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Flexible Work Arrangements in Georgia: Characteristics and Trends

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Acknowledgments

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I.   Introduction

Workers with flexible work arrangements are a large and increasingly important segment of the U.S. labor force.   This paper uses a typology of the nonstandard workforce based on their work arrangement and the industries in which they concentrate to gain some understanding of this workforce in Georgia.   The typology divides the workforce into four categories: contingent core, standard workers in contingent industries, non-standard workers in traditional industries, and traditional workers.   Describing these workers by demographic and economic characteristics demonstrates much diversity across these four groups.   Possible policy implications on employment quality, cyclical employment patterns, and economic development are also discussed.

Flexible work arrangements, also known as contingent or non-standard work arrangements, are not new, but the growth in size and importance of this segment of the labor force has led to an increase in interest from researchers and policymakers alike in recent years.   The concept of the contingent workforce can be traced to the study of "peripheral workers" in the early industrial age (Adler and Adler, 2004), and the term "contingent work arrangements" was used to describe this phenomenon more recently (p. 35; Polivka and Nardone, 1989, pp. 9-10).   An alternative, more detailed definition of contingency is suggested by Polivka and Nardone, who identify contingent workers as those without "explicit or implicit contract for long-term employment (1989, p. 11)."   More specifically, these are workers who (1) lack job security, (2) have unpredictable work hours, and (3) lack access to benefits typical of traditional work arrangements (1989).

Global economic restructuring and liberalized labor markets across the world contributes to the increasing importance of contingent work arrangements.   Rising global competition, deregulated employment regimes, decline in union density, and immediate financial concerns all push profit-driven firms toward non-standard, flexible, and contingent employment (Peck, 2008; Peck, Theodore, and Ward, 2005). In the U.S., the deindustrialization from a manufacturing based economy to a service based economy and subsequent expansion of the service sector generates demand for flexible labor (Doussard, Peck, and Theodore, 2009).   Workplace restructuring is

further associated with the advancement in information and communication technology (ICT) that loosened workplace attachment and enabled a shift away from traditional jobs (Carnoy and Castells, 1997; Giuliano, 1998).

Counting and understanding this group of workers has important implications for public policy. Gleason suggests three reasons for the increased attention on contingent workers: the fact that their numbers are likely to increase as the labor force continues restructuring; the importance of this segment on the concept of "good jobs"; and the fact that contingent work is dominated by women, younger workers, and minorities (Gleason, 2006, pp. 1-2). Contingent employment is usually characterized by lower pay, inadequate work conditions, limited career development opportunities, short job tenure, and lack of access to unions and social protection (Mehta and Theodore, 2003). At the same time, the impact of this workforce on both employer-provided health and pension benefits and government-provided Unemployment Insurance, and on employee protection laws such as family leave, job safety, minimum wage regulations, and others, is worth noting (Wenger, 2006). In addition to the implications of contingent work for employers and workers, there is an important macroeconomic interest in a timely count of such workers as well. It is argued that contingent workers can be a "canary in a coal mine" for predicting economic conditions, acting as a leading indicator of employment trends (Muhl, 2002). Evidence from the 2001 recession showed that while temporary agency workers as a group represented only 2.5 percent of the workforce, they accounted for more than a quarter of net job losses in the labor market (Peck and Theodore, 2007).

In this report we built upon previous studies. We refined existing strategies for counting contingent workers in sub-national and regional jurisdictions by bridging three data sets: the Contingent Work Supplement (CWS), the Current Population Survey (CPS), and the Public Use Microdata Sample (PUMS). We devised a typology of various work arrangements that captures different forms of employment contingency. In addition, we trace the growth of the contingent workforce in Georgia between 1990 and 2007, and describe their demographic and socioeconomic characteristics as compared to traditional workers.

II.   Georgia's Flexible Work Arrangements in Context

The economic and technological processes in today's economy—globalization, restructuring and information technology—are transforming workplace organization and fostering employment flexibility. Contingent workers and workers with nonstandard work arrangements are a large and increasing segment of the labor force, and have much policy significance on both the microeconomic and macroeconomic scale. Depending on the definition and data source adopted, they represent no less than 4 percent, and as high as over 10 percent of the labor force (von Hippel et al., 2006), with other estimates being much higher (Belous, 1989; Giuliano, 1998). Given the growing emphasis on workplace flexibility by both employers and workers, this number is very likely to continue to increase (Carré, Ferber, Golden, and Herzenberg, 2000; Gleason, 2006).

There have been numerous previous studies that characterize the contingent workforce. Based on the 1997 CWS, Belman and Golden (2000) found that five industries had the largest share of contingent workers: household services, educational services, business services, construction, and national/internet security. Hipple (2001), using the 1999 CWS, got similar results, with the top five industries being private household services (16.8 percent of contingent workers); educational services (11.6 percent); business, auto, and repair services (7.5 percent); social services (7.3 percent); and personal services (6.2 percent). The most recent analysis was from the latest CWS in 2005; von Hippel et al., (2006) used only four categories of industries, the highest concentration of contingent workers being in the professional specialty (41.6 percent of contingent workers) and operators, fabricators, and laborers categories (27.8 percent).

Studies show disproportionate numbers of women and minorities among contingent workers. In 2005, 48.9 percent of contingent workers were women, compared to 46.7 percent of non-contingent workers. In terms of race/ethnicity, blacks comprise 11.6 percent of the contingent workforce, compared to 10.5 percent among non-contingent workers, and the numbers for Hispanics being 20.8 percent and 12.7 percent, respectively (von Hippel et al., 2006). Disaggregating these numbers for women showed some interesting changes. In 1995 and 1997, women

made up 59 percent of temporary workers, while they were only 34 percent of independent contractors (Marler and Moen, 2005). Presser (2003), using the May 1997 CPS, looked at the related phenomenon of nonstandard work shifts, and again found a disproportionate share of women and minorities in this group, which is led by non-Hispanic blacks and Hispanics. Recently, researchers have started to examine the representation of immigrants in various work arrangements. Using a CPS sample that followed the same respondents from March 2001 to March 2003, Waldinger, Lim, and Cort (2007) looked at attachment to the labor force and job quality for men over this period. They found that Mexican immigrants did better on attachment to the labor force from generation to generation, with second- and third-generation immigrants being on par with whites, and much better than blacks. However, Mexican immigrants still have jobs in the lower income brackets through at least the second-generation.

Looking at hourly wages and hours worked, we might expect that both are lower for contingent workers than for traditional workers. In the 2005 CWS, usual weekly earnings for contingent workers ranged from $405 to $488 depending on which estimate was used, which is lower than that for non-contingent workers (von Hippel et al., 2006). Part-time workers usually earn less per hour than full-time workers (Tilly, 1996). In the 1999 CWS, average hours worked for contingent workers ranged from 27.3 to 30 hours per week, compared to 38.8 hours for traditional workers. Full-time contingent workers were much closer to other full-time workers in terms of hours worked per week (38.7 - 40.8 hours compared to 42.7 hours), while part-timers work fewer hours than their traditional counterparts (16.8-16.9 compared to 20.6) (Kalleberg, 2000). On a related indicator, the educational level of contingent workers suggests a bifurcation that we see in some of the other characteristics, such as between professional and nonprofessional contingent work. While in 2005, contingent workers were nearly twice as likely to have less than a high-school education (15.5 percent vs. 8.6 percent), they were also more likely to have a college degree (36.6 percent vs. 33.1 percent) (von Hippel et al., 2006). In the case of the Silicon Valley, close to 20 percent of flexible workers were in some

technical and professional specialty occupations, including computer programmers, systems analysts, engineers, among others (Carnoy and Castells, 1997).

Georgia is a rapidly growing state in terms of both population and employment. Between 1990 and 2000, Georgia ranked sixth in the nation for population growth with over 26 percent growth in the ten-year period (Perry and Mackun, 2001). Employment growth outpaced the national rate during economic expansion, fell further during recessionary periods, but overall was stronger than the U.S. job growth rate in both the 1990-2000 period (32.5 percent vs. 19.6 percent), and the 2000-2007 period (14.0 percent vs. 8.8 percent) (U.S. Bureau of Economic Analysis, 2011). At the same time, Georgia's economy lost over 13 percent of its manufacturing employment between 1990 and 2007, with retail and health care services supplanting that sector for the top two industrial sectors by employment (Ruggles et al., 2010). The industries in which Georgia specializes are of particular interest with regard to contingent labor. The strongest non-farm economic sectors for Georgia during this period (1990–2007) relative to total U.S. employment were management, transportation and warehousing, wholesale trade, utilities, and information (U.S. Bureau of Economic Analysis, 2011). Many of these industries are considered to have large numbers of contingent workers. In addition, the lack of unionization typical of states in the region suggests a possible relationship with a high contingent workforce presence. As a right-to-work state, Georgia has a relatively low level of union density, ranking as the sixth least unionized state in the U.S. The level of unionization decreased sharply between 1984 and 2000 as well. While union density in the U.S. declined by 28.8 percent, from 19.1 to 13.6 percent, the decline in Georgia was 38.8 percent over the same period, with only 6.3 percent of workers in unions by the year 2000 (Hirsch, Macpherson, and Vroman, 2001). All of these suggest that, compared to some other states, Georgia might have a more sizable contingent workforce.

III.   Counting the Contingent Workforce

We classified workers along two dimensions: one is working for contingent industries or traditional industries, and the other is standard or nonstandard work arrangements (self-employed, and/or part-time/part-year, and/or work from home). The appendix describes how these two dimensions are defined specifically. The selection of contingent industries are determined by the industry's share of five types of workers: independent contractors, temporary help workers, day laborers, on-call workers, and employees of contract firms. This gives us a matrix with four employment categories as illustrated in Figure 1. These are: the "contingent core" (Group 1), nonstandard workers in traditional industries (Group 2), standard workers in contingent industries (Group 3), and traditional workers (Group 4). While Group 2 and Group 3 are straightforward to understand, Group 1, the contingent core, denotes contingent industry workers with nonstandard work arrangements, and Group 4, traditional workers, comprises workers with standard work arrangements and work for traditional industries.

FIGURE 1. TYPOLOGY OF CONTINGENT WORKERS

		-----------------------Industry-----------------------	
		Contingent Industries[a]	**Traditional Industries**
Work Arrangement	**Non-standard Work Arrangements**[b]	1. Contingent Core	2. Non-standard Workers in Traditional Industries
	Standard Work Arrangement	3. Standard Workers in Contingent Industries	4. Traditional Workers

Note:
[a]Industries with a high likelihood of hiring independent contractors, temporary help workers, day laborers, on-call workers, and contract employees.
[b]Including the self-employed, part-time worker, part-year worker, and at-home worker.

This classification provides a richer picture of the diversity of contingent workers based on two dimensions and thus enables the counting and characterizing of contingent workers in its strict and broad senses. Only workers in contingent core can be counted as flexible workers in a strict definition, while all workers in Groups 1, 2, and 3 can be considered "flexible" to various degrees. This design also provides flexibility when contingent workers of various types need to be captured. To summarize, the contingent versus traditional industries are determined by each industry's tendency to hire independent contractors, temporary help workers, day laborers, on-call workers, and contract firm employees. The standard versus nonstandard employment is determined by the specific work arrangements, i.e., whether the worker is self-employed, part-time, part-year, or work from home. While it is possible that these two criteria overlap for some workers, this typology has the advantage of capturing each worker into an exclusive category by their dimensions of contingency.

Table 1 shows the distribution of all workers in Georgia across the four categories for periods 1990, 2000, and 2005-2007, as well as their growth over time. In 1990, 7.3 percent of all workers were considered the contingent core, meaning that they are self-employed, part-time, or worked from home for industries with high rates of contingent workers. That figure increased to nearly 10 percent of the employed labor force for the period of 2005-2007. The total number of workers in this category grew by 219,242 workers in the past two decades, an increase of 90.2 percent. The first 7 years of the 2000s added 112,860 workers to the contingent core, exceeding the 106,382 workers added during the 1990s. On the contrary, the number of traditional workers grew by only 25.9 percent in the same 7-year time period, lagging behind the growth of the overall workforce (40.6 percent). While contingent workers in traditional industries stayed relatively stable share-wise, there was also a marked increase in standard work arrangements in contingent industries. Finally, it is important to note the total number of contingent workers in its broadest sense add up to almost 50 percent of all workers in 2005-2007 (top 3 categories combined). This speaks to the growing importance of alternative work arrangements in workers' work schedules.

TABLE 1. CONTINGENT WORKERS IN GEORGIA, 1990, 2000, 2005-2007

Employment Category	----------------1990----------------		-------------2000-------------		-----------2005-2007-----------	
1 Contingent Core	242,945	7.3%	349,327	8.4%	462,187	9.8%
2 NWA/Traditional Industries	637,562	19.1%	776,075	18.8%	892,011	19.0%
3 Standard Worker/Contingent Industries	558,862	16.7%	778,507	18.8%	949,521	20.2%
4 Traditional	1,898,541	56.9%	2,231,643	54.0%	2,390,764	50.9%
Total	3,337,910	100%	4,135,552	100%	4,694,483	100%
	--Growth--					
	------------1990-2000------------		-----------2000-2007----------		-----------1990-2007-----------	
1 Contingent Core	106,382	43.8%	112,860	32.3%	219,242	90.2%
2 NWA/Traditional Industries	138,513	21.7%	115,936	14.9%	254,449	39.9%
3 Standard Worker/Contingent Industries	219,645	39.3%	171,014	22.0%	390,659	69.9%
4 Traditional	333,102	17.5%	159,121	7.1%	492,223	25.9%
Total	797,642	23.9%	558,931	13.5%	1,356,573	40.6%

Source: Authors' calculation of Census 2000 and ACS 2005-2007 data using person weights.

One distinction important for further analysis of this data is the breakdown of workers by hours worked. Among Groups 1 through 3 there are important differences in the number of full-time workers. While the Contingent Core and Traditional Workers in Contingent Industries (Groups 1 and 3) have slightly more than half of their workers working full-time, Group 2, Nonstandard Workers in Traditional Industries, had only slightly more than a quarter of workers working full-time. This especially impacts work-related variables such as income and hours worked, as can be seen below.

IV.   Characterizing the Contingent Workforce

Beyond an accurate count of the contingent workforce, we conducted further descriptive analysis along an array of indicators to gauge any underlying demographic and economic differences across these four types of workers. The indicators examined are gender, age, race/ethnicity, nativity, education, hourly wage, usual hours worked, poverty status, as well as commute times. Statistics from two recent periods (2000, 2005-2007) are presented to reveal any change over the past decade. The demographic characteristics are presented in Table 2 while the economic indicators are presented in Table 3.

Demographic Characteristics

Gender and Age Composition

The gender composition of workers in each category remained relatively stable over the two study periods. While women make up around 46 percent of the total workforce, they are heavily concentrated in Group 2 (nonstandard work arrangement in traditional industries), with over 56 percent in each period. This might be due to the higher percentage of female workers who work part-time. It is noted that because of women's household responsibilities, they tend to seek employment opportunities with relatively flexible work schedules (Hanson and Pratt, 1995). Female workers however are less represented in the contingent industries, comprising 40 percent of the contingent core and around 38 percent of standard workers in contingent industries, suggesting that at least some of the contingent industries might be male-dominant.

The age distributions of workers across the four categories exhibit an uneven pattern as well. When all workers are considered in 2000, younger workers (those below 25 years old) make up about 16 percent of the workforce and their share declined only slightly in 2005-2007. Older workers (those above 50 years of age) constitute 19 percent of all workers in 2000, and increased their share to more than 22 percent over the past decade, an indication of the aging of the workforce. Older workers are disproportionately represented in the contingent core, while both younger and older workers have higher than overall shares among Group 2 (non-standard

TABLE 2. DEMOGRAPHIC CHARACTERISTICS OF WORKERS BY CONTINGENCY TYPE IN GEORGIA

| | ----2000---- | | | | | ----2005-2007---- | | | | |
	Group 1	Group 2	Group 3	Group 4	Total	Group 1	Group 2	Group 3	Group 4	Total
Gender										
Male	59.9%	43.9%	61.4%	53.7%	53.8%	59.5%	43.3%	62.4%	52.6%	53.5%
Female	40.1%	56.1%	38.6%	46.3%	46.2%	40.5%	56.7%	37.6%	47.4%	46.5%
AGE										
<25	15.9%	30.8%	12.2%	11.9%	15.7%	12.6%	30.1%	9.9%	10.8%	14.4%
25-50	59.5%	46.1%	72.3%	70.0%	65.2%	58.5%	45.4%	71.2%	67.3%	63.2%
>50	24.6%	23.1%	15.5%	18.1%	19.1%	28.8%	24.4%	18.9%	21.9%	22.4%
Race/Ethnicity										
White	66.8%	62.1%	56.2%	60.5%	60.5%	66.8%	62.1%	56.2%	60.5%	60.5%
Black	22.1%	28.7%	28.1%	29.8%	28.5%	22.1%	28.7%	28.1%	29.8%	28.5%
Hispanic	7.4%	4.5%	12.1%	6.2%	7.2%	7.4%	4.5%	12.1%	6.2%	7.2%
Asian	2.6%	3.9%	3.0%	2.8%	3.0%	2.6%	3.9%	3.0%	2.8%	3.0%
Other	1.1%	0.8%	0.6%	0.8%	0.8%	1.1%	0.8%	0.6%	0.8%	0.8%
Immigration Status										
Native-Born	90.4%	91.0%	87.7%	91.4%	90.5%	86.7%	89.1%	81.9%	88.4%	87.0%
Foreign-Born (pre-1990 arrival)	4.3%	4.5%	5.3%	4.4%	4.6%	4.9%	4.4%	5.1%	4.5%	4.7%
Foreign-Born (after-1990 arrival)	5.3%	4.5%	7.0%	4.2%	4.9%	8.3%	6.5%	13.0%	7.1%	8.3%
Education										
Less than High School	18.4%	22.2%	12.5%	9.8%	13.4%	15.1%	17.3%	12.3%	8.9%	11.8%
Some College	58.3%	57.9%	58.5%	62.8%	60.7%	58.0%	60.5%	58.7%	61.5%	60.4%
College and Above	23.2%	19.9%	29.0%	27.4%	25.9%	27.0%	22.2%	29.1%	29.6%	27.8%

Source: Authors' calculation of Census 2000 and ACS 2005-2007 data using person weights.
Note: Group 1:contingent core; Group 2:NWA/traditional industries; Group 3:standard work/contingent industries; Group 4:traditional workers.

arrangement workers in traditional industries). It might be the fact that the various alternative work arrangements are particularly appealing to both age groups, or they face greater challenge in securing full-time standard jobs in the labor market.

Race/Ethnicity and Immigrant Status

The literature suggests that minorities and immigrants were more likely to be part of the contingent workforce, and this was largely shown by our data. Several notable distinctions and exceptions did arise, however. Not all minority groups were equally represented in nonstandard work arrangements. Both Blacks and Asians were underrepresented in the Contingent Core, and overrepresented in Group 2 (workers in nonstandard work arrangements in traditional industries). Hispanics were slightly underrepresented in Groups 2 and 4, and were significantly overrepresented in Group 3 (standard workers in contingent industries). The effect in Group 3 is likely due to the number of Hispanic workers in the construction trades. Blacks were similar to whites in all but Group 1, the Contingent Core, where they were underrepresented. Asians were underrepresented in Group 1 and overrepresented in Group 2, while being similar to all workers in Groups 3 and 4. While the 2005-2007 period witnessed growth of racial and ethnic minority groups in the overall workforce, the increase in representation is especially pronounced for Hispanics in contingent industries (Groups 1 and 3) and for Asians in nonstandard work arrangement in traditional industries (Group 2).

In terms of immigration status, overall the distribution of foreign-born workers was not very different from those born in the U.S. One notable exception was Standard Workers in Contingent Industries (Group 3), which has a significantly higher immigrant share than other categories. In the more recent samples, for instance, 28 percent of immigrants were in Group 3, as compared to only 19 percent of U.S.-born workers, and 20 percent of all workers. Linking back to the earlier findings, this is likely a result of the overrepresentation of Hispanics in the construction trades. A closer look at the breakdown of immigrants by arrival periods revealed more dynamics. Recent immigrants, those arriving in the previous ten to seventeen years (1990s), were noticeably different from their more established

counterparts. Their overrepresentation in Group 3 largely drives statistics for the whole immigrant group. The phenomenal growth of immigrants, especially Latino immigrants in the Atlanta metropolitan area since 1990, underlies these changes. It is well documented that Latino immigrants are heavily concentrated in certain job niches, especially in construction and various service sectors, sometimes called "brown-collar jobs" (Catanzarite, 2000). Their employment concentration in these niche jobs usually depress their job quality and wage levels (Liu, 2011). Their work ethics, strong ethnic networks, as well as employment constraints associated with undocumented status and lack of proper work authorization makes them natural targets of temporary agencies (Kirschenman and Neckerman, 1991; Peck and Theodore, 2001).

Education

The recent years between two observation periods witnessed the improvement of educational level among all workers in Georgia, as evidenced by the shrinking number of workers with less than a high school degree (from 13.4 percent to 11.8 percent) and the expansion of workers with college degree or higher (from 25.9 percent to 27.8 percent). Within this general trend, workers with nonstandard work arrangements in both contingent industries (Group 1) and traditional industries (Group 2) have relatively lower educational attainment, with higher share of low-skilled and lower share of high-skilled workers. The relative concentration of low skilled workers in nonstandard work arrangements might be a result of their difficulty of securing full-time work in the labor market. At the same time, it is worth noting that high-skilled workers (those with college degree and higher) are well represented in contingent industries (Group 1 and 3), especially among those with standard work arrangements (Group 3). This echoes findings from Silicon Valley and elsewhere, and demonstrates the diversity and skills-bifurcation of the contingent workforce (Carnoy and Castells, 1997; von Hippel et al., 2006).

Economic Characteristics

Earnings and Poverty

The several employment indicators together reveal some complex dynamics on the quality of contingent jobs, as shown in Table 3. Mean hourly wage is chosen as total earnings can be misleading when hours worked diverge substantially. While the hourly wage of non-standard workers in traditional industries (Group 2) is either only slightly higher than (2000) or similar to (2005-2007) traditional workers (Group 4), workers in contingent industries (Groups 1 and 3) earn significantly higher hourly wages. This is particularly true for contingent core workers (Group 1) whose mean hourly wages are the highest among all groups for both periods: $23.42 for 2000 and $27.83 for 2005-7. It further confirms that not all contingent jobs are low wage jobs and some are high-wage jobs that pay better than standard work (Kalleberg, 2000).

Although the literature suggests that contingent workers work less hours on average than other workers, a pattern consistent with our findings, there were some variations in our data. Most significantly, it was not the contingent core that worked the fewest hours per week (around 34 hours per week for both periods), but rather, those workers in nonstandard work arrangements working in traditional industries (around 28 hours per week). It is possible that workers in traditional industries have less latitude in the number of hours they work than their counterparts in contingent industries. Standard workers in both contingent and traditional industries on average work 44 hours per week. Thus, it is reasonable to conclude that the pay inferiority of contingent jobs as noted elsewhere (e.g. von Hippel et al., 2006) might be more attributable to the shorter work duration and schedule irregularity of these jobs rather than lower pay scales. Their shorter average work week might also explain the significantly higher poverty rate among non-standard workers in traditional industries (Group2) and to a lesser extent, contingent core (Group 1) as compared to traditional workers.

Commuting Times

Besides the labor market implications of earnings and work organization, the contingent segment of the workforce might also have implication on urban spatial

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TABLE 3. ECONOMIC CHARACTERISTICS OF WORKERS BY CONTINGENCY TYPE IN GEORGIA

| | ----------2000---------- | | | | ----------2005-2007---------- | | | |
	Group 1	Group 2	Group 3	Group 4	Group 1	Group 2	Group 3	Group 4
Mean Hourly Wage ($)[a]	23.42 *	17.89 *	18.38 *	16.52	27.83 *	21.68	23.46 *	21.27
Mean Hours Worked/Week	33.84 *	27.15 *	44.37 *	44.13	34.24 *	28.23 *	44.13	44.01
Poverty Rate	11.7% *	16.0% *	4.4% *	5.4%	10.7% *	14.5% *	4.6% *	4.7%
Mean Commute Time (minutes)	24.95 *	19.22 *	31.84 *	26.57	21.40 *	17.33 *	30.91 *	26.04

Source: Authors' calculation of Census 2000 and ACS 2005-7 data using unweighted sample.
Note: (a.) Calculated as annual earnings/(usual hours worked per week * usual weeks worked per year); unadjusted values.
(b.) Statistics of groups 1, 2, 3 are compared to group 4 and those with * are significant at the 0.0001 level in two-tailed t-tests of means and proportions.
(c.) Group 1:contingent core; 2:NWA/traditional industries; 3:standard work/contingent industries; 4:traditional workers.

structure as well, given its more flexible work arrangement. Workers' looser attachment to specific work locations might impact their residential locational choices and thus commuting behaviors. Commuting behavior is determined by a combination of demographic, socio-economic, and spatial factors. Past studies have found that gender, age, race/ethnicity, income, industry of employment, residential location, and employment accessibility all have significant impact on commuting mode choice and duration (Hanson and Pratt, 1995; Shen 2000; Giuliano 2003; Zhang 2006). Thus, work arrangement is mediated through all these relevant factors and reflected in differences in commute times. The shorter commutes of the self-employed is likely associated with their greater locational flexibility, and the longer commute of the full-time contingent workers might reflect lower accessibility to specialized jobs, or job uncertainty. In the case of Georgia, both the contingent core (Group 1) and other workers with non-standard work arrangement (Group 2) have shorter commutes than workers with standard work arrangements. This might be due to the more flexible work pattern of these workers. Standard workers in contingent industries actually incur the longest mean commuting times of all groups: 32 minutes in 2000 and 31 minutes in 2005-2007. These results suggest the diversity of work patterns and spatial implications associated with various employed industries and specific work patterns.

V.   Conclusion

This study offers some new insights towards the understanding of the contingent workforce. The last two decades witnessed a growth of the contingent workforce in Georgia.   While there exist some inter-group differences in demographic and economic characteristics, intra-group diversity was also substantive.

There are some policy implications of these findings.   First, our research shows the continued growth of the contingent and nonstandard labor force and of the industries in which they tend to concentrate. Evidence from the previous recession around 2001 shows that contingent workers, especially temp workers, are economic shock absorbers in volatile economic times, and that the temporary staffing industry started to play an important macroeconomic intermediary role in the U.S. labor market through economic cycles (Peck and Theodore, 2007). It would be a natural next step to gather most recent data in order to gauge the adjustment of the contingent labor force through the most recent economic recession that started in 2007. Our typology provides one way of estimating these workers. Second, we have shown the diversity of this group of workers, especially the division between skilled and unskilled workers, suggesting that a "one size fits all" policy approach will not be appropriate. The mean hourly wage of contingent workers actually exceeds that of traditional workers, but they tend to have shorter working hours per week, which result in their overall higher poverty rate. While it is often noted that contingent jobs depress wages, the heterogeneous compensation structure and dynamics associated with different work arrangements require careful evaluation. There are other aspects of job quality besides earnings that research fails to address. These include questions regarding the availability to contingent workers of health insurance, fringe benefits, and career advancement opportunities, among others.   Third, the identification of specific industries in their tendency towards the use of contingent workers is important to policymakers and economic development professionals who try to target their efforts at expanding the number of quality jobs. Last, our findings show that some disadvantaged worker groups including women, minorities, immigrants, and low-skilled workers tend to be relatively concentrated in various forms of contingent jobs.   Thus, the continued expansion of contingent work arrangement might

exacerbate the existing economic hardship and insecurity experienced by these workers. The geographic location of the contingent jobsites might create spatial accessibility issues for some workers as well.

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Appendix: Defining Contingent Workers

Industries with High Contingency Rates

We identified 22 industries as having high rates of contingency workers, as shown in Table A1. Two types of percentage values are reported in this table. The first column shows the share of contingent workers in that industry, and the second column shows the share of that industry's contingent workers among all contingent workers. In construction, for example, 4.32 percent of construction workers are considered contingent workers and 11.76 percent of all contingent workers are in construction.

Nearly one-third of all contingent workers, or close to 60 percent of those in the industries selected, were working in construction, temporary help services, computer and data processing services, and hospitals and health care. The remaining industries were all in various services as well, with most in the general categories of business services and personal services. The rationale behind using a national sample to choose industries and applying these industries to a single state is the small sample size of contingent workers in each state. For example, even after pooling the data from 1999 and 2001, only 14 of the 22 industries selected had any observations for Georgia. In the end, these 22 industries selected captured 55.3 percent of workers in nonstandard work arrangements as identified in the CWS in Georgia, and 58.9 percent nationally.

Nonstandard Work Arrangements

Besides identifying workers who work for contingent industries, we also classify contingent workers based on their specific work arrangements. While there exist numerous definitions of nonstandard work arrangements as discussed earlier, we used the CWS definitions to identify self-employed, part-time, and part-year workers. The following is taken from the Glossary of the "Contingent Work Supplement File Technical Documentation" (Bureau of Labor Statistics, 2005, pp. 4-6 - 4-8).

TABLE A1. LIST OF CONTINGENT INDUSTRIES

SIC Codes	Industry	% Industry Workers Who Are Contingent[a]	% Industry Contingent Workers of All Contingent Workers[b]
20	Landscape and horticultural services	3.37%	0.75%
60	All construction	4.32%	11.76%
410	Trucking service	3.35%	2.42%
441	Telephone communications	2.93%	1.21%
712	Real estate, including real estate-insurance offices	4.72%	3.21%
721	Advertising	4.45%	0.36%
722	Services to dwellings and other buildings	5.15%	1.38%
731	Personnel supply services	30.75%	10.51%
732	Computer and data processing services	9.09%	5.70%
740	Detective and protective services	15.88%	2.52%
741	Business services, n.e.c.	2.44%	1.54%
761	Private households	6.03%	1.67%
791	Miscellaneous personal services	4.66%	0.62%
800	Theaters and motion pictures	4.18%	0.85%
810	Miscellaneous entertainment and recreation	2.29%	1.21%
831	Hospitals	2.32%	3.57%
840	Health services, n.e.c.	5.10%	3.24%
871	Social services, n.e.c.	2.40%	0.88%
882	Engineering, architectural, and surveying	5.86%	1.57%
890	Accounting, auditing, and bookkeeping services	4.23%	0.92%
891	Research, development, and testing serv	5.50%	1.15%
892	Management and public relations service	6.62%	1.90%
Total			**58.94%**

Source: Authors' calculation of pooled CPS CWS 1999 & 2001 data for the U.S.
Note: (a.) Calculated by industry contingent workers/total industry workers.
     (b.) Calculated by industry contingent workers/all contingent workers.

- Self-Employed – Self-employed persons are those who work for profit or fees in their own business, profession or trade, or operate a farm. (pp. 4-7)

- Part-Time Work – Persons who work between 1 and 34 hours are designated as working "part-time" in the current job held during the reference week. For the March supplement, a person is classified as having worked part-time during the preceding calendar year if he worked less than 35 hours per week in a majority of the weeks in which he worked during the year. Conversely, he is classified as having worked full-time if he worked 35 hours or more per week during a majority of the weeks in which he worked. (pp. 4-6)

- Part-Year Work – Part-year work is classified as less than 50 weeks' work… (pp. 4-6)

- Year-Round Full-Time Worker – A year-round full-time worker is one who usually worked 35 hours or more per week for 50 weeks or more during the preceding calendar year. (pp. 4-8)

The other category of nonstandard work arrangements is workers who work from home, identified in the survey as currently employed workers with no commute time.

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Flexible Work Arrangements in Georgia: Characteristics and Trends

Publisher(s): Fiscal Research Center of the Andrew Young School of Policy Studies

Author(s): Rick Kolenda; Cathy Yang Liu

Date Published: 2011-07-01

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Subject(s): Community and Economic Development