

**THE MYTH OF GLASS CEILING**  
**EVIDENCE FROM A STOCK-FLOW ANALYSIS**  
**OF WORKPLACE AUTHORITY ATTAINMENT**

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# THE GLASS CEILING PARADOX

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- ▶ Women and minorities are underrepresented in management, esp. in top positions
- ▶ However, there is no consistent research evidence of gender and racial disadvantages in promotion
- ▶ Hence, the paradox

# A SOLUTION TO THE PARADOX?

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- ▶ Stock-flow analytic perspective: lower stock of managers is due to either lower rates of inflow or higher rates of outflow.
- ▶ Unequal managerial representation may be due to women and minorities' greater tendency to move downward on the ladder.

# RESEARCH QUESTIONS

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- ▶ Are female and minority managers more likely to experience downward mobility? How much does this account for their managerial underrepresentation?
- ▶ Is there a glass ceiling effect in the sense that women and/or minorities are less likely to **move up hierarchies** *and* this disadvantage **increases with hierarchical level?**

# WORKPLACE AUTHORITY

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- ▶ Authority is defined as the power to participate in and influence the decision-making process regarding an organization's operations and personnel
- ▶ Can be attained through either internal promotion or changing employers

# STRUCTURAL CONSTRAINTS ON AUTHORITY ATTAINMENT

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- ▶ Workplace authority is a relative status.
- ▶ The proportion of managers in the labor force is quite stable over time.
- ▶ Hence, downward mobility in authority should be as frequent as upward mobility.
- ▶ Authority attainment should be examined as a “revolving doors” phenomenon, not as a “pipeline.”

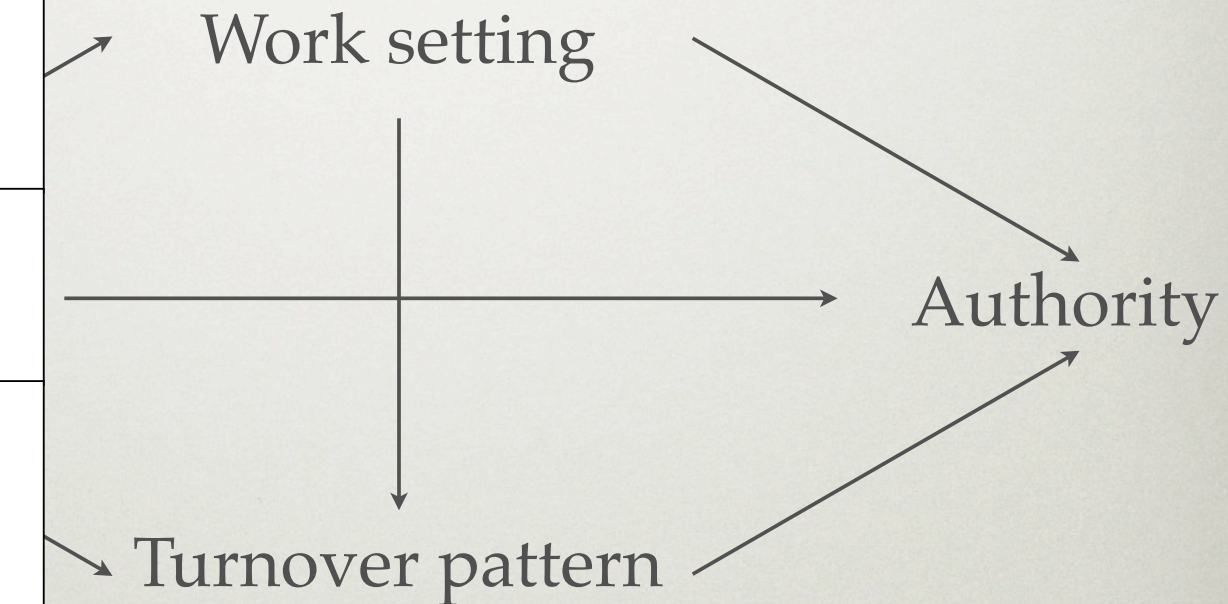
# EXPLANATIONS OF GAPS IN MOBILITY RATES

• Women are more likely to work in educational institutions, which offer less opportunity for upward mobility than private business sector due to shorter authority chains.

• Blacks and Hispanics are disadvantaged due to lower educational attainment

• Asian Americans are disadvantaged due to their nativity status

• Women with children are disadvantaged due to increased family responsibilities



• Women are more likely to change jobs for non-career reasons, which can lead to downward mobility.

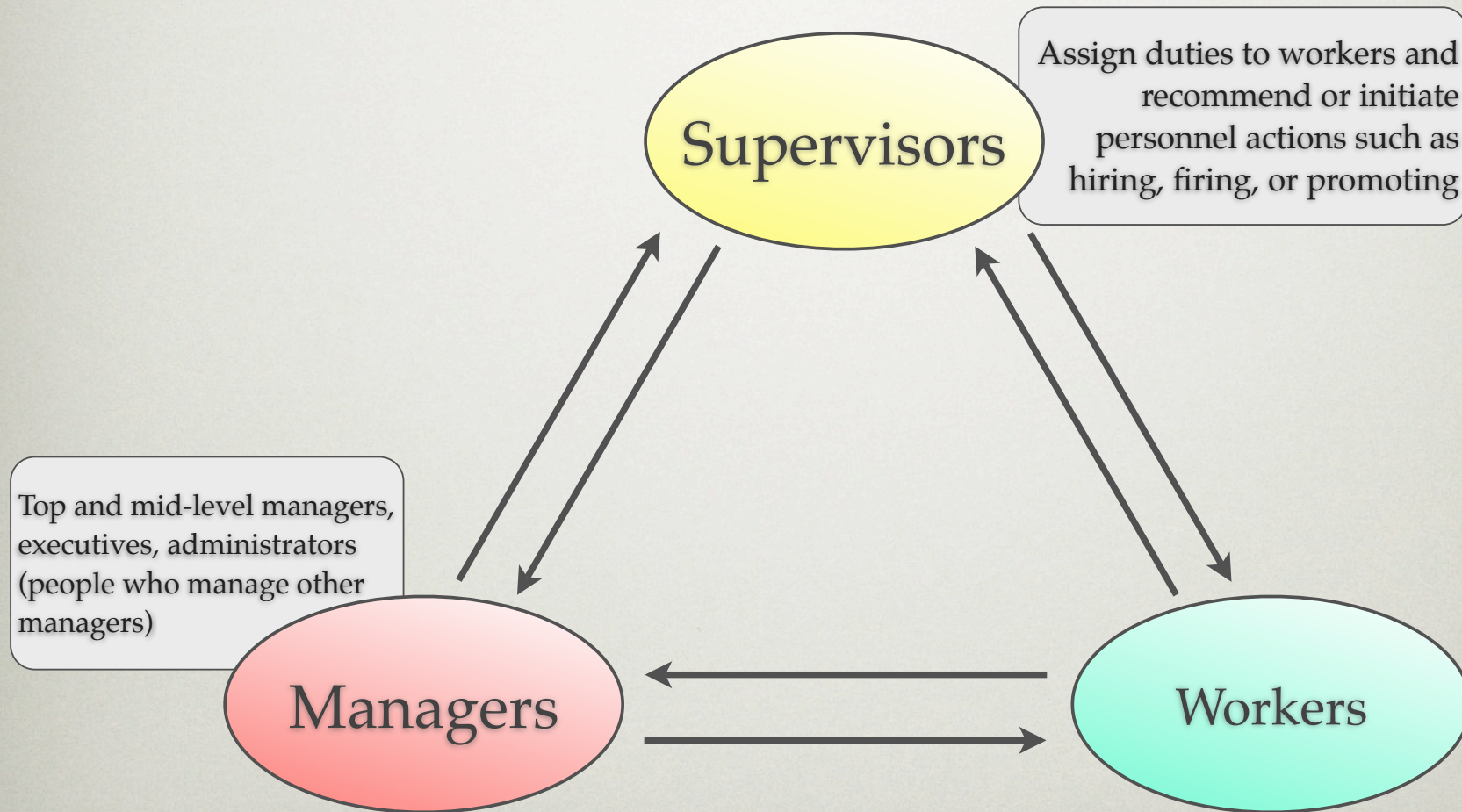
# DATA

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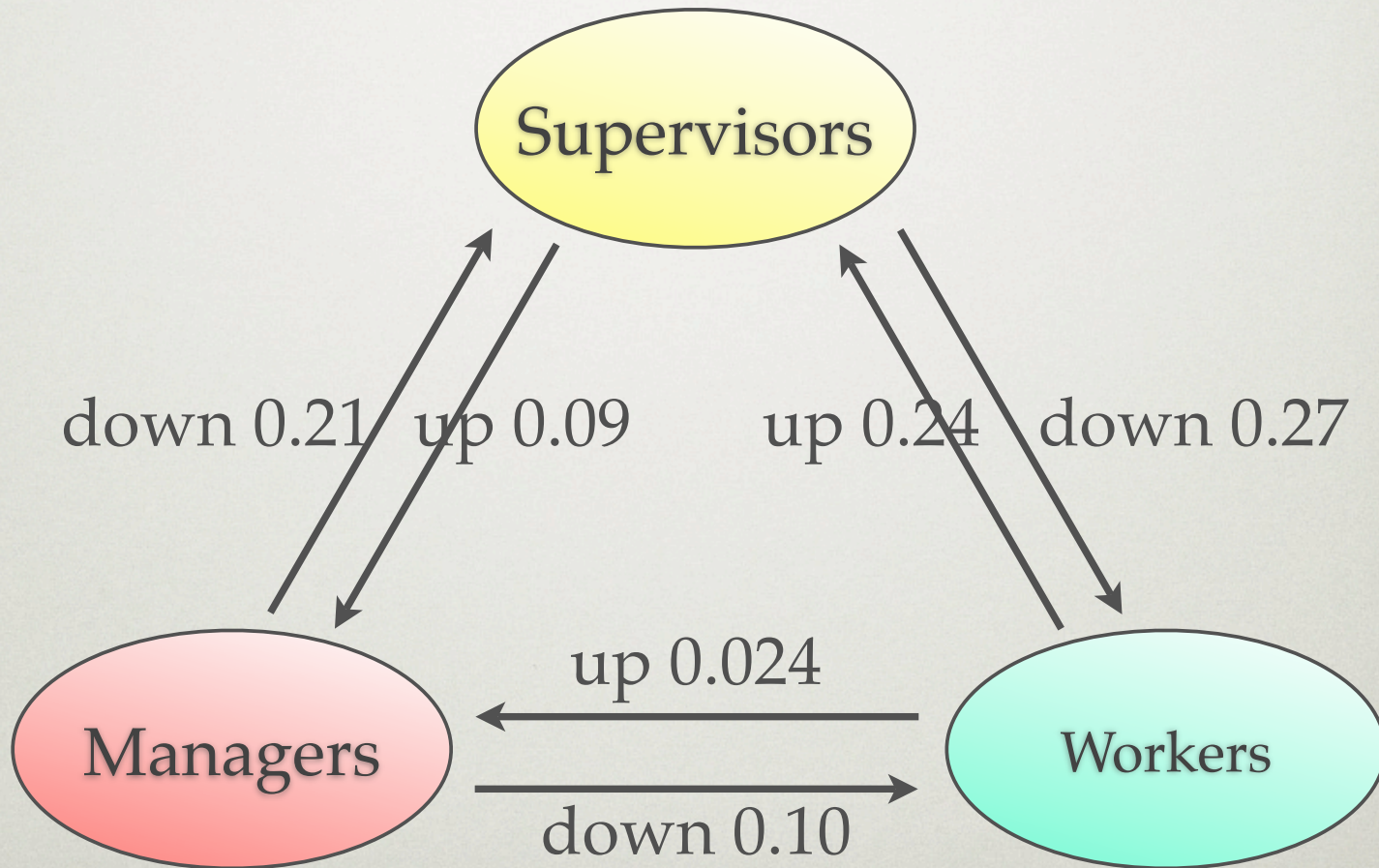
- ▶ Panel data from SESTAT (Scientists and Engineers Statistical Data System) 1993-9 biennial surveys
- ▶ Respondents were all college graduates. They either held a degree in S&E or were working in an S&E occupation.
- ▶ Compared six demographic groups

<i>No. of observations</i>	Men	Women
White	159,762	69,034
Asian	29,034	12,856
Underrepresented Minorities (URM)	22,802	16,751

# RESEARCH DESIGN: A STOCK-FLOW APPROACH



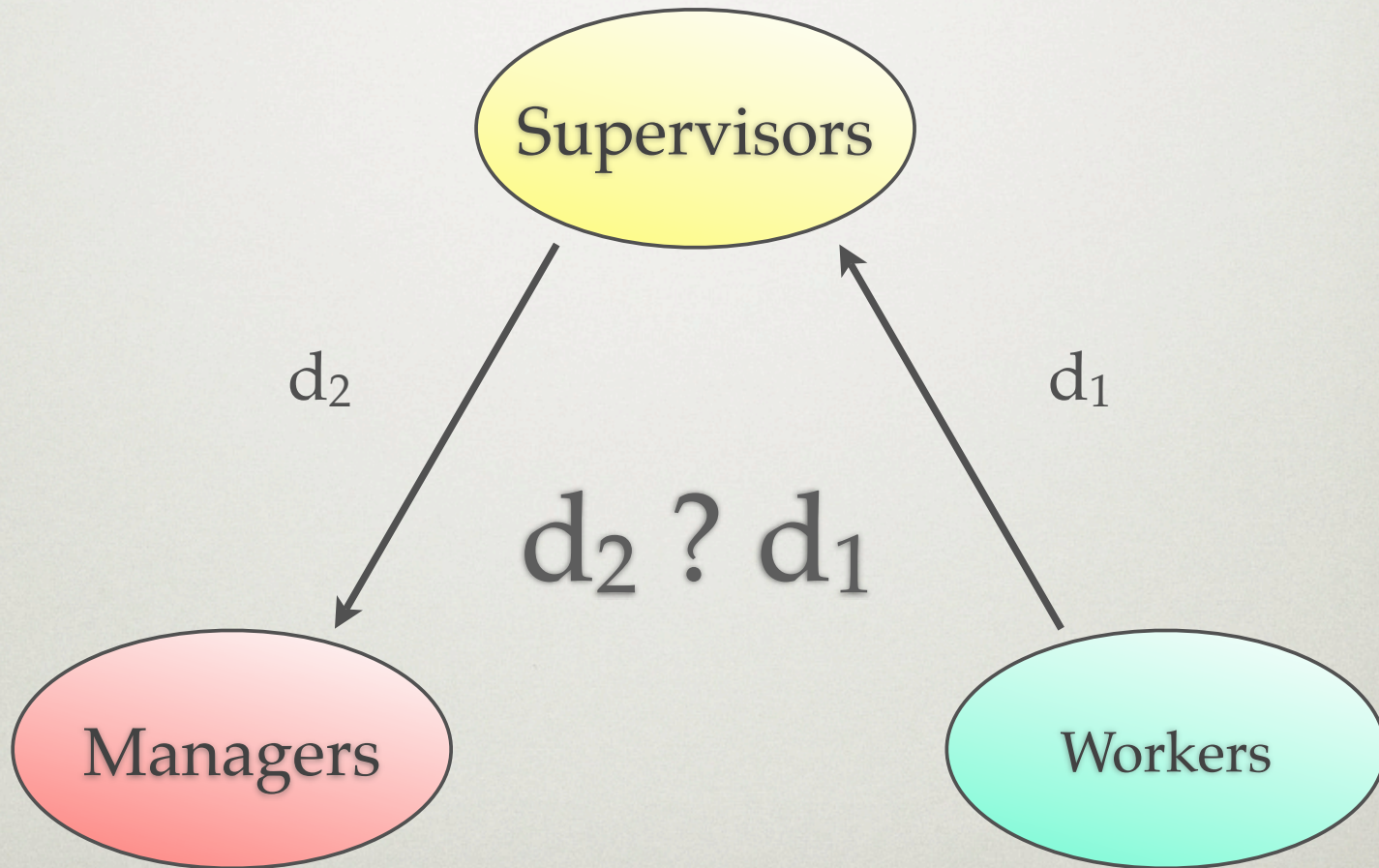
# TWO-YEAR TRANSITION PROBABILITIES



1993-5, 1995-7, 1997-9 pooled data

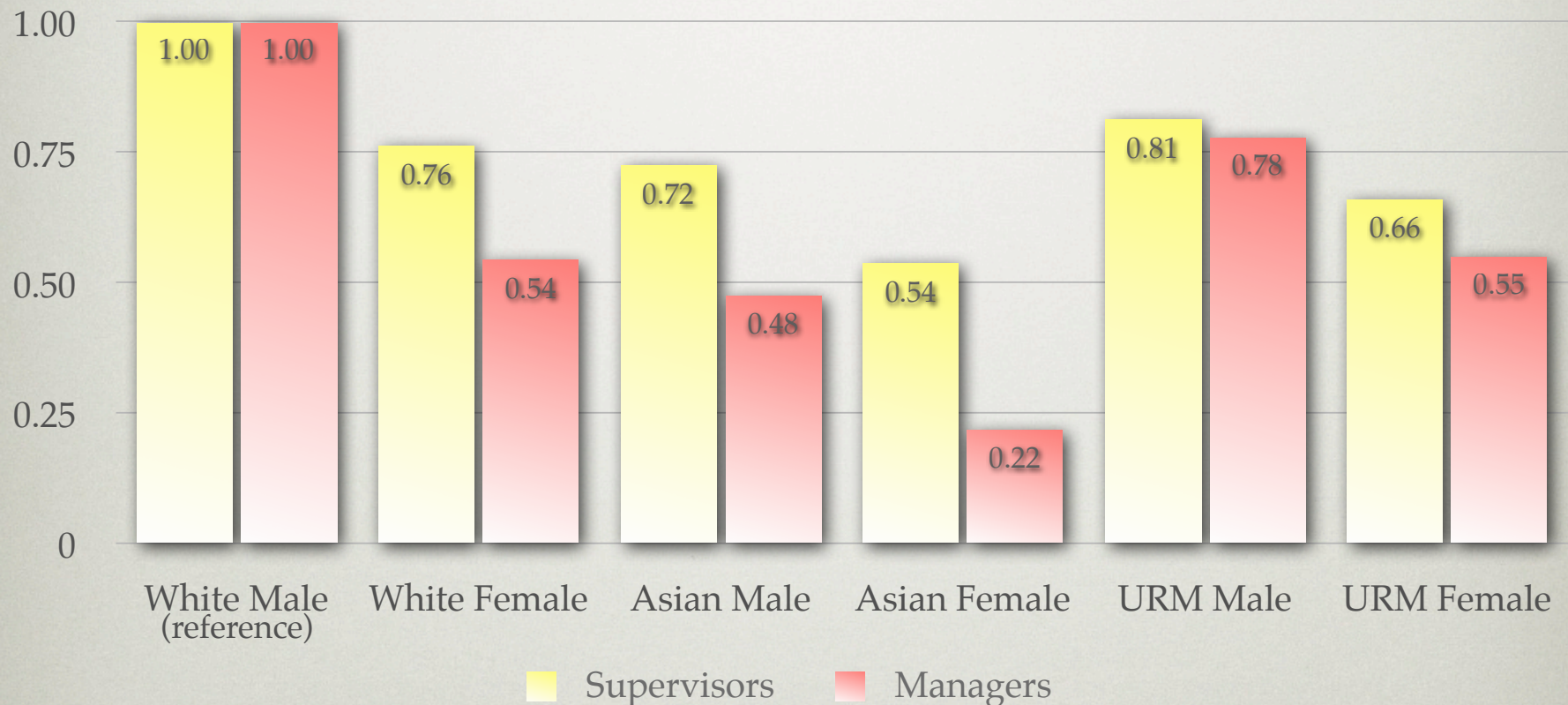
# TESTING THE GLASS CEILING

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# GROUP DIFFERENCES IN MANAGERIAL REPRESENTATION

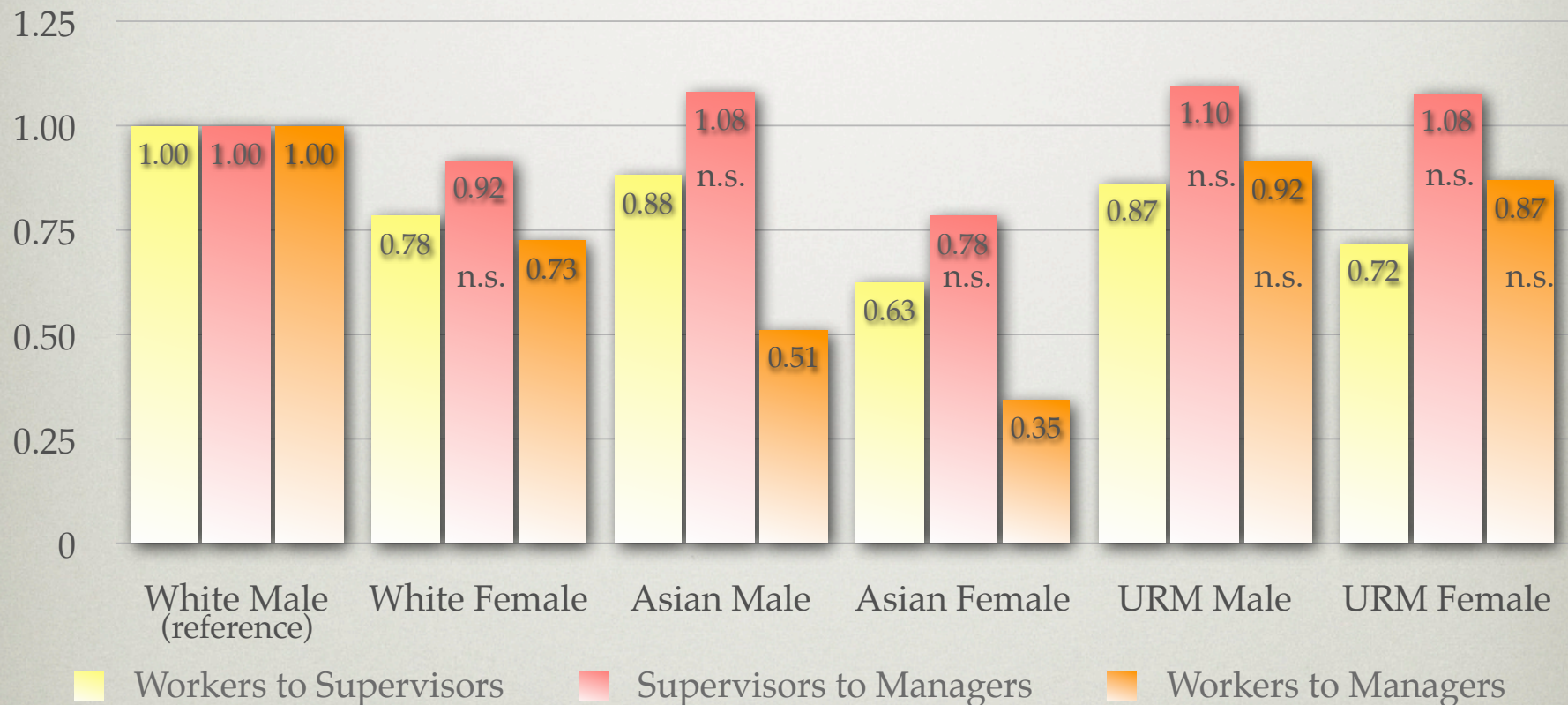
Relative Risk Ratios of Being a Supervisor or a Manager



The multinomial model controls for degree, major, potential work experience, part-time status, and year, and uses 1993/5/7/9 pooled data.

# GROUP DIFFERENCES IN UPWARD MOBILITY

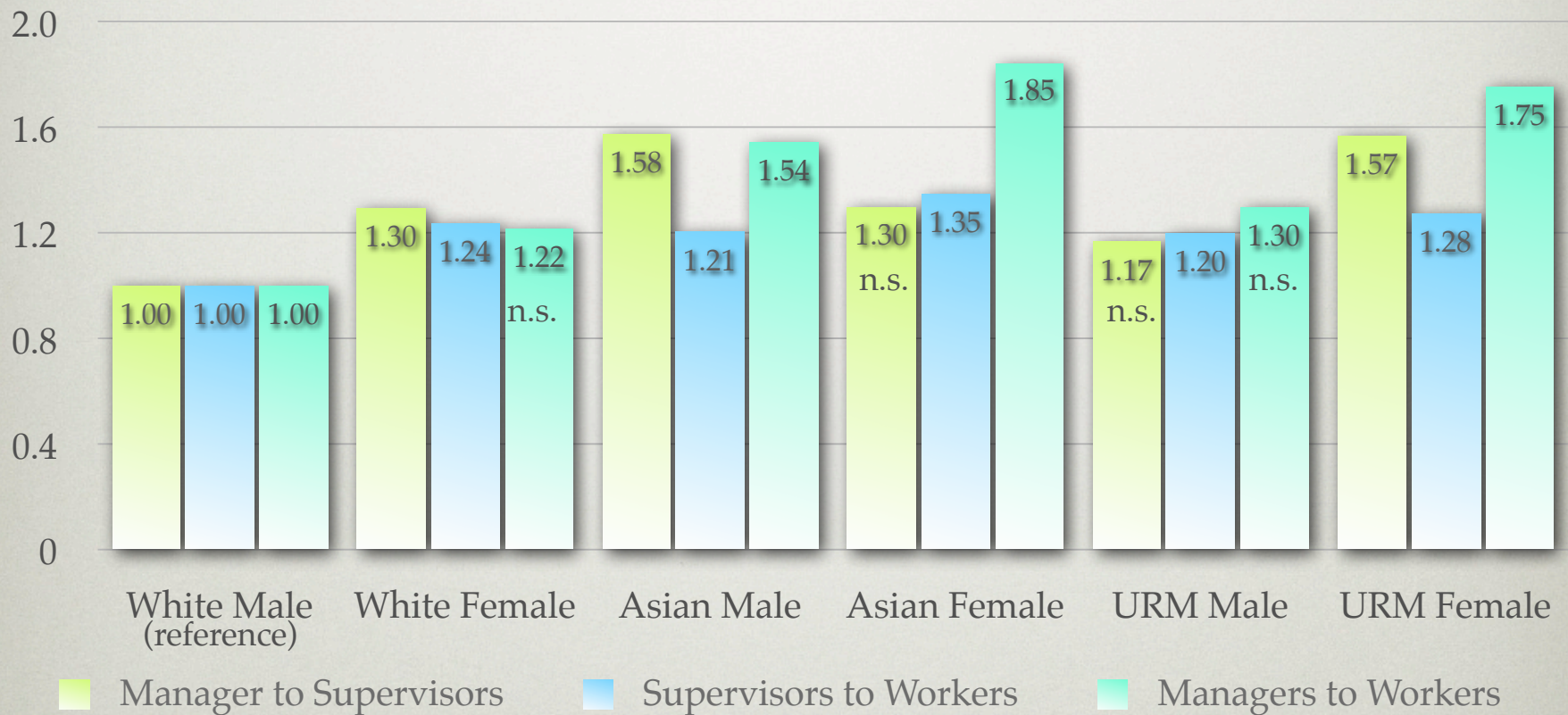
Relative Risk Ratios of Upward Mobility



The multinomial model controls for degree, major, potential work experience, part-time status, and year, and uses 1993/5/7/9 pooled data.

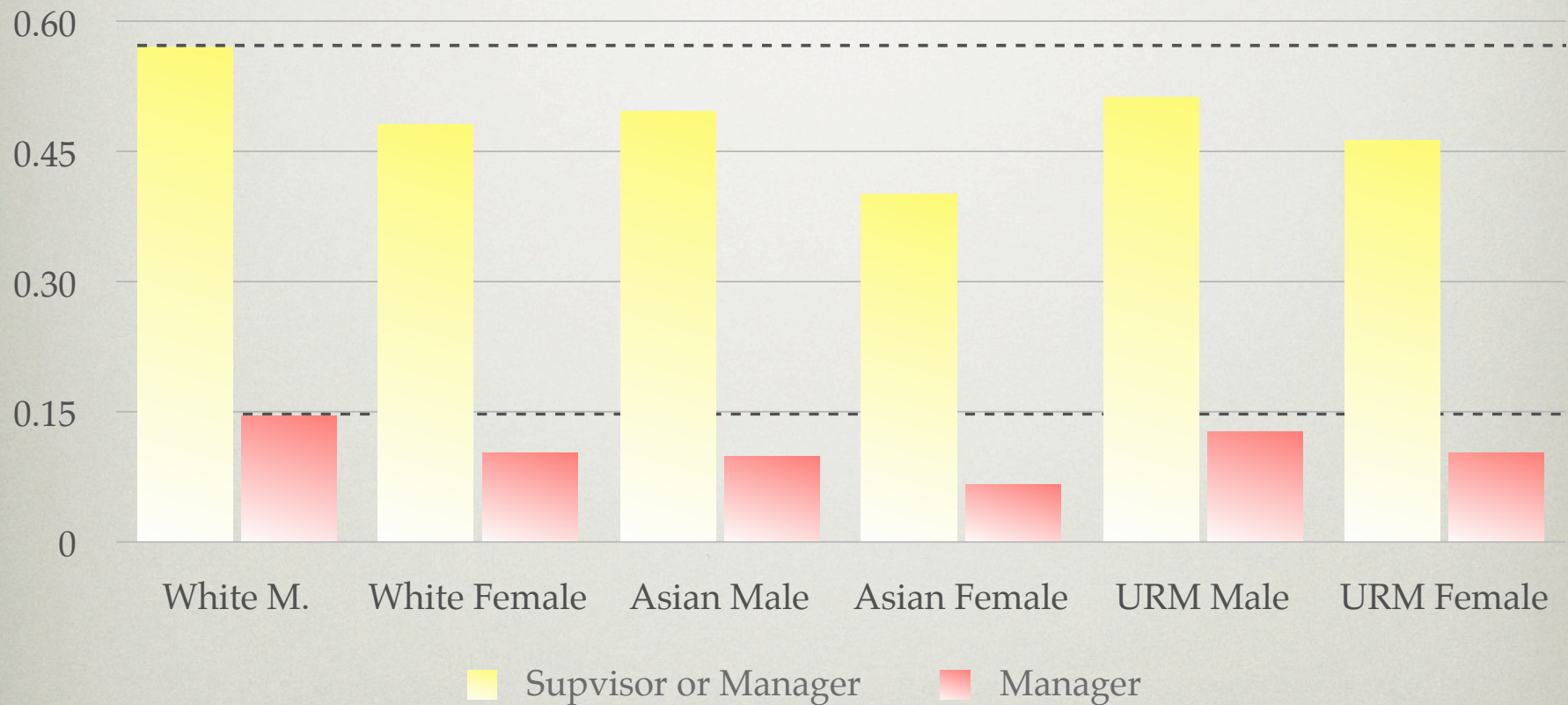
# GROUP DIFFERENCES IN DOWNWARD MOBILITY

Relative Risk Ratios of Downward Mobility



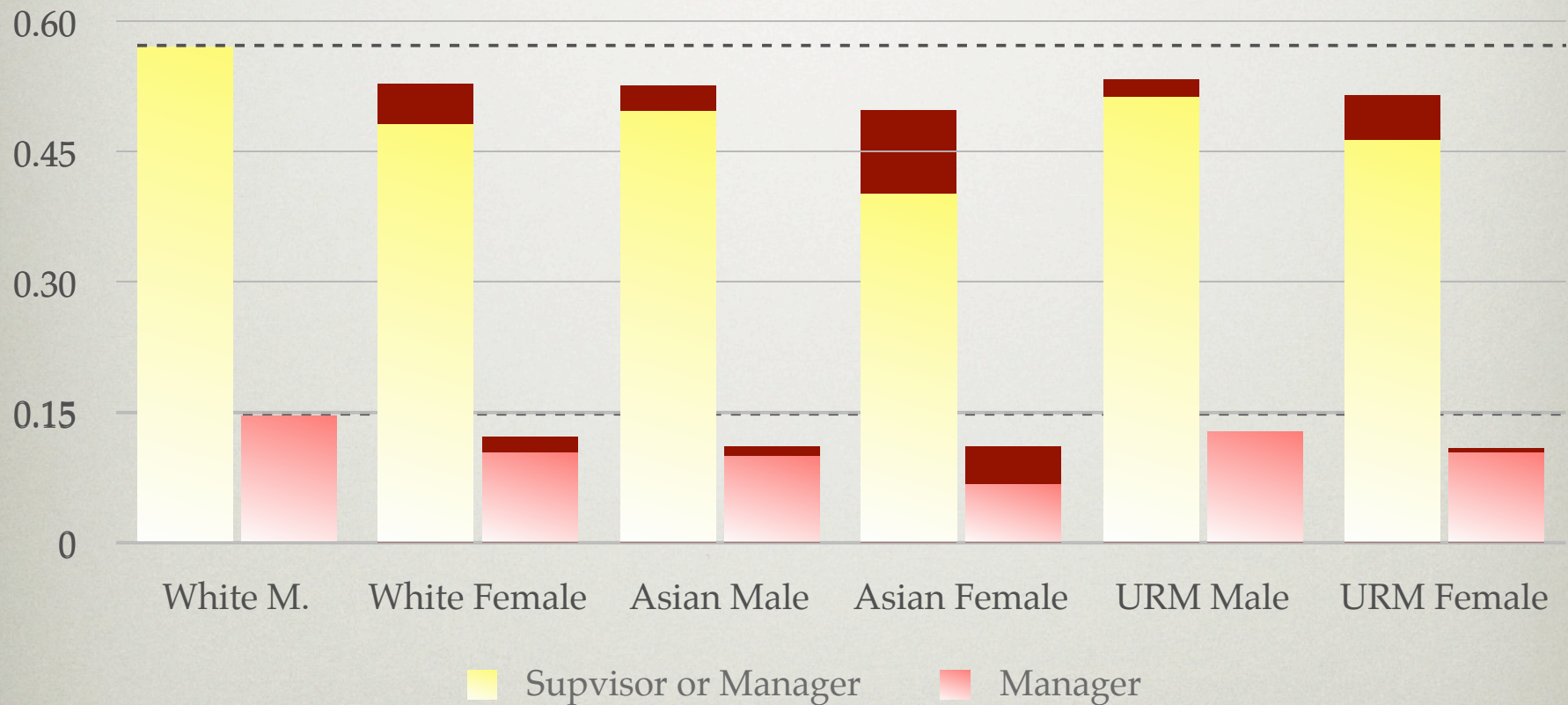
# PROPORTIONS OF LIFETIME WORKING AS SUPER/MANAGER

Projection Based on Adjusted Transition Rates 1993-9



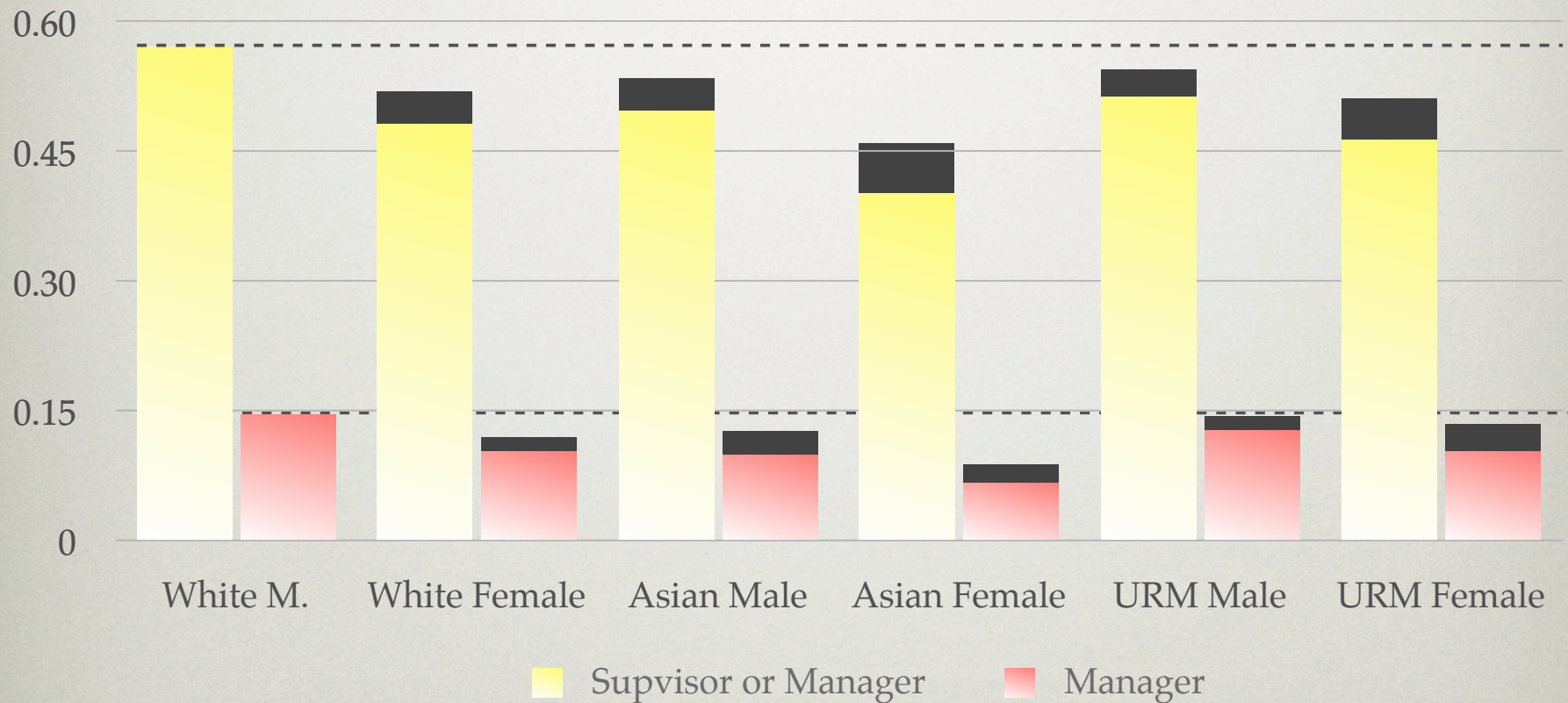
# IF NO DIFFERENCES IN UPWARD MOBILITY...

Projection Based on Adjusted Transition Rates 1993-9



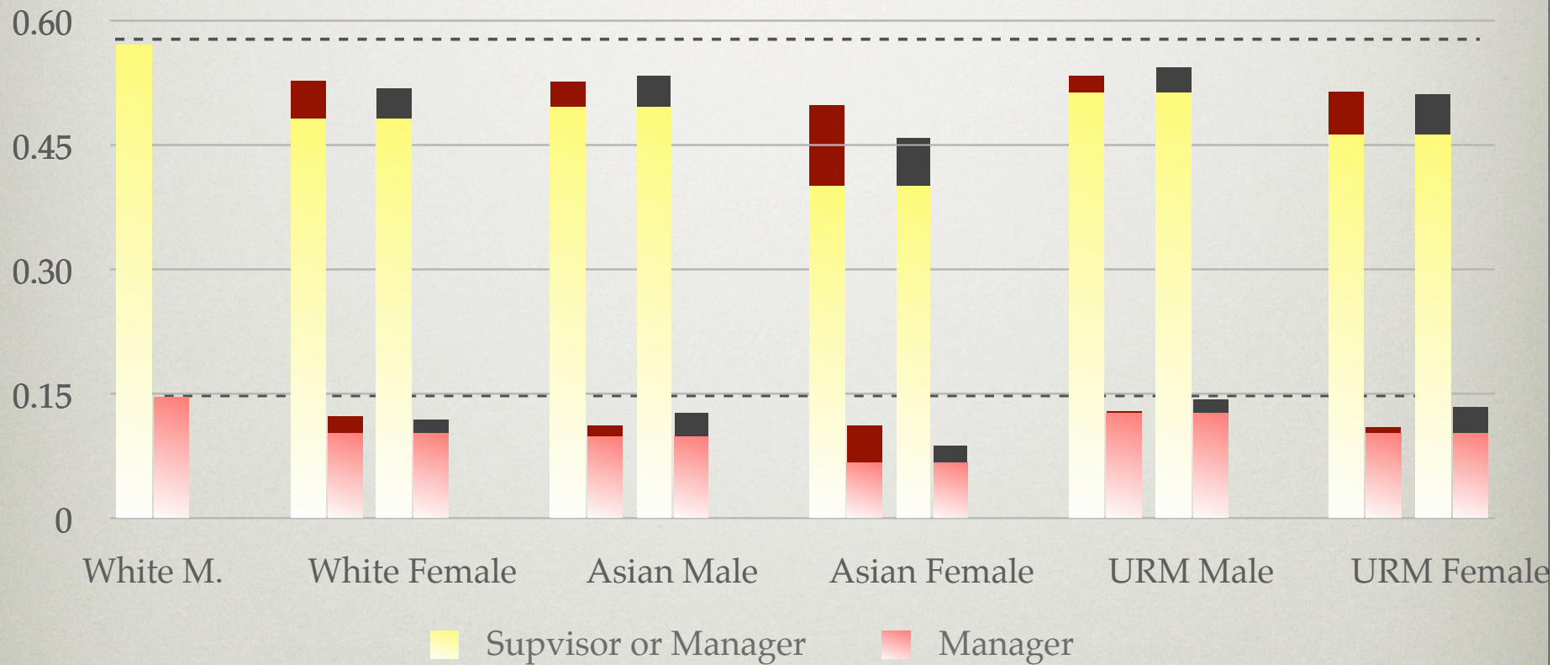
# IF NO DIFFERENCES IN DOWNWARD MOBILITY...

Projection Based on Adjusted Transition Rates 1993-9



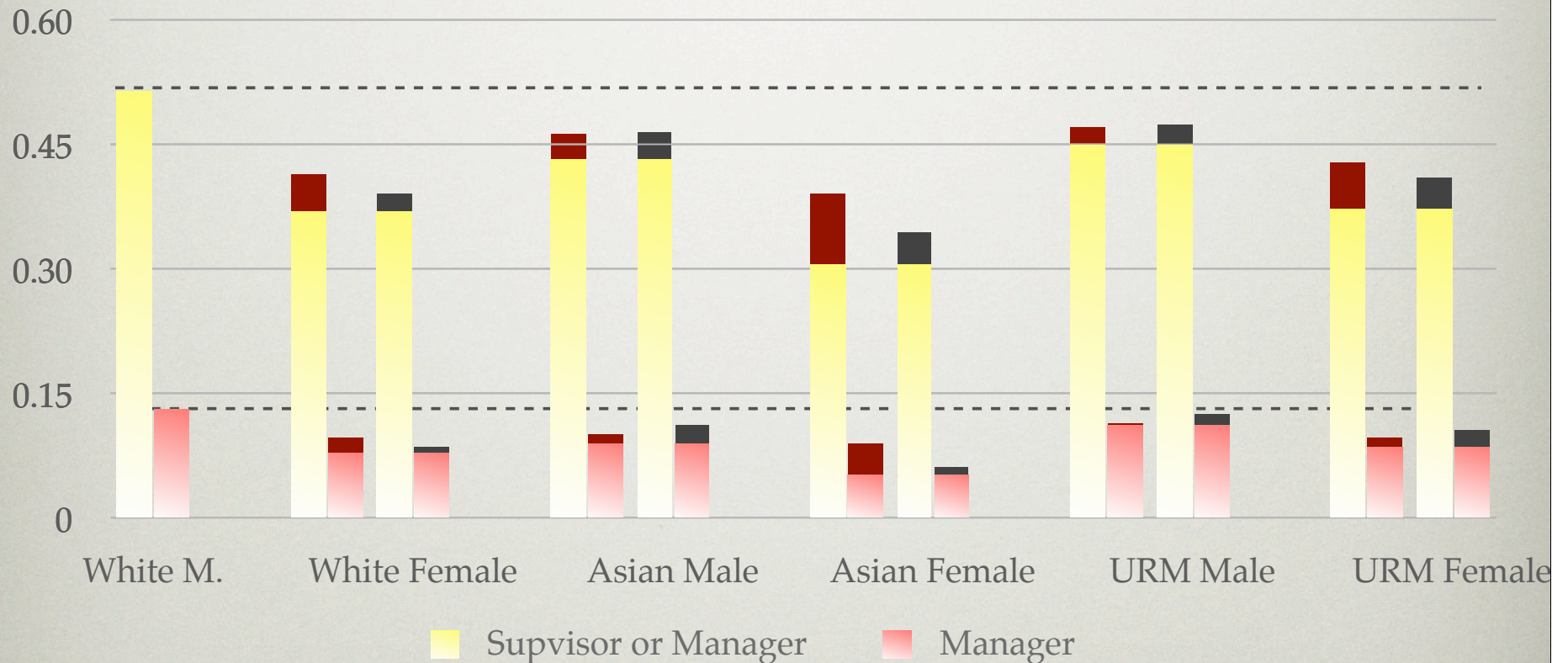
# UPWARD VS. DOWNWARD MOBILITY

Projection Based on Adjusted Transition Rates 1993-9



# IF TIME OUT OF LABOR FORCE IS CONSIDERED...

Projection Based on Adjusted Transition Rates 1993-9

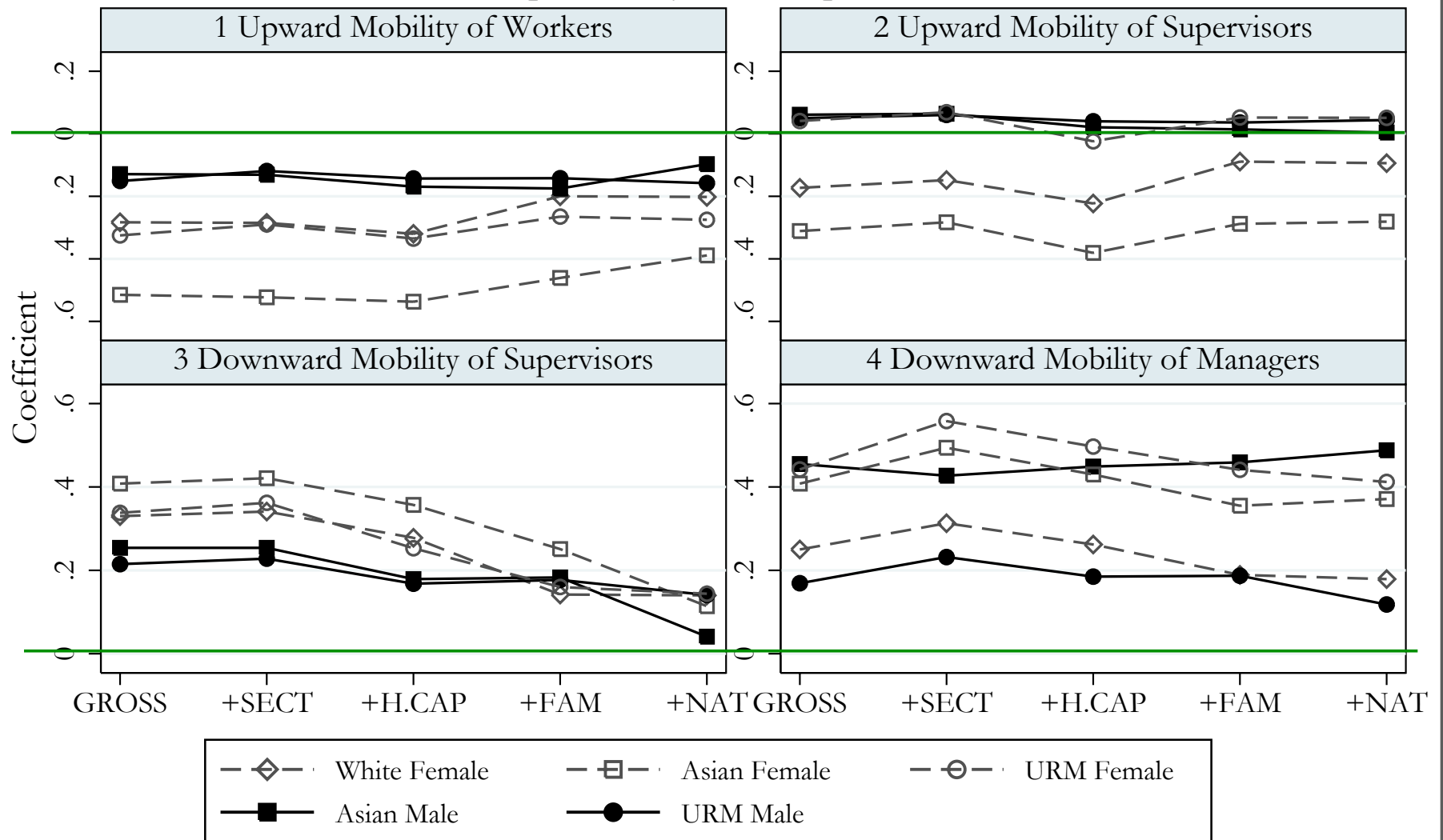


# WHAT ACCOUNTS FOR GAPS IN MOBILITY RATES?

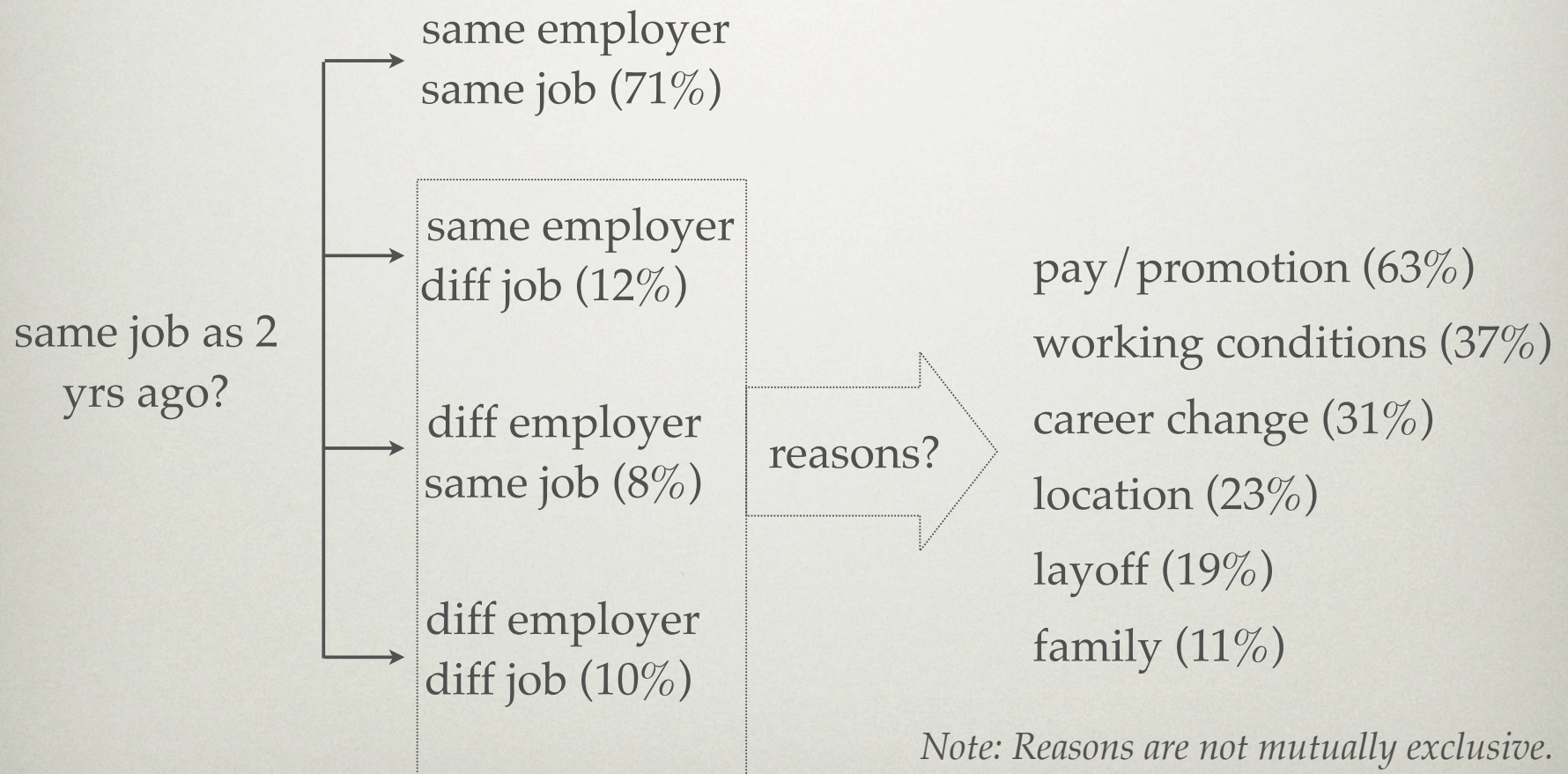
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- ▶ Gender gap: full-time status and living with children, human capital (downward only)
- ▶ Asian-white gap: bachelor degree from U.S. (only at the supervisor level)
- ▶ URM-white gap: human capital (downward only)
- ▶ **Large group variations remain in the full model.**

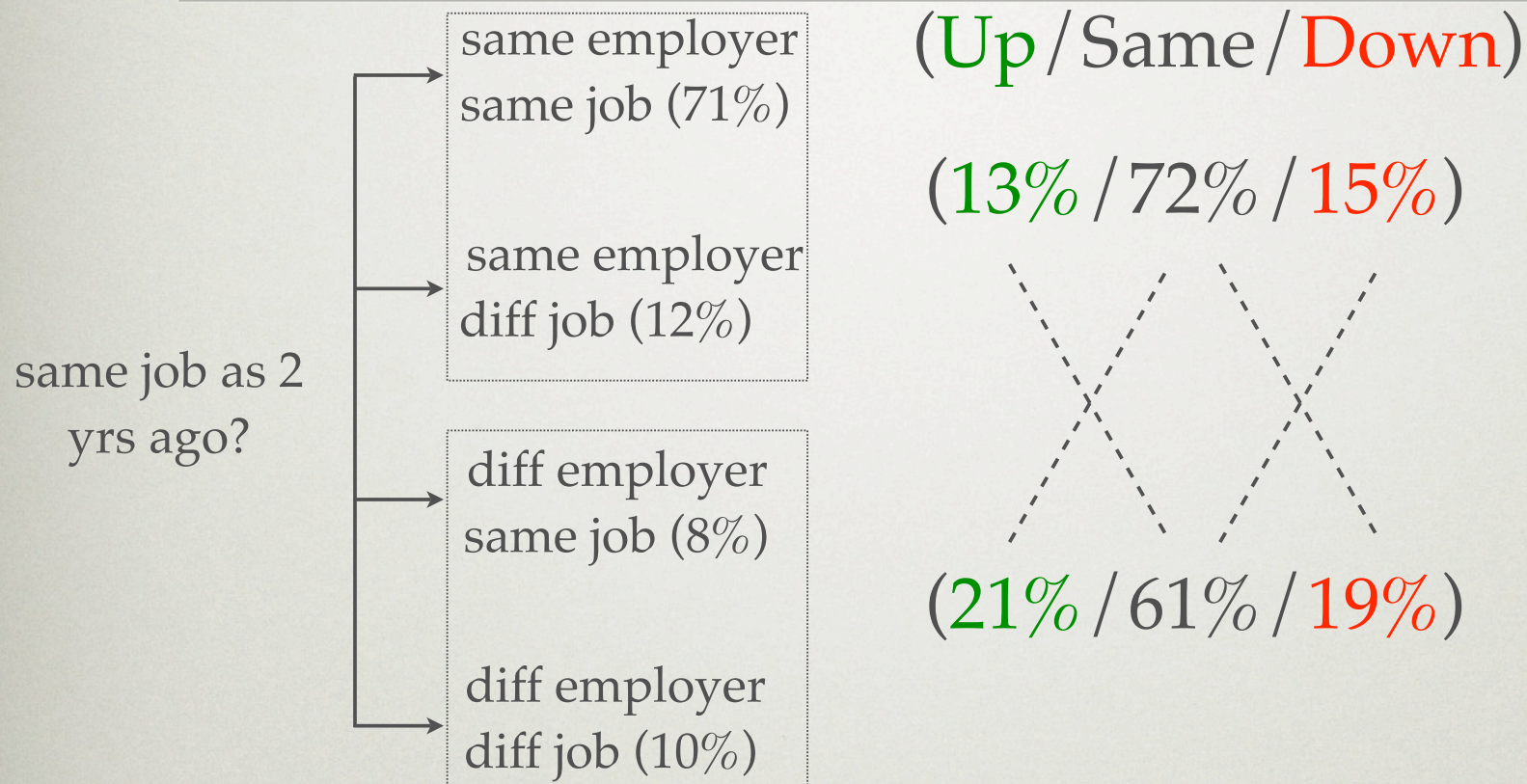
## Gender and Racial Differences in Mobility Rates: Comparison by Model Specification



# JOB SHIFTS & REASONS

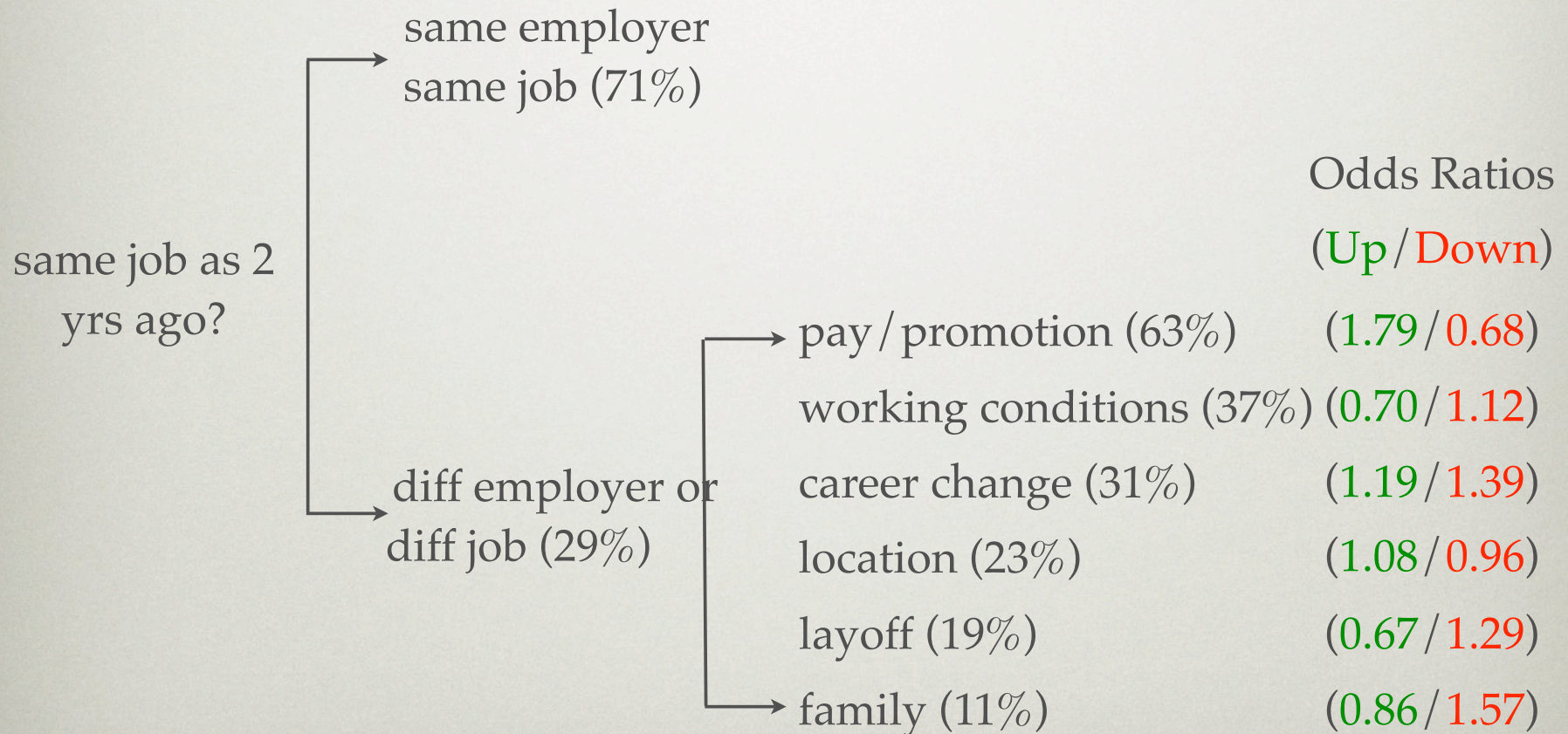


# JOB CHANGE & AUTHORITY MOBILITY



- Changing employer is associated with both **upward** and **downward** mobility, OR = **1.9** and **1.5** respectively.
- Group differences in mobility rates are replicated among those who did not change employers, thus not driven by job turnover or measurement incomparability of authority across organizations.

# JOB CHANGE REASONS & AUTHORITY MOBILITY



# SUMMARY OF FINDINGS

	<i>Representational Inequality</i>		<i>Lower Rates of Upward Mobility</i>			<i>Higher Rates of Downward Mobility</i>	
	<i>Overall</i>	<i>More intense at upper level</i>	<i>Lower level</i>	<i>Upper level</i>	<i>More intense at upper level</i>	<i>Lower level</i>	<i>Upper level</i>
<b>White Female</b>	✓	✓	✓	✗ <sup>a</sup>	✗	✓	✓
<b>Asian Male</b>	✓	✓	✓	✗	✗	✓	✓
<b>Asian Female</b>	✓	✓	✓	✗ <sup>a</sup>	✗	✓	✓
<b>URM Male</b>	✓	✗	✓	✗	✗	✓	✓
<b>URM Female</b>	✓	✓	✓	✗	✗	✓	✓

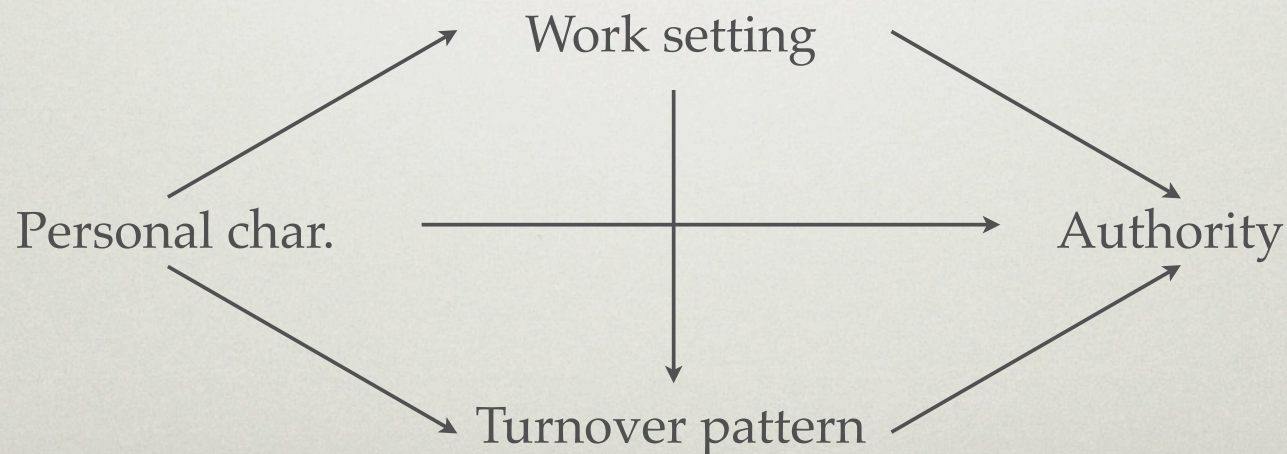
*Note:*

a. White women and Asian women have lower rates than white men in making the upper level transition, but the coefficients (-0.084 and -0.244) are not statistically significant.

# NO GOOD EXPLANATION OF MOBILITY GAPS FOUND

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All covariates predict authority attainment and also vary by gender and race, but together they explain only a small portion of the group differences in mobility rates.



# DISCUSSION: DATA ISSUES

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- Crude measure of authority
- Would be nice to have self-reported promotion from all respondents
- Would be nice to have contextual data on firms
- Limited to scientists and engineers
- + Huge sample size for estimating mobility rates of minority managers
- + Nationally representative
- + Reasons for job change

# CONCLUSION

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- ▶ The shortage of women and minority managers is caused by higher rates of downward mobility as well as lower rates of upward mobility
- ▶ Downward mobility play a more important role for Asian men and underrepresented minority managers
- ▶ Organizations should focus on retainment policies rather than recruitment policies in order to reduce racial gaps in workplace authority.