof of performance in these same tasks is often not very evident in job selection, in part because the measurement of success in these tasks is difficult.

Traditional Methodologies for Measuring Teacher Salary Relativities

The issue of wage comparisons or salary relativities also involves both methodological and socio-political questions. In the past, researchers have analysed teacher salary movements in comparison to:

- prices – teacher salaries in real terms (using CPI data);
- Average Weekly Earnings (AWE) – relative salary changes (using ABS AWE data);
- other professional groups - relative salary changes (using ABS AWE data);

- other university graduates - relative salary changes (using ABS AWE data);
- public sector salaries (using teacher, head teacher and principal salaries compared to public service salary scales);
- politicians (using backbenchers salaries at Federal and State levels).

After analysing these indicators other researchers (Marginson,1991: Zappala & Lombard 1991) came to the general conclusion that there had been a relative decline in teacher salaries from the 1970's to the 1990's. This decline was severe when the comparators used were prices or AWE. According to Marginson, if better information on private sector earnings was available, the decline in relation to some comparative private remuneration would probably have been even more severe. Research by Marginson (1989, 1990, 1991) showed that there were a number of problems in developing such comparators. In particular a major problem in making comparisons between private sector salaries and those of teachers was the lack of data. The private sector labour market is not homogeneous. The teacher labour market is linked to the private sector not in one unified labour market but in a large number of separate discipline-specific labour markets with some fluidity and overlap. In addition the area of non-salary benefits needs to be handled with care, as these are more prevalent in the private sector and serve to boost the rewards received by salary earners in the private sector.

Since this research was conducted in the early 1990's such salary relativity analysis has become more difficult due to greater methodological and technical difficulties. Although teacher salary comparisons with AWE have continued to be undertaken, comparisons with academics, CSIRO researchers, Members of Parliament and the public sector have fallen out of favour. While it may be possible to compare teacher salaries to those of public servants at the bottom of the scales, a particular problem is salary comparisons at more senior levels. The development of ever more complex Senior Executive Service (SES) remuneration packages has meant that there is no longer one point to compare public service and teacher salaries. The lack of available information on the SES remuneration packages also makes it difficult to make a comparison. Similar issues also make comparisons with academics and Members of Parliament problematic. Nevertheless, some

traditional comparative data shows that most public sector salary levels were similar to those of teachers as the majority of public sector professions have similar salary steps to teachers in coherent graded scales (Ramsey 2000). However, comparisons at the highest levels of salary had become severely limited, as the introduction of SES packages made it difficult to compare salaries between $96,000 and $250,000. For these reasons such comparators have gone out of favour in comparative salary analysis. In addition these early comparisons do not include the private sector.

Benchmarking Teacher and other Professional Salaries

To overcome the stated problems with professional salary comparison, a benchmark approach can be used. The particular benchmarking approach proposed here involves the following steps and processes:

- Choice of job families;
- Selection of teacher salary scales;
- Identification of private sector salaries and positions within the teacher salary scales;
- Benchmarking of private sector positions within teacher salary scales;

A comparison of job descriptions of private sector positions with teacher positions at the same salary level.

These steps and processes are described below.

Choice of Job Families

For this benchmarking research, the researchers utilised data developed by leading human resource consulting firms to undertake a remuneration benchmarking study of private sector positions, job descriptions, and salaries in four job families in Australia. These human resource consultants maintain a world wide and extensive database of public and private sector positions and salary scales and job descriptions.

Job families are classifications of private sector occupational groups that reflect common training and expertise. Human resources firms typically develop job families as a way of classifying skills and experiences across a range of occupations. The researchers utilised data that human resource management firms had collected on four job families:

- Information Technology;
- Finance and Administration;
- Engineering and Scientific;
- Human Resources.

Two of the job families (Information and Technology and Engineering and Science) are the focus of this paper. The job families were selected to enable a comparison between teachers and a large range of professional occupations and to compare salaries within these job families, where clear salary pressure is evident. For example, the Science and Engineering job families that data was collected on reflected a number of private sector occupations covered by ABS employment classification data in Science and Engineering.

An important consideration in this benchmarking research was the development of descriptions of the benchmarking positions covered in this study. These were developed to allow a comparison to be made between school teachers and other professional groups.

Selection of Teacher Salary Scales

For NSW, we identified teaching position that command salaries within the following four teacher salary scales. We also identified positions in NSW falling within a range of $96,000 to $250,000, beyond the current teacher salary scales.

Table 1: NSW Teacher Salary Bands 2002 (Year of Benchmarking Comparison)

4 or 5 year trained teacher steps (5-13)	$ (39,000 – 55,000) Band A
Head/Executive teachers[4]	$ (56,000 – 64,000) Band B
Assistant Principal/Deputy Principal	$ (65,000 – 78,000) Band C
Principal	$ (79,000 – 95,000) Band D
	$ (96,000 – 250,000) Band E

The selection of the salary scales for the benchmarking process was based on the NSW Crown Employees (Teachers in Schools and TAFE and Related Employees) Salaries and Conditions Award and the negotiated salary scales as at 1 July 2002. The benchmarking private sector salary data was also collected for 2002. NSW salary scales for public school teachers and teachers in Catholic systemic schools show that there are 13 salary steps. Three year trained teachers start on step 3, four year trained teachers on step 5 and 5 year trained teachers on step 6. They can all rise on an annual basis to step 13 ($55,897). In addition there are allowances for managerial positions such as head teacher, assistant principal and principal (Table 2).

The five-step salary scale was developed from the award as the comparator for the analysis of the private sector job positions undertaken in the benchmarking analysis. These scales were then used to construct the job family descriptions and salaries outlined in the following discussion and results.

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4 Executive teachers were promotional positions in primary schools but have since been phased out.

Table 2: Teacher Salary Scales in NSW Public Schools, July 2002.

Band A ($) 39,000-55,000	Band B ($) 56,000-64,000	Band C ($) 65,000-78,000	Band D ($) 79,000-95,000	Band E ($) 95,000-250,000
Teacher Steps 5–13 39,151 (Step5) 47,219 (Step 9) 55,897 (Step13)	Executive Teacher – Primary School 58,200 Assistant Principal Primary School – 59,947 Primary School Principal Grade 6 (PP6) 61,883 Head Teacher Secondary School – 60,520	Primary School Principal Grade 3 (PP3) 76,780 Head Teacher TAFE Band 2 – 65,757 Senior Head Teacher TAFE Step 2 – 67,385 High School Deputy Principal 73,260	Primary School Principal Grade 1 (PP1) 86,778 Primary School Principal Grade 2 (PP2) 80,023 High School Principal Grade 2 (PH2) 86,778 High School Principal Grade 1 (PH1) 90,572	Does not Currently exist

Identifying Private Sector Salaries and Positions Within the Teacher Salary Scales

Human resource consulting firms identified a range of corresponding private sector positions with fixed salaries. For this analysis the construct of a fixed salary was used. A fixed salary (Horsley, Martin, Woodburne 2005: 53) is described as the total of the following items:

- base salary;
- vehicle/entertainment allowances;
- parking;
- annual leave loading;
- private travel;
- superannuation (company contribution including the SGC);
- superannuation (salary sacrifice);
- award allowances;

- other cash payments;
- company car;
- loans;
- fringe benefits and non fringe benefits;
- fringe benefits tax.

The fixed salary analysis was developed as an attempt to equate private sector and school teacher salaries. The fixed salary does not include significant components of private sector remuneration, such as share options, performance pay, profit sharing, and bonuses. This is despite the fact that bonuses are a significant source of remuneration (Horsley, Martin, Woodburne 2005: 53).

The teacher salary data reported does not include superannuation. Similarly teachers extended holidays are not accounted for in the comparison. Teacher extended holidays and their possible impact on comparing teacher earnings has been considered by Webster, Wooden and Marks (2004). Their approach has been to inflate teachers' earnings per hour by incorporating an extra eight weeks of annual leave in teacher remuneration. (Teachers' typically receive eight weeks leave in addition to that offered in other professions). However, the research presented in this paper does not utilise this approach for two reasons. The Webster, Wooden and Marks analysis overstates teacher annual leave, and heavily depreciates teacher hours worked. Many teachers spend periods of the 'extra annual leave' actually working by preparing lessons, marking students work, writing new or updated school programs and developing teaching resources, among a range of possible activities. In addition, most of the public holidays that are not counted as part of the other professions' annual leave are included in the teachers' extra eight weeks of annual leave. As well it is our contention that extended teacher leave is offset by private sector bonuses.

It is also assumed that the value of teacher superannuation is comparable to the private sector remuneration not included in the fixed salary data. Considering superannuation for the purpose of salary comparisons is a complex issue, partly because of the enhanced superannuation in defined benefits policies possessed by teachers who commenced employment prior to 1985. The approach taken in this paper is that current

superannuation arrangements for teachers are now similar to those in the private sector.

Benchmarking of Private Sector Positions within Teacher Salary Scales

The analysis allowed teacher salary scales to be benchmarked across salaries and positions in the private sector for the job families selected. Examples of the results of the benchmarking analysis can be identified:

- There are many private sector positions clearly attracting salaries in the private sector greater than that of the highest teacher salary, that of principal, in many job fields. In some job fields there are more than twenty such positions, whose median salary exceeds $150,000. A number of these positions pay salaries in excess of 150 percent more than that received by the highest paid school principal.
- In addition, in most job fields there are many (up to 15 percent of the positions benchmarked) private sector positions attracting salaries in the private sector similar to that of principals.
- There are a majority of private sector positions attracting salaries greater than that of head teachers and senior head teachers in schools and TAFE (Band C).
- There are a majority of private sector positions attracting salaries greater than that of executive teachers and head teachers in school (Band B).
- There are few private sector positions with salaries as low or similar to that of four-year trained teachers in schools and TAFE (Band A). A number of these private sector positions require limited professional qualifications.

Comparing Teaching Salaries with Salaries in Information Technology

The final step in the research is to compare teachers' salaries with equivalent industries in the private sector. Two studies are explored:

information technology, and science, maths and engineering. Of the professions selected information technology is quite comparable. The most direct comparison could be made between computer teachers (of software design and development, information technology) and IT workers. In many instances schools are competing directly with the private sector for teachers with qualifications in the IT field. IT is also one of the fields highlighted by the National and State Skill Shortage Lists for Australia (2003) as an area of teacher shortage.

Band A - School Teacher Steps 5-13 ($39,000- $55,000)

Teachers in this salary range would have at least a four-year degree combining IT and education. They would have up to seven years experience in teaching IT subjects in schools and some would have other relevant industry experience. They would not only have similar knowledge of the discipline to those in the IT industry but would have the training to convey this knowledge to others. However, the IT positions in the private sector identified in the benchmarking at the salaries that teachers attract would typically require a level of experience ranging from one to six years and formal qualifications ranging from nil to Higher School Certificate to a degree or diploma. In most cases IT salaries in the IT sector (in this salary range) do not have the qualifications required of teachers. An example would be help desk officers. The benchmarking analysis showed that the median salaries of help desk operators was $43,727 and that half of all help desk operators attracted salaries greater than this amount. As well, most help desk officers had on average one year of training, compared to much higher level qualifications of teachers.

One example of a private sector IT position matching indicators for positions with a median salary within the teacher range of $39,000-$55,000 is that of a trainee programmer. The trainee programmer typically has less than one year's experience with a three or four year degree or diploma and is paid in a salary range $37,033 to $49,645. A three-year trained teacher with less than one's years experience would be earning $35,305, while a four year trained teacher would receive $39,151. A four year trained teacher would need to have six years experience to be earning $49,000. The two job position statements

shown in Table 3 indicate the duties and responsibilities for positions at this level in both the private sector professional employment and teaching.

Table 3: Trainee Programmer and Secondary School Teacher Job Statements.

Trainee Programmer	**A secondary school teacher of ICT may perform the following tasks:**
Position reports to:	Prepare daily lessons and long-term teaching programs in accordance with state or territory system guidelines.
Programmer or Senior Programmer	Teach, through such means as formal lessons, discussions, practical activities, experiments, projects, assignments and excursions, taking into account the differences in individual students.
Primary objective:	Use information technology to assist in lesson preparation, teaching and reporting.
Assist, under close supervision, with the writing, testing and maintenance of computer programs and develop an understanding and knowledge of company policy in relation to programming.	Set tests and exams, projects, assignments and homework, mark and correct these, and collate the results.
	Evaluate and report on the progress of their students, and discuss individual performance and problems with students and parents.
Specific accountabilities:	Establish and maintain good working habits and discipline in classrooms and throughout the school.
Code simple sub-routines and modules, which have been designed by an experienced programmer.	Supervise extra classes when other teachers are absent.
	Supervise students in the yard during lunchtime and other breaks.
Become familiar with program specifications.	Carry out relevant administrative duties.
	Attend staff meetings, educational conferences and other professional development activities.
Develop knowledge of company policy in relation to programming.	Coordinate work experience and school-industry programs.
	Participate in other activities in partnership with parents and the school community, including parent/teacher nights, school council and other committees.
Perform other programming duties as directed.	Assist in organising sporting events, camping trips or other excursions.
Matching indicators:	Be involved in distance education, i.e. teaching using radio and television transmission, correspondence, audiovisual and other multi-media resources.
Incumbent would have less than one year's experience, with a three to four year degree or diploma.	Coordinate administrative support programs and the work of non-teaching staff in schools.
	Keep in touch and 'network' with other teachers.
	Contribute to revising curriculum and school organisation to reflect student needs and national, state and territory initiatives

Source: Department of Education, Science and Training (2003)

In addition the position description states that:

- Secondary school teachers teach one or more subjects within the school curriculum to secondary students.
- Secondary school teachers need to continually update their subject knowledge and teaching methods through private study and professional development activities.

What this benchmarking analysis shows is how private sector salaries may influence the teacher labour market. Because of the poor relative salaries at a basic teaching level compared to the private sector, potential teachers in the IT field are more attracted to the private sector by the higher salaries on offer for positions offering less training, skills and qualifications. In addition IT professionals tend to be highly mobile and demonstrate enthusiasm for change. They often move for employment opportunities and career progression, enhancement and job security.

Anecdotal evidence suggests that already many staff teaching in the area of Information Technology and Software Design and Development have not been trained to teach in this area. Although some have undergraduate qualifications in these subject areas, many have transferred from teaching other subjects into Information Technology. This benchmarking analysis provides an insight into why this development is occurring. Many qualified teachers in this area have been attracted by higher salaries in the private sector. Even minimal IT qualifications attract much higher salaries in private sector positions than in teaching. Furthermore, a major thrust of the Department of Education and Training retraining programs has been in retraining teachers from other discipline area to become IT teachers to address the shortage (NSW DET 2004).

Band B - Executive or Head Teacher – ($56,000 - $64,000)

In most public and private schools in NSW there are no head teachers of Information Technology, as these subjects are offered through the key learning area of Technological and Applied Studies (TAS). Most head teachers of TAS are from Industrial Arts and Home Economics backgrounds.

However, school Computing Co-ordinators could be most closely benchmarked to an Information Technology Training Manager on a salary level generally between $58,000 and $77,000. The benchmarking analysis showed that the median salary for an Information Technology manager in the private sector was $63,768, with half of all Information Technology Managers in the private sectors earning more than this salary. A teacher selected to be a school Computing Co-ordinator would generally have 10 or more years teaching experience and have been selected to be in-charge of IT and be responsible for managing all the ICT operations of that school.

School computer co-ordinators often manage the ICT hardware and software for a school of over 60 staff and 1000 students, as well as plan and deliver professional development. However, in most public schools, computing co-ordinators do not receive head teacher salaries. Many private schools, however, remunerate school computing co-ordinators at head teacher level. The Information Technology Training Manager in the private sector has extensive experience developing and delivering training, as well as experience managing an IT unit or similar training function. An example of an IT Training manager's job description is listed in Table 4.

Whilst the private sector information technology training manager position can be compared to that of a teacher in charge of computing (an executive teacher in some schools), the actual description of the school computing co-ordinator as head teachers does not reflect the full range of tasks of an executive teacher. The school computing co-ordinator tends to have specialised training and qualifications comparable to the private sector. However, with the exception of a few private schools where computing co-ordinators attract equivalent head teacher salaries, salary relativities are significantly well below private sector comparable positions, especially in the public school sector. Increasingly schools will struggle to compete for IT specialist knowledge with the private sector.

Table 4: IT Training Manager Position Description

Information Technology Training Manager
Position reports to: User Services/Support Manager
Primary objective: Plan, implement and manage training strategies to assist staff in developing skills to be productive in their use of information technology.
Specific accountabilities: Conduct and interpret training needs analyses to determine the information technology skills pool of an organisation.
Develop training plans and programs consistent with business objectives and user needs.
Actively seek new training business opportunities.
Manage the development of training resources that could be used to implement a training program.
Manage training facilities to ensure they meet workplace standards for both hardware and software.
Monitor the quality of training delivery and provide appropriate feedback to members of the training team on their performance.
Investigate and implement training programs that can gain accreditation from relevant bodies.
Compare and evaluate a range of in-house and external training options.
Develop training evaluation tools and monitor the data they capture to report on the effectiveness of training programs.
Maintain currency with developments in the IT industry, as well as with other training practitioners, to ensure training delivery is of the highest quality.
Build a team of well trained, competent IT trainers who are technically competent and have highly developed skills and knowledge in training methodology.
Liaise with other IT managers to determine strategic IT directions and respond with appropriate training strategies.
Build relationships with management and staff to promote the work of the training team and ensure the team's roles and responsibilities are understood.
Matching indicators:
Extensive experience developing and delivering training, as well as experience managing an IT training unit or similar training function.

Band D Principal – ($79,000 -$95,000)

A school principal could be most directly benchmarked to the Principal Manager of Information Systems in private sector positions. The High School Principal Grade 1 (PH1) ($90,572) is a highly experienced school teacher who is responsible for the management, organisation, administration, supervision and efficiency of a school and all departments in a school with in excess of 900 students and with more than 70 staff. The principal MIS executive typically has a three to five year degree or diploma and over 15 years experience in an IT environment, with at least 30 staff and an installation cost greater than $900,000. The principal MIS executive is generally paid in the salary range from $120,000 to $250,000, well in excess of what the school principal would earn. Accordingly, there is an upper limit on the level of salary for teachers with IT qualifications in both private and public schools. Whereas the private sector has a career structure that rewards IT qualifications and experiences, this is not as apparent in the school sector.

Comparing Teaching Salaries with Salaries in Science, Mathematics and Engineering

A benchmarking comparison between teachers, in general, and jobs in the scientific, mathematics and engineering family also highlight the differences between teachers' remuneration and those offered in the private sector.

Band A - School Teacher Steps 5-13 ($39,000- $55,000)

Teachers in this salary range would have at least a four-year degree. They would have up to seven years experience in teaching subjects in schools and some would have other relevant industry experience. They would not only know the content matter of their subjects but would have the training to convey this knowledge to others. Engineering, mathematics and science positions in the private sector in Band A identified by the benchmarking analysis typically require a level of

experience ranging from one to five years but at this teachers' band or salary level only one position required a university degree, that of a new graduate engineer.

The new graduate engineer would have a median salary range of $46,037, with more than half of new engineers attracting salaries at greater levels, while a four year trained teacher would receive $39,151. A four year trained teacher would need to have six years experience to be earning $49,000. The responsibilities of the new graduate engineer, as revealed by job description analysis, are narrower than the equivalent teacher position and the level of accountability and responsibility are lower.

A service technician's salary also largely falls into Band A of the teacher salary scale. The service technician typically would only be required to have the qualification of a certificate in electronics, requiring much less study that of school teachers. The service technician would have a median salary of $48,600, with half earning more than this median salary. Furthermore, the top 25 percent of the salary band for the service technician is higher than a school teacher at the top (Step13) of the teacher pay scale.

Band B - Executive or Head Teacher – ($56,000 - $64,000)

The teachers in salary Band B typically have ten or more years experience and have considerable responsibility and administration tasks. Their salary scale could be most closely benchmarked to that of a design engineer on a median salary range of $58,520 (again with half all design engineers attracting a higher salary than this). The top 25 percent of the salary band for the design engineer is higher than the executive or head teacher and even the principal of a relatively small primary school (PP6) $61,883.

The design engineer would generally have tertiary qualifications and more than five years experience. He/she would receive regular but not detailed supervision. The position is one level above that of a graduate engineer. The position does not require the experience expected of the teachers or the level of responsibility for the management of that administrative area of the school or the supervision of other staff or

stakeholders (pupils) as occurs in this salary band of teachers. At this teacher salary band, teachers' salaries are totally uncompetitive with those of cognate positions in the private sector.

Band C – Deputy Principal – ($65,000-$78,000)

This teaching salary band includes primary school principals Grade 3 ($76,780) and high school deputy principals ($73,260). These jobs involve a high level of responsibility and administrative ability. The teachers will generally be very experienced having previously held positions at the executive or head teacher level. They would have more than ten years experience in teaching and have demonstrated leadership ability.

A project engineers' salary also largely falls into Band C of the teacher salary scale. The project engineer typically would have tertiary qualifications and at least three years experience. The project engineer would have a median salary of $68,289, with half attracting higher salaries than this. The top 25 percent of the salary range for the project engineer is higher than all teaching positions in this teacher salary band. The project engineer can achieve a higher salary than the teachers with a lower level of experience and responsibility and administration requirements. Many of the teachers in this band would also have higher levels of qualifications than the project engineers.

Band D Principal – ($79,000 -$95,000)

A school principal could be benchmarked to an experienced design engineer. The High School Principal Grade 1 (PH1) ($90,572) is a highly experienced teacher who is responsible for the management, organisation, administration, supervision, and efficiency of a school and all departments in a school with in excess of 900 students and with more than 70 staff. The experienced design engineer typically has tertiary qualifications and over 10 years experience as a design engineer. The experienced design engineer would have a salary in excess of $82,027, with more than a quarter of experienced design engineers earning over $101,000. The top 25 percent of the salary range for the experienced

design engineer is $10,000 higher than all positions available in the teaching profession. The experienced design engineer may be responsible for supervising young graduate engineers, technicians and technical specialists, but their areas of responsibility, supervision, and administration are substantially lower than that of a high school principal (PH1).

There are 13 positions in the engineering and science job family in the benchmarking analysis that have salaries in excess of that available to any teacher. For example the position of Principal Engineering Executive can be benchmarked to that of a high school principal. The principal engineering executive would have a median salary of range of $171,108, with more than a quarter earning more than $215,239, e.g. more than double that of the highest paid position in the teacher job family. The principal engineering executive typically would have ten to fifteen years engineering experience, with an engineering division of at least 12 professional staff. The specific requirements of the position are similar to that of a principal but with less staff to supervise and a smaller group of stakeholders. While the school principal is almost solely responsible for the management of the school (usually in consultation with executive teachers and other staff and stakeholders), the principal engineering executives have less responsibility, in that they only co-ordinate the engineering activities of the organisation, and are responsible to the other executives.

Conclusion

This paper has focused on the issue of wage justice by comparing the current levels of teacher salaries with the salaries of a selection of benchmarked non-teacher occupations in Australia.

This benchmarking exercise clearly shows that teachers are paid substantially less for comparable work and responsibilities compared to the private sector in the job families analysed. As the level of experience and qualifications in teaching increase the gap widens between the groups. The difference is most reflected at the top end of the salary scales, where teachers are not able to reach the Band E salary levels that are available in all the private sector job families benchmarked in this study.

The consequences of this gap in wage relativities between teaching and comparable private sector job are significant. There is considerable anecdotal evidence of teachers teaching outside their field or discipline, especially in the areas of greatest shortage. As a result, the quality of the education being offered in those classrooms could be perceived as being lessened. There is also considerable evidence developing of computing, mathematics and science teachers being offered above award salaries in some private schools able to operate outside the current award system. Already a number of private schools have tried to develop an enterprise bargaining position incorporating salary loadings in Technical and Applied Studies areas in teaching that are difficult to staff. We could also expect an increased divergence in supply of teachers in IT and Science/Maths in the public sector and Catholic systemic sectors as the centralised wage fixing structures makes it difficult to provide salary loadings to attract staff to these subject areas. The benchmarking analysis provides data that helps to explain why this situation has come about.

There are those who believe that comparisons of teacher salaries with private sector and public sector salaries are unrealistic, given that the teaching and duties undertaken by teachers make teacher positions quite different from most related professional positions in the private or public sectors. In addition, teachers have the advantage of unique working conditions including extended holiday periods. There is an argument, however, that there have been major changes in the nature, structure and conditions of teacher work, along with improved working conditions in other industries, such as flexi-time, leading to some convergence between teacher and non-teacher employment.

In a competitive market relative teacher shortages in a field or subject area would put upward pressure on the wage offered to teachers in that field. In the USA the National Center for Education Statistics study (NCES 1996) found that teachers who majored in certain fields of study received above average wage levels. In the public school sector people with Education majors in Business, Physical Education, Vocational Education and Special Education received above average wages. For non-Education majors, Business received a wage more than two percent above the average, along with Mathematics, Music, Performing Arts, and Social Science. The private sector did display some differences but overall, Mathematics, Business, and Special Education received higher wages in both sectors.

The most qualified and experienced teachers are the most sought after by the private sector and the ones with greatest mobility in employment. This leads to a drain of many of the better teachers to the private sector job market where the wages and opportunity for advancement are considerably higher, due to wage flexibility. University entrants will consider the salaries of the careers they may pursue prior to or during their courses. While teaching has a relatively favourable starting salary for new graduates, its attractiveness diminishes quickly with the years of experience. The benchmark analysis shows that the experienced teacher is under-rewarded when compared to employees in the private sector job families. This is likely to turn prospective teachers away from pursuing a career as a teacher.

If society considers that education is important for the nation, then more resources will need to be diverted into paying teachers a higher relative salary to ensure the quality and quantity of the teaching workforce. It is our contention that failure to do so will lead to an inevitable decline in the overall quality of education being provided in Australia.

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