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HW#5

I made a liitle adjustment. In Katz and Murphy (1992), the count sample includes all individuals who worked at least one week in the preceding year instead of full time full year workers, and the wage sample add the restirction of being full time and non-part year workers. I compute total hours worked for each cell in each year by computing the product of total annual hours and the individual CPS sample weight for each individual in the cell and then summing over all individuals.

Figure 1 plots the log skill/unskill relative supply and the log relative weekly real wage premium series over 1963 to 1999. The college wage premium expanded considerably during the 1960s. During the 1970s, the college wage premium declined sharply, but it rebounded more rapidly during the 1980s. Therefore, it is unlikely to use a single factor to explain the divergent pattern.

Figure 1

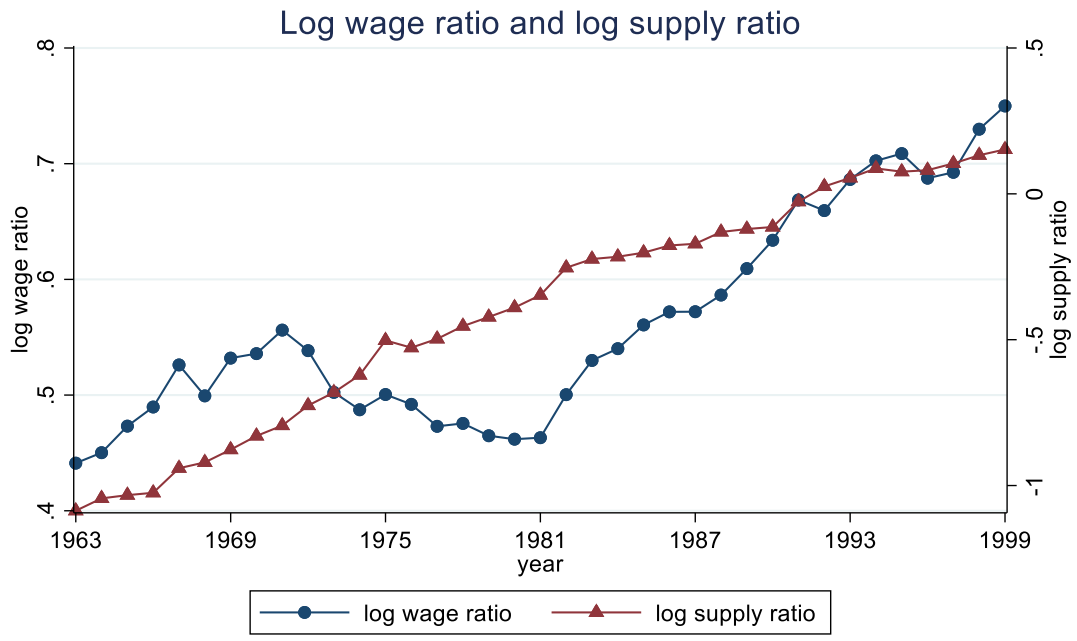

Figure 2 plots the college-equivalent skill/unskill relative supply and relative real wage premium series over 1963 to 1999, deviated from a linear time trend. The detrended supply and wage series are the residuals from seperate OLS regressions of the relative log supply and relative log wage measures on a constant and a linear time trend. Figure 2 reveals an acceleration of the growth in the relative supply of college workers between 1965 and 1975, and a dramatic slowdown since 1980s. If there is also a constant trend growth in relative college demand, the fluctuations in the growth rate of relative supply could explain the deviations of wage premium from a linear time trend in 1963 to 1999.

Figure 2

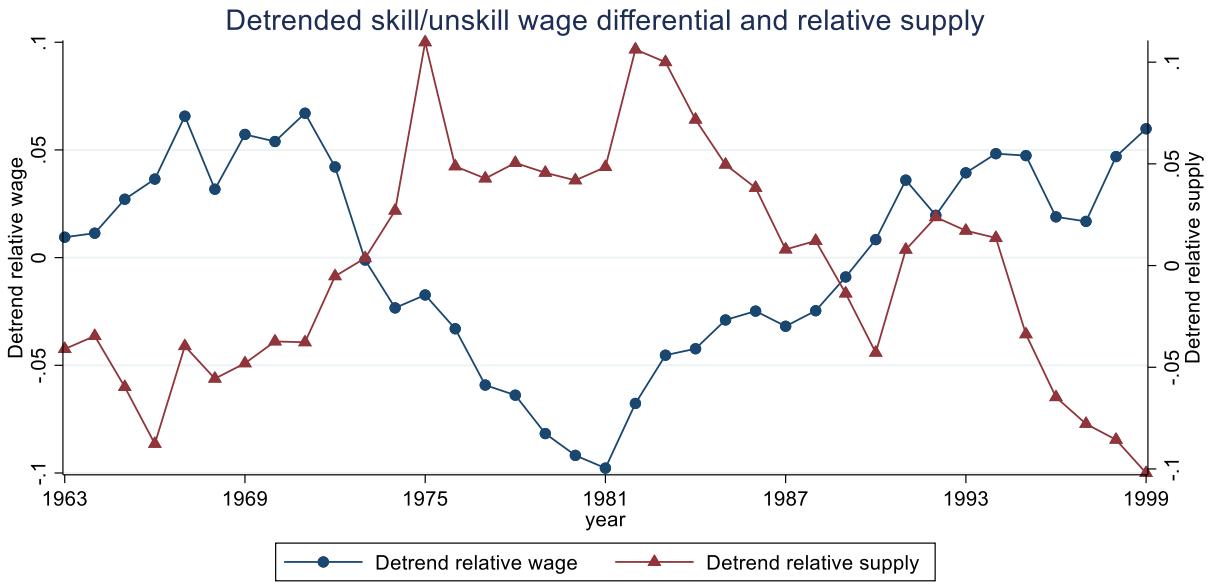

Table 1

Regressions for the skill/unskill log wage gap			
	(1)	(2)	(3)
	1963-1987	1963-1999	1963-1999
log relative supply	-0.494**	-0.620***	-0.385***
	(0.186)	(0.098)	(0.116)
time	0.023***	0.030***	0.019***
	(0.008)	(0.004)	(0.005)
D(>=1990)*time			0.002***
			(0.001)
constant	-0.089	-0.246**	0.033
	(0.213)	(0.107)	(0.132)
sample size	25	37	37
R_squared	0.38	0.88	0.9

Table 1 gives the estimates. The column (1) uses the same specification and sample period as in Katz and Murphy (1992) for the 1963 to 1987. In column (1) I uncover an estimate of negative 0.494, which implies an elasticity of substitution between college and high school labor of about 2. The magnitude of coefficient and R square are both smaller than that in Katz and Murphy (1992). One reason is the measurement errors in my construction. For example, in Katz and Murphy (1992), one person with some college is equivalent to a total of 0.69 of a high school graduate and 0.29 of a college graduate. The column (2) of table 1 covers the full sample period 1963-1999, and shows highly significant results. The estimated elasticity of substitution is 1.61, which is closer to Katz and Murphy. The columns (3) in table 1 allows for a trend break in 1990, indicating a smaller impact of relative supply growth. Contrary to Autor et al. (2008), the coefficient of interaction term is positive, implying that trend demand growth for college relative to noncollege workers accelerated in the early 1990s. This is more

consistent with the SBTC theory, when there was a rapid growth of computer investments since 1990s.

Referring to Autor et al. (2008), models in table 2 allow for a more flexible quadratic or cubic time trend, and uses 1992 as the trend break timing. The coefficients of relative supply are still robust, but the time trend shows no significance, maybe due to a shorter time span up to 1999 compared with Autor et al. (2008).

Table 2

Regressions for the skill/unskill log wage gap

	(1) 1963-1999	(2) 1963-1999	(3) 1963-1999
log relative supply	-0.368**	-0.339*	-0.486***
	(0.174)	(0.181)	(0.114)
time	0.014	0.016	0.023***
	(0.010)	(0.010)	(0.005)
time^2/100	0.016*	-0.004	
	(0.009)	(0.032)	
time^3/1000		0.004	
		(0.006)	
D(>=1992)*time			0.001**
			(0.001)
constant	0.067	0.091	-0.087
	(0.209)	(0.214)	(0.128)
sample size	37	37	37
R_squared	0.887	0.888	0.89