

Relative Wages and the Market for Nursing Instructors

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Abstract

One of the primary explanations for chronic nursing shortages in the US is the capacity constraint in nursing schools. Supporting this are frequent reports of qualified applicants being turned away due to lack of capacity in the nursing programs are common. Part of the reason given for this constraint is the difficulty in attracting and retaining qualified instructors to teach in these programs. This paper examines the earnings of RNs involved in nursing instruction. Using data from the National Sample Survey of Registered Nurses for the years 1988, 1992, 1996, 2000, and 2004, I explore the relative wage of RN instructors over this period. There is evidence of a large decrease in relative wage for RN instructors relative to other RNs working outside of education. The paper next attempts to identify the effect of this eroding differential on measured and unmeasured skills. Utilizing information on workers holding second jobs, results show that early in the sample period RNs whose primary job was in teaching earn a wage advantage in their second job, but this wage differential goes to zero by 2004. This result is interpreted as the effect of more able nurses moving out of teaching as relative wage opportunities increase in non-academic settings.

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I. Introduction

According to the Bureau of Labor Statistics' Occupational Outlook Handbook, nursing is the largest healthcare occupation, and with expected job growth greater than 27 percent, is predicted to experience the second largest job creation among all occupations between the years 2004 to 2014.¹ Nursing shortages have been a topic of research and policy discussion for decades (Aiken, 2007; Buerhause, Staiger, and Auerbach, 2003, 2004; Hirsch and Schumacher, 2005), and it is expected that the shortage will worsen in the near future (Aiken, 2007; Price Waterhouse Coopers 2007). Forecasts for a RN shortage in 2020 range from 400,000 (Auerback, Buerhaus, and Staiger, 2007) to more than 1 million (Health Resources and Services Administration, 2004). The explanation for these expected shortages are the combination of growing demand for nursing services, the expected retirement of an aging nursing workforce, along with an inability to increase the supply of nurses to meet this growing demand.

One common explanation for the lagging supply response is the constraint on nursing school capacity and enrollment. In 2006 almost 40,000 qualified applicants were turned away from BS nursing programs alone (see Table 1), and it is estimated that as many as 150,000 were turned away from all types of programs (Aiken, 2007). The top reasons reported by nursing schools for turning away qualified applicants include insufficient faculty (71.0 percent), a lack of clinical teaching sites (55.9 percent), and not enough classroom space (50.3 percent).² According to a 2007 survey of nursing schools, the main reasons precluding schools from hiring additional full-time faculty include insufficient funds to hire new faculty, an unwillingness of administration to commit to additional full-time positions, an inability to recruit qualified faculty because of

¹ <http://www.bls.gov/oco/ocos083.htm>

² American Association of Colleges of Nursing, *Annual State of the Schools*, 2007. <http://www.aacn.nche.edu/Publications/pdf/AnnualReport07.pdf>

competition for jobs, and an unavailability of qualified applicants in the school's geographic area.³

In order to explore this issue in more detail, this paper examines the relative earnings of RNs involved in nursing instruction. Using data from the National Sample Surveys of Registered Nurses (NSSRN) for the years 1988, 1992, 1996, 2000, and 2004 it provides measures of how nurses involved in teaching have fared relative to those nurses involved in non-academic settings. The results indicate that nurses involved in teaching experienced large decreases in their earnings relative to other nurses over this period. As the earnings of nurses working in hospitals and other non-academic settings were bid up the salaries for teaching positions have not kept pace resulting in a eroding relative wage for nurse educators. I then use information on nurses who hold second jobs to examine the role of unmeasured ability in explaining the wage differential between instructors and non-instructors. These results indicate that early in the period, nurses who are instructors in their primary job receive a wage advantage in their second job. By 2004, however, this wage advantage goes to zero. This is interpreted as a shift of relatively more able nurses involved in teaching to occupations outside of teaching as the relative wage for instructors eroded. The paper proceeds as follows: the next section provides some institutional background on nursing education, Section III describes the data and provides some descriptive statistics, in Section IV the adjusted wage differentials between RN instructors and non-instructors are presented, Section V discusses evidence from RNs holding a second job, and conclusions follow in Section VI.

II. Background

A nurse can become an RN through three different educational routes: a two year associate degree generally awarded through a community college or technical school, a three year hospital-based diploma program, or a four year baccalaureate degree. The BS program usually involves a

³ American Association of Colleges of Nursing, 2007 Survey on Faculty Vacancies, Washington, DC. <http://www.aacn.nche.edu/IDS/pdf/vacancy07.pdf>

general course of study for the first two years while the second two years focus on the nursing specific education including both class work and clinical time in the hospital. As of 2004 about 17.5 percent of the workforce held a diploma, 33.7 percent held the associate's degree, 34.2 percent held a bachelor's degree, and 13 percent held a masters degree or higher.⁴ The diploma program has diminished steadily over the past 30 years and accounts for only about 4 percent of nursing programs in 2006.⁵ Once their basic education is completed, the individual must pass a state licensing exam called the National Council Licensure Examination for Registered Nurses (NCLEX-RN).

Thus, nursing instructors can be employed by colleges and university, community colleges or technical school, and hospital programs. RNs are also employed as instructors in LPN/LVN programs. Nurses involved with teaching often hold a Ph.D, but not always. According to the American Association of Colleges of Nursing (the professional program which represents baccalaureate and higher education programs), 50.5 percent of vacant faculty positions required an earned doctorate, 35.7 percent required a Master's Degree, but preferred a Ph.D, and 13.4 percent required a Master's Degree. The education requirements for teaching in diploma or associate degree programs are lower. Most instructors in associate degree programs will hold a master's degree, but some may have a Ph.D.

Most nurses involved with nursing education are required to be involved with both classroom and clinical teaching. The AACN reports that 78.5% of faculty positions involved both classroom and clinical teaching, 17 percent involve only classroom time, and 2.8 percent involve only clinical teaching. Thus the work of a nursing instructor involves both time in the classroom and time spent with patients. A survey from the National League for Nursing and Carnegie Foundation covering the 2005-2006 academic year found that faculty workloads tend to be heavier than anticipated prior to entering teaching. Even during breaks and vacations the

⁴ American Nurses Association.

<http://nursingworld.org/MainMenuCategories/CertificationandAccreditation/AboutNursing.aspx>

⁵ ibid

average nurse educator works more than 24 hours per week. During the school term nurse educators worked an average of 56 hours per week which exceeds the average of 45-55 in academics in general (NLN 2007).

In order to attract nurses into teaching, schools must offer enough compensation to make RNs at least indifferent between employment practicing nursing and that as a nursing instructor. For academics in general schools can offer better working conditions (flexible hours, summers off, academic freedom, etc.) to make up for lower compensation in the non-academic setting. Nursing, however, may not have this luxury as instructors are required to spend time in both classroom and clinical settings. Colleges and universities, however, may be reluctant to increase nursing salaries to make up for this difference. It has been reported that nursing schools are expensive for colleges to operate. The provost of the Medical Education Campus of Northern Virginia Community College indicates that they lose \$8,000 per year for every nurse they train.⁶ Thus, colleges and universities may be unwilling or unable to increase salaries sufficiently for nursing instructors to balance the wage difference between academic and nonacademic settings.

At the same time, over the 1980 to 2007 period, nursing wages have risen rather rapidly (Schumacher, 2001; 1997). Due to changing technology, nursing shortages, and overall increased demand the wages of RNs have been pushed up in both absolute and in relative terms as compared to most groups of workers in the economy. This demand increase has been largest for the higher skilled nurses who are also most qualified for teaching positions. There is a close association with nursing school enrollments and the earnings of RNs (Aiken, 2007). Shown in Table 1 is the percentage change in enrollment in entry-level BS nursing programs, the number of qualified applicants turned away from these programs, and a measure of nursing wages. The table also shows that between 1994 and 2000 when nursing earnings were relatively flat, enrollments in nursing schools declined slightly. When nursing wages began to increase after 2000, nursing enrollments picked up rather dramatically. But enrollments could have been even

⁶ *What Works: Healing the Healthcare Staffing Shortage*, Price Waterhouse Coopers, 2007

larger: in 2006 almost 40,000 qualified applicants were turned away from entry-level BS nursing programs. The link between wage growth and nursing school enrollment is consistent with findings on choice of college major in general. Freeman and Hirsch (forthcoming) find that the choice of college major is responsive to changes in the knowledge composition of jobs and the wage returns to types of knowledge.

Thus, the nursing staffing problem is likely to have worsened. If market forces outside of teaching are pushing wages up for nurses, but institutional constraints within academics are holding wages down, then we would expect workers to move out of teaching and into non-teaching settings. The workers who remain in teaching would either be relatively lower quality workers or would be those who have an especially strong affinity for teaching. In the sections that follow, I examine how the earnings of RNs involved in teaching compare to those involved in patient care.

III. Data and Descriptive Evidence

The Primary Data for this study are taken from the National Sample Survey of Registered Nurses (NSRN) for the years 1988, 1992, 1996, 2000, and 2004. The survey is conducted every four years by the Division of Nursing, Health Resources and Services Administration, U.S.

Department of Health and Human Services. The survey is mailed to individuals with an RN license in the US. The data contain personal and demographic information on the registered nurse population; including current employment setting as well as information on second jobs within nursing. The sample was restricted to those who were employees of a facility or a temporary employment agency (self-employed were eliminated), who were employed in nursing as their principal position, and those whose real wage was between \$3 and \$150 in 2006 dollars.

The survey asks individuals to identify both their employment setting as well as their position. The setting categories include hospital, nursing home, ambulatory care center, public or community health settings, and nursing education among other categories. The choices within the nursing education category include LPN/LVN program, diploma program, associate degree

program, baccalaureate and/or higher degree program, and “other” program. The options within the position categories include instructor in a school of nursing and Assistant/Associate/Full professor. I use both of these measures to define nursing teachers. Nursing Education is defined as those whose setting is in one of the nursing education categories, and a nursing instructor is defined as a nurse whose position is either an instructor or a professor.

Table 2 displays descriptive statistics over the sample period for nursing instructors and non-nursing instructors.⁷ Approximately 2.3 percent of the RN sample reports their primary position as a nursing instructor. Overall, instructors tend to earn a higher hourly wage⁸, report similar hours per week, but more than 7 weeks fewer per year. Instructors tend to be older and have more experience, but otherwise have similar characteristics to non-instructors.

Real annual salary, hours of work per week, and weeks worked per year are reported in Table 3 by year and by nursing position. The data are shown for instructors, nurses involved in LPN/LVN, diploma, associate degree, and BA programs. Also shown are nurses not involved in education, staff RNs⁹, and supervisors¹⁰. The real earnings of nurses increased over the period for all categories, but the increase was greater for nurses not involved with education. Though the sample sizes are small within type of education group, salary increases for these groups were lower than for those outside of teaching. The hours worked per week seem to increase slightly, and mostly between 2000 and 2004, while the number of weeks worked per year remains relatively constant. Next we examine how accounting for differences in measurable characteristics affects this trend in earnings data.

⁷ Results using the employment setting category are quite similar.

⁸ All earnings data are reported in constant 2006 dollars.

⁹ This category includes Charge Nurse, Public Health Nurse, School Nurse, Staff Nurse, Team Leader, and “No Position Title”.

¹⁰ This category includes Administrator of Facility/Agency, Administrator of Nursing, Supervisor or Assistant Supervisor, Head Nurse or Assistant Head Nurse, and Nurse Manager.

IV. Changes in the Relative Wage Associated with Nursing Instruction

In order to adjust for differences in worker characteristics between nurse educators and non-educators and across time, I estimate log wage regressions separately for each survey year. Nurse educators are pooled with RNs not involved with teaching and a dummy variable on nurse educator is included. These results are presented in Table 4. In specification 1, the nurse educator category is defined as those who indicate their primary setting is in nursing education, while in specification 2 this is broken out by type of program. The specification in 3 includes dummy variables for position title. Employment in a hospital is a mutually exclusive category for the education variables in regressions 1 and 2, but not in 3 (though it is controlled for in this model).¹¹

Regression results reported in Table 4 show that, over all, nurse educators earn a wage premium relative to non-educators. Pooling the samples, those in nurse education earn a log wage about .153 points (16.5 percent) more than nurses employed outside of hospitals, but not in education. Likewise, an nursing instructor earns about .066 percent higher wages than a supervisor, and about 19.7 percent higher wages than a staff nurse. Specification 2 shows that overall, teaching within an associate degree or BA program results in a higher log wage differential than the other types of programs.

Examining how these differentials change over time shows that nursing instructors experienced large relative wage losses over the period. In 1988 a nurse involved in nursing education received a wage 33 percent higher than a nurse employed outside of teaching and the hospital setting and 13 percent more than a hospital RN. This positive differential eroded consistently over the period so that by 2004 a nursing educator earned about 5 percent less than a hospital RN and only about 8 percent more than RNs employed outside the hospital sector. RNs

¹¹ Other variables included in these models are dummy variables for level of education (3 for 4 categories), experience and its square, and dummies for employment in a large metropolitan area, part-time employment, race/ethnicity (3 for 4 categories), marital status (2 for 3 categories), employment by a temporary agency, gender, and region (8 for 9 categories).

involved in teaching in a BA program saw their wage advantage over non-hospital RNs fall from almost 36 percent in 1988 to about 10 percent in 2004 while associated degree educators saw a decrease from almost 36 percent to about 13 percent. Teaching in a BA program in 2004 is associated with a 3 percent lower wage over working in a hospital. Similar results are obtained when examining the position title of the RNs. In 1988 nurse instructors earned almost 30 percent more than a staff RN and about 14 percent more than an RN supervisor. By 2004 these differentials fell to 12 and 3 percent respectively.

By way of comparison, Table 5 displays wage differences between postsecondary teachers and non-teachers with at least a graduate degree using data from the Current Population Survey. Displayed are real average hourly wages by year for both groups as well as wage differentials from separate wage equations, for the years 1988 through 2007.¹² Early in the period, postsecondary teachers earn similar wages to workers with a graduate degree not involved in education. By 2004 this turns into a wage disadvantage of about 12 percent.¹³ Thus, the earnings for academics in general declined relative to non-educational earnings. Note that the wages of post secondary teachers were relatively flat over the period, while nursing instructors saw increases in salary. Thus, relative to other teachers, nursing instructors made wage gains over the period. As compared to other nurses, however, relative wages decreased.

V. Evidence from RNs Holding Second Jobs

The results above showed that when compared to nurses employed in other sectors, nursing educators experienced substantial declines in relative wages. Given that RNs, once educated, are mobile between teaching and practicing nursing we would expect that as relative wages decreased in teaching nurses would move out of teaching positions and into other positions. In fact, many

¹² Data for 1994 are omitted due to the inability to identify workers with allocated earnings. See Hirsch and Schumacher (2004).

¹³ The CPS topcodes wages above a certain threshold. Surveys up to 1988 capped weekly earnings at \$999. This was increased to \$1,923 in 1989, and then again to \$2,885 in 1988. Note the jump in the differential after 1998 likely reflects a greater proportion of earners above the cap among non-educators than educators.

of the explanations reported by nursing schools for the difficulty in filling vacant faculty positions deal with the inability to compete with earnings outside of teaching.¹⁴

Nursing educators, like other academic jobs have to compete with other employment opportunities to attract workers. The difficulty with nursing, however, is that the demand for nurses was increasing rather rapidly over this period. Schumacher (2001) finds a large increase in the return to education and experience over the 1993 to 1998 period and interprets this change as an increase in the demand for higher skilled nurses relative to lower skilled workers. Thus, given that nursing educators are highly educated and have extensive nursing skills, their opportunities outside of teaching increased over this period. This movement, however, might not be uniform across all skill levels, and the relative quality of nursing faculty may well decline as more able nurses move out of teaching.

Measuring quality is difficult to do in most data sets. Measurable characteristics may not adequately capture differences in worker ability, especially at such a highly specialized area of nursing. Yet there still may be differences in unmeasured ability across sector of employment. To get at the role of unmeasured ability in nursing education I utilize information in the NSRN on RNs who hold a second job in nursing. The NSRN asks workers if they are employed in a second job in nursing and if so asks detailed information about the job including position, hours worked, and earnings.¹⁵ Table 6 displays basic information about RNs with and without a second job over the period. Overall, about 15 percent of the sample holds a second job in nursing (and this proportion remains relatively constant over the samples). Second job holders tend to be slightly younger and are less likely to be married, but otherwise have similar characteristics. Among second job holders, about 43 percent of these jobs are in hospitals and about 12 percent tend to be involved in teaching.

¹⁴ American Association of Colleges of Nursing, 2007 Survey on Faculty Vacancies, Washington, DC.
<http://www.aacn.nche.edu/IDS/pdf/vacancy07.pdf>

¹⁵ The 2004 survey changed the way hours worked was collected. Previously they mirrored the questions on the primary job and asked individuals for the typical hours worked per week and the number of weeks worked per year. Beginning in 2004, however, the survey asks workers to choose among a discrete number of annual hours categories. Thus, the average hours worked over time may not be consistent in this survey year as compared to others.

Table 7 displays real wage by year by primary and secondary job status for all RNs with a second job. Workers with a second job in teaching earn similar wages in their primary job as workers with a second job outside of teaching. Early in the period, workers whose primary job is in teaching, however, earn a higher wage in their second job than workers whose primary job is not in teaching. By 2004, however, wages in the second job are similar for these workers.

Table 8 shows three log wage regressions. The first includes the full sample (those with and with out second jobs) and uses the log wage on the primary job as the dependent variable. The second restricts the sample to those with a second job but uses the primary wage as the dependent variable to compare the subsamples of those with and without second jobs. Finally the last regression includes the second job sample and uses the log wage from the second job as the dependent variable. Comparing column 1 to 2 indicates that the results between the whole sample and the restricted sample of second job holders are quite similar. There is nothing here to indicate that second job holders are distinctly different than the rest of the sample. Comparing column 2 to 3 shows that the returns measured characteristics on the primary job are similar to those for second jobs. There is a slightly lower return to graduate education on the second job than for the primary job and a higher return to experience in the second job. Otherwise results are similar.

Column 3 also shows that when a worker holds her primary job in teaching, she tends to earn about 9 percent higher wages in her second job, independent of the position of the second job. This indicates that nursing instructors tend to have (unmeasured) characteristics that increases their wage in the second job. In table 9 separate regression results by year are presented. Specification 1 shows coefficients on primary and secondary job dummy variables using the primary job setting categories. In 1988 RNs whose primary job was in education earned about 12 percent more in their second job than did those whose primary job was outside of education. By 2004 this difference fell to about 3.5 percent. Similarly, specification 2 shows that RNs whose title is instructor in their primary job earned about 8 percent more in their second job

than did those whose primary title was not instructor. By 2004 this fell to a negative differential of about 5 percent. These results suggest that early in the period, RN educators tended to have high unmeasured skills as compared to non-educators. As the wage differential associated with teaching eroded, however, the more able teachers were the ones most likely to move so that this unmeasured ability advantage diminished over the period

VI. Conclusions

This paper examines the relative earnings of nursing educators over the 1988 to 2004 period. Reports of chronic nursing shortages and predictions of larger shortages looming has caused policy concern. At the same time, nursing schools have reported difficult times attracting and retaining qualified instructors and, therefore, have had to turn away thousands of qualified applicants. The results here document that nursing instructors experienced large decreases in relative wages when compared to RNs working in non-educational settings. In 1988 a nursing instructor earned about 30 percent more than a staff RN, but by 2004 this differential fell to about 12 percent. While, nursing instructors reported working slightly fewer weeks per year over the period, this was not enough to overcome the eroding relative wage.

Utilizing information on second jobs shows a decrease in the wage premium RNs educators (in their primary job) receive in their second job. This is interpreted as a decrease in the relative skill level of nursing educators relative to non-educators. As nursing wages in hospital and other settings were bid up over this period, the salary of nursing instructors did not keep pace making it difficult for nursing schools to attract qualified instructors. This led to a decrease in the relative skill level of nursing instructors as the most able nurse educators were the most likely to leave for better opportunities outside of teaching.

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Table 1: Nursing School Enrollment and Nursing Relative Wages

	Percentage Change in Enrollments in Entry-Level Nursing Programs	Qualified Applications Turned Away from Entry-Level Programs	RN Wage Index
1994	2.6		
1995	-2.6		
1996	-6.2		100.00
1997	-6.6		101.30
1998	-5.5		98.71
1999	-4.6		100.07
2000	-2.1		101.25
2001	3.7		102.45
2002	8.1	3,600	103.59
2003	16.6	15,944	107.69
2004	14.1	29,425	112.30
2005	9.6	37,514	111.49
2006	7.6	38,415	112.83

Source: Enrollment Data from American Association of Colleges of Nursing, Research and Data Center (<http://www.aacn.nche.edu/index.htm>). The RN wage index is constructed from Current Population data using the Monthly ORG files from 1996 through December 2006. The index is derived from log wage regression coefficients on year dummies, with 1995=100. The indices are derived from a separate log wage equation for each group including controls for years of schooling, potential experience (years since finishing school) and its square, and dummies for race (2), gender, part-time status, marital status (2), region (8), large metropolitan area, and year (10). The coefficients on the year dummies are converted to a percentage index by: $\exp(\beta) \times 100$, where β is the coefficient.

Table 2: Characteristics of Nursing Instructors vs. Non-Instructors

	Instructor	Non Instructor
Real wage	30.26 (11.94)	26.50 (10.52)
Hours Worked per Week	36.21 (12.04)	36.18 (11.04)
Weeks Worked per Year	42.21 (8.45)	49.89 (5.73)
Age	46.67 (9.48)	43.02 (10.37)
RN experience	21.42 (10.19)	16.30 (11.11)
Large Metro	0.741 (.438)	0.758 (.428)
Part Time	0.252 (.434)	0.276 (.447)
Black	0.036 (.186)	0.031 (.174)
Female	0.972 (.165)	0.944 (.230)
Currently Married	0.739 (.439)	0.713 (.452)
Sample size	2,786	120,114

Data are from the NSRN for the years 1988, 1992, 1996, 2000, and 2004. Instructors are those RNs who indicate their primary position is either as an instructor in a school of nursing or a professor (full, associate or assistant) of nursing. Real wage is in 2006 dollars.

Table 3: Annual Earnings, Hours of Work, and Sample Size by Year by Nursing Specialty

Year		Instructor	LPN Program	Diploma Program	AD Program	BA Program	Non-Educational	Staff RN	Supervisor
1988	Real Earnings	\$41,395	\$45,901	\$45,400	\$43,068	\$49,764	\$40,359	\$36,601	\$50,038
	Hours/Week	35.19	36.5	36.8	36.8	40.3	34.9	33.4	39.6
	Weeks/Year	43.4	46.9	47.7	41.0	41.7	50.2	50.0	51.2
	N	655	69	50	150	239	24,595	17,043	4,344
1992	Real Earnings	\$43,868	\$41,144	\$50,714	\$44,692	\$53,455	\$45,682	\$41,885	\$56,036
	Hours/Week	35.5	35.0	36.0	36.0	40.5	34.7	33.2	39.3
	Weeks/Year	42.4	46.5	49.2	40.1	42.7	50.3	50.0	51.0
	N	583	62	24	153	232	23,892	16,433	3,905
1996	Real Earnings	\$44,389	\$43,077	\$49,395	\$45,282	\$51,289	\$46,239	\$41,844	\$56,135
	Hours/Week	35.41	34.6	46.9	35.2	39.9	35.1	33.5	39.3
	Weeks/Year	42.8	44.6	47.4	41.0	41.6	50.3	49.9	51.0
	N	641	58	28	151	272	21,803	14,110	3,534
2000	Real Earnings	\$48,086	\$47,183	\$53,175	\$46,990	\$55,024	\$47,967	\$43,026	\$60,371
	Hours/Week	36.3	34.9	36.8	35.2	39.2	35.2	33.6	39.7
	Weeks/Year	41.0	43.5	47.5	41.7	41.9	50.1	49.8	50.9
	N	418	61	26	135	256	24,727	15,595	3,540
2004	Real Earnings	\$49,501	\$45,742	\$56,206	\$50,018	\$57,819	\$53,689	\$48,931	\$65,448
	Hours/Week	39.44	39.7	42.2	40.3	41.9	40.8	39.4	45.9
	Weeks/Year	41.5	45.4	47.1	43.4	43.1	48.7	48.3	49.8
	N	489	78	53	240	268	25,097	15,375	3,887
All years	Real Earnings	\$45,028	\$44,702	\$51,004	\$46,421	\$53,534	\$46,837	\$42,337	\$57,401
	Hours/Week	36.2	36.3	38.3	37.1	40.4	36.2	34.6	40.8
	Weeks/Year	42.4	45.4	47.7	41.6	42.2	49.9	49.6	50.8
	N	2,786	328	181	829	1,267	120,114	78,556	19,210

Data are from the NSRN for the years 1988, 1992, 1996, 2000, and 2004. Instructors are those RNs who indicate their primary position is either as an instructor in a school of nursing or a professor (full, associate or assistant) of nursing. LPN program, Diploma Program, AD program, BA Program, are based on their primary setting question in the survey. Staff RN and Supervisor are based on the primary position question. Staff RNs include Charge Nurse, Public Health Nurse, School Nurse, Staff Nurse, and Team Leader. Supervisors include Administrator of Facility/Agency, Administrator of Nursing, Supervisor or Assistant Supervisor, Head Nurse or Assistant Head Nurse, and Nurse Manager. Real earnings are in 2006 dollars.

Table 4: Log Wage Coefficients on the Returns to Nursing Education

Year	Specification 1		Specification 2					Specification 3		
	Hospital	Nursing Education	Hospital	LPN Program	Diploma Program	Associate Program	BA Program	Instructor	Supervisor	Staff RN
1988	.161 (.004)	.286 (.013)	.161 (.004)	.266 (.034)	.157 (.040)	.306 (.023)	.305 (.019)	.142 (.012)	.007 (.007)	-.114 (.006)
1992	.188 (.004)	.182 (.012)	.188 (.004)	.124 (.036)	.123 (.057)	.227 (.023)	.181 (.019)	.124 (.012)	.055 (.007)	-.066 (.006)
1996	.142 (.004)	.137 (.013)	.142 (.004)	.093 (.039)	.084 (.055)	.192 (.024)	.115 (.018)	.061 (.012)	.049 (.007)	-.071 (.006)
2000	.127 (.004)	.108 (.135)	.127 (.004)	.133 (.039)	.121 (.059)	.131 (.026)	.120 (.020)	.099 (.015)	.048 (.006)	-.086 (.005)
2004	.129 (.005)	.075 (.015)	.130 (.005)	-.058 (.042)	.101 (.052)	.122 (.025)	.099 (.023)	.040 (.018)	.008 (.008)	-.074 (.006)
All years	.151 (.002)	.153 (.006)	.151 (.002)	.106 (.017)	.125 (.023)	.190 (.011)	.165 (.009)	.095 (.006)	.031 (.003)	-.085 (.003)

Data are from the NSRN for the years 1988, 1992, 1996, 2000, and 2004. Instructors are those RNs who indicate their primary position is either as an instructor in a school of nursing or a professor (full, associate or assistant) of nursing. LPN program, Diploma Program, AD program, BA Program, are based on they primary setting question in the survey. Staff RN and Supervisor are based on the primary position question. Supervisors include administration, head nurse, and supervisor categories. Shown are log wage coefficients on nursing educator dummy variables. Specification 1 includes a dummy variable for nurses whose primary setting of employment is in nursing education. Specification 2 breaks this into separate categories for type of program. Specification 3 includes dummies for position title. Hospital is a mutually exclusive category in regressions 1 and 2, but not in 3 (though it is controlled for). Other variables included in these models are dummy variables for level of education (3 for 4 categories), experience and its square, and dummies for employment in a large metropolitan area, part-time employment, race/ethnicity (3 for 4 categories), martial status (2 for 3 categories), employment by a temporary agency, gender, and region (8 for 9 categories).

Table 5: Wage Differences between Postsecondary Teachers and Workers with at Least a Graduate Degree

	Real Wage		Wage Differential
	Post Secondary Education	Non Education with a Graduate Degree	
1988	28.14	31.53	.037
1989	25.04	29.10	.006
1990	27.20	29.75	-.018
1991	25.60	30.00	.002
1992	25.71	29.48	-.007
1993	25.02	29.61	-.044
1994	--	--	--
1995	24.34	31.10	-.086
1996	25.95	30.98	-.070
1997	25.66	31.75	-.082
1998	26.51	31.55	-.065
1999	26.51	32.75	-.098
2000	26.49	32.98	-.128
2001	28.15	34.41	-.109
2002	27.46	34.20	-.119
2003	27.34	34.24	-.093
2004	27.09	35.10	-.127
2005	28.61	34.84	-.084
2006	27.26	35.70	-.113
2007	27.03	35.94	-.109

Source: CPS monthly ORG files January 1988 through June 2007. Real wages are in 2006 dollars. The monthly files for 1994 are omitted due to the inability to identify workers with allocated earners. Wage differential is the coefficient from a dummy variable =1 for postsecondary teachers in a log wage regression estimated separately by year. Other variables included in the regression were schooling, experience and its square, and dummy variables for gender, union membership, race/ethnicity, marital status, public employment, part-time employment, and region.

Table 6: Characteristics of RNs With and Without Second Jobs

	Second Job =0	Second Job =1
Real Wage (in primary job)	26.49	27.11
Age	43.37	41.88
Experience	16.80	14.70
Female	.947	.933
Hospital (in primary job)	.630	.587
Nursing Education (in primary job)	.018	.051
Married	.720	.680
Sample Size	103,896	18,892

Source: data are from the NSRN for 1988, 1992, 1996, 2000, and 2004.

Table 7: Real Wage of RNs with a Second Job

	Second job in Teaching		Second Job not in Teaching	
	Real Wage in primary Job	Real Wage in Second Job	Real Wage in primary Job	Real Wage in Second Job
1988	24.30	32.68	23.93	31.96
1992	27.19	30.55	26.99	32.80
1996	28.00	30.39	27.05	31.25
2000	29.34	31.48	28.28	30.16
2004	29.40	22.27	28.60	24.67
All Years	27.46	30.29	27.07	29.84
	Primary job in Teaching		Primary Job not in Teaching	
	Real Wage in primary Job	Real Wage in Second Job	Real Wage in primary Job	Real Wage in Second Job
1988	29.48	36.44	23.71	31.84
1992	30.32	38.95	26.84	32.11
1996	31.16	34.65	26.95	30.90
2000	31.87	32.96	28.24	30.19
2004	29.89	25.27	28.58	24.50
All Years	30.57	33.35	26.93	29.71

Source: data are from the NSRN for 1988, 1992, 1996, 2000, and 2004. Real wages are in 2006 dollars. The 2004 survey changed the way hours worked was collected. Previously they mirrored the questions on the primary job and asked individuals for the typical hours worked per week and the number of weeks worked per year. Beginning in 2004, however, the survey asks workers to choose among a discrete number of annual hours categories on for hours on the second job. Thus, the average hours worked over time may not be consistent in this survey year as compared to others.

Table 8: Log Wage Regression Results for Primary and Second Job

	Dependent Variable		
	Real Wage in Primary Job	Real Wage in Primary Job	Real Wage in Second Job
Second job in Hospital	--	.006 (.006)	.111 (.011)
Second Job in Teaching	--	.002 (.008)	.010 (.017)
Primary Job in Hospital	.151 (.002)	.136 (.006)	.031 (.012)
Primary Job in Teaching	.153 (.006)	.132 (.013)	.089 (.026)
Associate Degree	.015 (.003)	.009 (.008)	.001 (.015)
BS Degree	.058 (.003)	.046 (.008)	.052 (.016)
Graduate Degree	.147 (.003)	.135 (.007)	.103 (.015)
Experience	.016 (.000)	.015 (.001)	.053 (.018)
Experience Squared/100	-.03 (.000)	-.028 (.002)	-.01 (.005)
Metro	.115 (.005)	.130 (.006)	.118 (.013)
Hispanic	.044 (.007)	.028 (.019)	.069 (.039)
Black	.068 (.005)	.067 (.014)	.088 (.028)
Other	.038 (.005)	.018 (.014)	.050 (.029)
Married	-.021 (.003)	-.021 (.009)	-.040 (.018)
Female	-.064 (.004)	-.064 (.011)	-.111 (.022)
Sample Size	119,174	14,625	14,625

Source: data are from the NSRN for 1988, 1992, 1996, 2000, and 2004. Column 1 uses the log of primary wage as the dependent variable and includes the full sample. Column 2 restricts the sample to those with a second job but uses the wage on the primary job as the dependent variable and column 3 uses the wage on the second job as the dependent variable. Other variables included in the model are dummies for previously married, region (8), and year (4).

Table 9: Second Job Log Wage Coefficients by Year

	1				2
	Second Job in Hospital	Second Job In Teaching	Primary Job in Education	Primary Job in Hospital	Primary Job as Instructor
1988	-.008 (.026)	.048 (.037)	.115 (.061)	.006 (.027)	.078 (.046)
1992	.117 (.024)	-.029 (.033)	.168 (.055)	.026 (.025)	.114 (.045)
1996	.124 (.030)	.012 (.040)	.044 (.063)	.007 (.030)	.029 (.053)
2000	.070 (.024)	.036 (.037)	.036 (.056)	.025 (.025)	-.005 (.050)
2004	.217 (.025)	-.069 (.054)	.051 (.056)	.054 (.025)	-.054 (.052)