

Teacher Turnover in Wisconsin

Michael Chirico

March 17, 2017

Abstract

Turnover in Wisconsin

Introduction

Data

Results

| Teacher Experience | Percent of Teachers Who | | | | Exit Wisconsin Public Schools | Number of Teachers |
|-----------------------|-------------------------|---|---------------------|------|----------------------------------|-----------------------|
| | Remain Same School | in Change Schools Within District | Switch Districts | | | |
| 1-3 years | 85.2 | 9.4 | 5.4 | 7.3 | | 37,044 |
| 4-6 years | 88.9 | 8.0 | 3.1 | 4.6 | | 33,972 |
| 7-11 years | 91.1 | 7.2 | 1.7 | 2.8 | | 48,047 |
| 12-30 years | 94.2 | 5.3 | 0.5 | 3.0 | | 113,334 |
| >30 years | 96.7 | 3.0 | 0.4 | 15.1 | | 21,538 |
| All | 91.8 | 6.4 | 1.8 | 4.8 | | 253,935 |

Table 1: Year-to-year Transitions of Teachers by Experience, 2000-08

Conclusion

References

| Origin Community | Percent of Teachers Who Move to | | | | Number Teachers Changing Districts | Percent of Origin Teachers | Change in Share of Teachers 2000-06 |
|--|---------------------------------|-------------|----------|-------|---|-------------------------------------|--|
| | Large Urban | Small Urban | Suburban | Rural | | | |
| I. All teachers | | | | | | | |
| Large Urban | 5.8 | 14.6 | 58.9 | 20.6 | 459 | 1.8 | -0.3% |
| Small Urban | 3.3 | 13.1 | 45.2 | 38.4 | 500 | 1.1 | -0.2% |
| Suburban | 3.7 | 15.2 | 45.0 | 36.1 | 1,210 | 1.7 | 4.1% |
| Rural | 0.8 | 11.4 | 24.3 | 63.5 | 2,377 | 2.1 | -3.5% |
| II. Probationary teachers (1-3 years experience) | | | | | | | |
| Large Urban | 7.8 | 15.9 | 56.3 | 20.0 | 260 | 3.5 | |
| Small Urban | 4.4 | 12.4 | 46.9 | 36.3 | 230 | 3.5 | |
| Suburban | 4.5 | 16.1 | 41.6 | 37.7 | 495 | 5.2 | |
| Rural | 0.5 | 11.4 | 25.4 | 62.6 | 1,024 | 7.6 | |

Table 2: Destination Community Type for Teachers Changing Districts, by Origin Community Type and Teacher Experience Level

| | Men by Experience Class | | | Women by Experience Class | | | All Teachers | |
|--------------------------|-------------------------|------------------|-------------------|---------------------------|------------------|-------------------|------------------|--|
| | 1-3 years | 4-6 years | 7-11 years | 1-3 years | 4-6 years | 7-11 years | 0-9 Years | |
| Base year salary (log) | 0.004 (0.010) | 0.022 (0.015) | -0.021 (0.022) | 0.010 (0.005) | 0.002 (0.009) | -0.016 (0.012) | 0.004 (0.004) | |
| Adjusted salary (log) | -0.012 (0.007) | 0.007 (0.011) | 0.031 (0.016) | 0.001 (0.004) | 0.018 (0.007) | 0.023 (0.009) | 0.007 (0.003) | |
| Percent proficient | 2.9% (0.7%) | 1.9% (0.8%) | 1.6% (1.1%) | 4.8% (0.4%) | 3.9% (0.5%) | 4.1% (0.6%) | 3.9% (0.2%) | |
| Percent Hispanic | -1.4% (0.4%) | 0.0% (0.5%) | -0.6% (0.5%) | -1.5% (0.2%) | -1.6% (0.3%) | -0.7% (0.4%) | -1.2% (0.1%) | |
| Percent black | -3.2% (1.0%) | -0.7% (1.1%) | -3.2% (1.1%) | -4.8% (0.6%) | -3.2% (0.7%) | -4.4% (0.8%) | -3.9% (0.3%) | |
| Percent subsidized lunch | -6.7% (1.1%) | -3.5% (1.5%) | -3.9% (1.6%) | -8.5% (0.7%) | -6.0% (0.9%) | -5.6% (1.0%) | -6.8% (0.4%) | |

Table 3: Average Change in Salary and District Student Characteristics (and Standard Deviations) for Teachers Changing Districts, by Gender and Experience

| | District Average Characteristics | | Campus Average Characteristics | |
|---------------------------------|----------------------------------|-------------------------|--------------------------------|-------------------------|
| | Large Urban to Suburban | Suburban to Suburban | Large Urban to Suburban | Suburban to Suburban |
| Base year salary (log) | -0.015 (0.013) | 0.012 (0.008) | — | — |
| Adjusted salary (log) | -0.039 (0.011) | 0.012 (0.006) | — | — |
| Average Student Characteristics | | | | |
| Percent proficient | 37.1% (0.5%) | 0.8% (0.4%) | 33.4% (1.3%) | 0.3% (0.6%) |
| Percent Hispanic | -13.3% (0.2%) | 0.3% (0.4%) | -8.3% (1.3%) | 0.2% (0.5%) |
| Percent black | -52.9% (0.5%) | 0.5% (0.5%) | -56.5% (1.9%) | 0.4% (0.6%) |
| Percent subsidized lunch | -60.8% (0.7%) | -0.7% (0.6%) | -61.8% (1.2%) | -1.0% (0.7%) |

Table 4: Average Change in Salary and in District and Campus Student Characteristics (and Standard Deviations) for Teachers with 1-10 Years of Experience Who Change Districts, by Community Type of Origin and Destination District

| | Between District Moves | | Within District Moves | |
|--------------------------|------------------------|----------------------|-----------------------|----------------------|
| | Black Teachers | Hispanic Teachers | Black Teachers | Hispanic Teachers |
| Percent proficient | 16.5% (4.9%) | 5.1% (8.7%) | 3.2% (0.9%) | 1.7% (1.4%) |
| Percent Hispanic | -1.1% (1.7%) | -6.0% (9.1%) | 2.4% (1.1%) | -5.6% (2.4%) |
| Percent black | -22.9% (7.8%) | 10.5% (8.0%) | -1.2% (1.4%) | 2.0% (2.2%) |
| Percent subsidized lunch | -59.0% (6.5%) | -5.8% (9.7%) | -2.4% (0.6%) | -2.7% (1.4%) |
| Number of teachers | 42 | 22 | 549 | 197 |

Table 5: Average Change in District and Campus Student Characteristics (and Standard Deviations) for Black and Hispanic Teachers with 1-10 Years of Experience who Change Campuses

| Quartile of Distribution | Probability Teachers Move to New School within District | Probability Teachers Move to New District | Probability Teachers Exit Public Schools |
|--|---|--|---|
| Residual salary | | | |
| Highest | — | 1.4% | 4.8% |
| 3rd | — | 1.4% | 5.0% |
| 2nd | — | 1.6% | 5.0% |
| Lowest | — | 1.9% | 5.4% |
| Percent proficient | | | |
| Highest | 5.6% | 1.7% | 4.7% |
| 3rd | 6.8% | 1.9% | 4.4% |
| 2nd | 6.2% | 1.9% | 5.4% |
| Lowest | 6.9% | 1.7% | 4.8% |
| Percent eligible for reduced-price lunch | | | |
| Highest | 7.7% | 1.7% | 5.6% |
| 3rd | 6.9% | 1.6% | 4.3% |
| 2nd | 6.2% | 1.9% | 4.5% |
| Lowest | 4.9% | 2.0% | 4.8% |
| Percent Black | | | |
| Highest | 6.7% | 1.6% | 6.2% |
| 3rd | 5.7% | 1.5% | 4.7% |
| 2nd | 6.6% | 1.8% | 4.5% |
| Lowest | 6.7% | 2.2% | 3.9% |
| Percent Hispanic | | | |
| Highest | 6.9% | 1.5% | 6.0% |
| 3rd | 5.6% | 1.9% | 4.8% |
| 2nd | 6.0% | 1.8% | 4.5% |
| Lowest | 7.1% | 1.9% | 4.1% |

Table 6: School Average Transition Rates by Distribution of Residual Teacher Salary and Student Demographic Characteristics (data weighted by number of teachers in school)

| | Teacher Experience | | | | |
|--|--------------------|--------------------|--------------------|-------------------|-------------------|
| | 1-3 years | 4-6 years | 7-11 years | 12-30 years | >30 years |
| First year base salary (log) | -0.04 (0.05) | -0.05 (0.04) | -0.07* (0.03) | 0.00 (0.02) | -0.16* (0.07) |
| First year base salary (log) * female | -0.08 (0.05) | 0.05 (0.04) | 0.05 (0.03) | -0.02 (0.02) | 0.10 (0.08) |
| Campus average student characteristics | | | | | |
| Percent proficient | -0.06** (0.02) | 0.02 (0.02) | -0.01 (0.01) | -0.01 (0.01) | -0.01 (0.03) |
| Percent eligible for subsidized lunch | -0.03* (0.02) | -0.07*** (0.01) | -0.04*** (0.01) | -0.02** (0.01) | 0.10*** (0.03) |
| Percent Black | 0.05** (0.02) | 0.11*** (0.02) | 0.04*** (0.01) | 0.05*** (0.01) | 0.06 (0.04) |
| Percent Hispanic | 0.03 (0.02) | 0.09*** (0.02) | 0.04** (0.01) | 0.01 (0.01) | -0.05 (0.05) |
| Interactions | | | | | |
| Black * percent Black | -0.09 (0.05) | -0.10** (0.03) | -0.01 (0.02) | -0.00 (0.02) | -0.23** (0.08) |
| Hispanic * percent Black | -0.15* (0.06) | -0.18** (0.06) | -0.13** (0.05) | -0.08 (0.05) | -0.22 (0.32) |
| Black * percent Hispanic | -0.05 (0.09) | -0.03 (0.06) | -0.00 (0.04) | 0.03 (0.04) | 0.14 (0.22) |
| Hispanic * percent Hispanic | -0.12* (0.05) | -0.16*** (0.05) | -0.13*** (0.03) | -0.08** (0.03) | -0.49 (0.38) |
| Observations | 28,287 | 25,609 | 35,946 | 81,801 | 14,773 |

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$

Table 7: Estimated Effects of Starting Teacher Salary and Student Demographic Characteristics on the Probability that Teachers Leave School Districts, by Experience (linear probability models; standard errors in parentheses)

| | Teacher Experience | | | | |
|--|--------------------|-------------------|-------------------|--------------------|--------------------|
| | 1-3 years | 12-30 years | 4-6 years | 7-11 years | >30 years |
| First year base salary (log) | -0.09 (0.05) | -0.02 (0.02) | -0.10* (0.04) | -0.12*** (0.03) | -0.31*** (0.09) |
| First year base salary (log) * female | -0.08 (0.05) | -0.02 (0.02) | 0.05 (0.04) | 0.05 (0.03) | 0.11 (0.08) |
| Campus average student characteristics | | | | | |
| Percent proficient | -0.08*** (0.02) | -0.02** (0.01) | 0.00 (0.02) | -0.02* (0.01) | -0.03 (0.03) |
| Percent eligible for subsidized lunch | -0.01 (0.02) | -0.00 (0.01) | -0.03 (0.02) | -0.01 (0.01) | 0.05 (0.04) |
| Percent Black | 0.02 (0.02) | 0.03*** (0.01) | 0.06** (0.02) | 0.00 (0.01) | 0.09 (0.05) |
| Percent Hispanic | -0.01 (0.03) | -0.00 (0.01) | 0.03 (0.02) | -0.01 (0.02) | 0.01 (0.06) |
| Interactions | | | | | |
| Black * percent Black | -0.08 (0.05) | 0.01 (0.02) | -0.09** (0.03) | 0.00 (0.02) | -0.23** (0.08) |
| Hispanic * percent Black | -0.14* (0.06) | -0.08 (0.05) | -0.18** (0.06) | -0.11* (0.05) | -0.33 (0.32) |
| Black * percent Hispanic | -0.03 (0.09) | 0.04 (0.04) | -0.01 (0.06) | 0.01 (0.04) | 0.16 (0.22) |
| Hispanic * percent Hispanic | -0.11* (0.05) | -0.08** (0.03) | -0.15** (0.05) | -0.10** (0.04) | -0.65 (0.38) |
| Observations | 28,287 | 81,801 | 25,609 | 35,946 | 14,773 |

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$

Table 8: Estimated Effects of Starting Teacher Salary and Student Demographic Characteristics on the Probability that Teachers Leave School Districts with District Fixed Effects, by Experience (linear probability models; standard errors in parentheses)