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RESEARCH NOTE

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Deciphering The Wage Conundrum

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Dear Clients,

Slow wage growth within a booming U.S. job market represents somewhat of a conundrum. This Research Note, prepared by our Senior Research Analyst Henry Wu, focuses on deciphering the mystery.

Henry explains why U.S. wage growth has been anemic so far this cycle: despite a booming labor market, jobs have been created mainly in areas with a high labor supply elasticity, which has greatly constrained wage growth. However, this has begun to shift.

In recent months, evidence has emerged that job creation is migrating from low wage/high supply elasticity sectors to high wage/low supply elasticity sectors. This shift is a clear indication of economic normalization, but it also means wage growth is likely to accelerate soon.

I trust you will find Henry's report both insightful and interesting.

Chen Zhao
Chief Global Strategist

Slow U.S. wage growth against the backdrop of full employment and a tightening labor market represents somewhat of a conundrum. Based on past cycles, nominal wage growth should be somewhere around 4%-5%, given where the unemployment rate rests today. Yet average hourly wages have only grown at a 2.2% pace since 2010.

Going forward, there is no strong evidence of a sharp outbreak of inflation, but the tight labor market and the changing wage-employment correlation suggests that wage gains are likely to accelerate.

The Nature of a Labor Market Recovery

Since 2010, most American jobs have been created in sectors with a highly elastic labor supply (**Chart 1**). This unique phenomenon has dampened wage growth despite the fact that economic expansion has lasted for eight years.

The three most elastic sectors — education and health services, professional and business services, and leisure and hospitality — have

Chart 1 Job Creation Vs. U.S. Labor Supply Elasticity

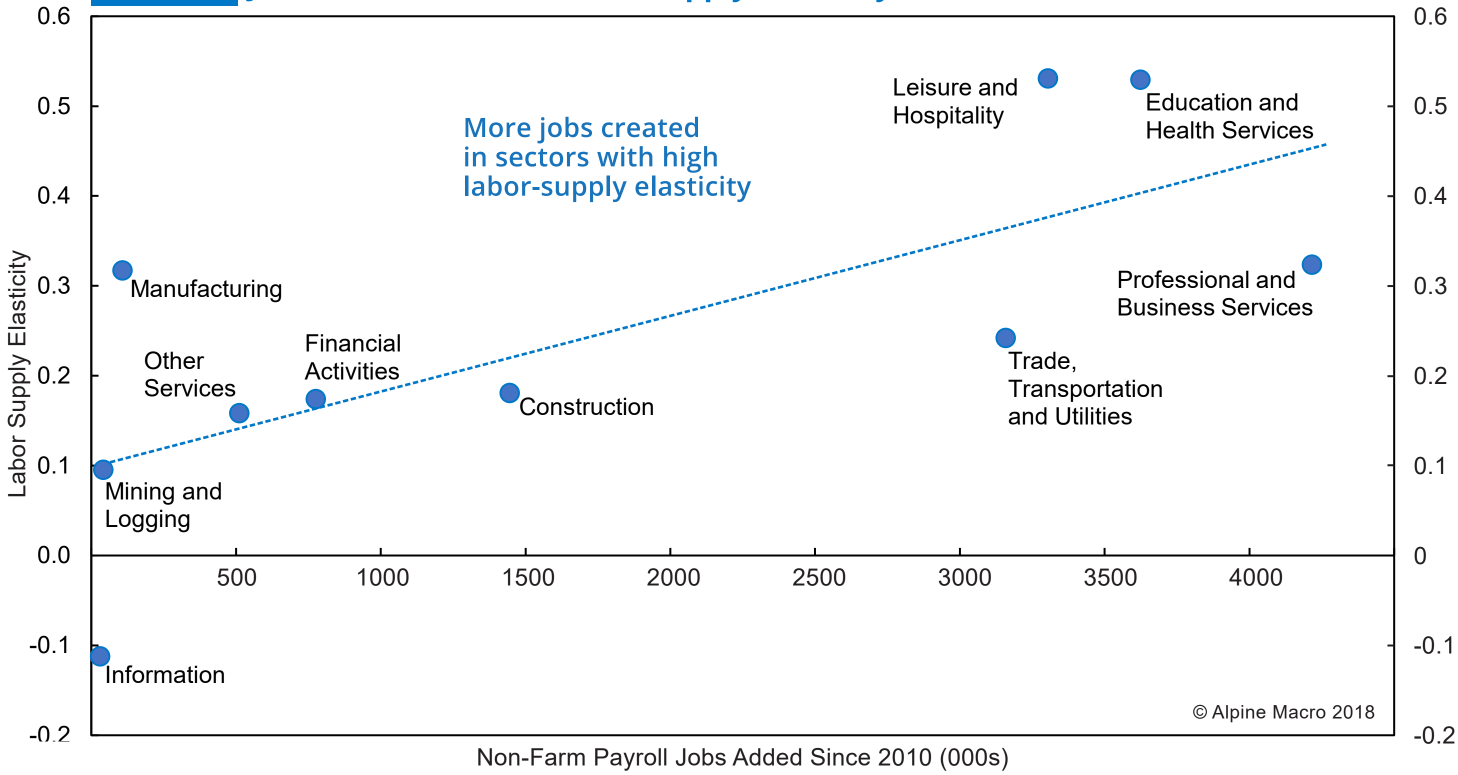


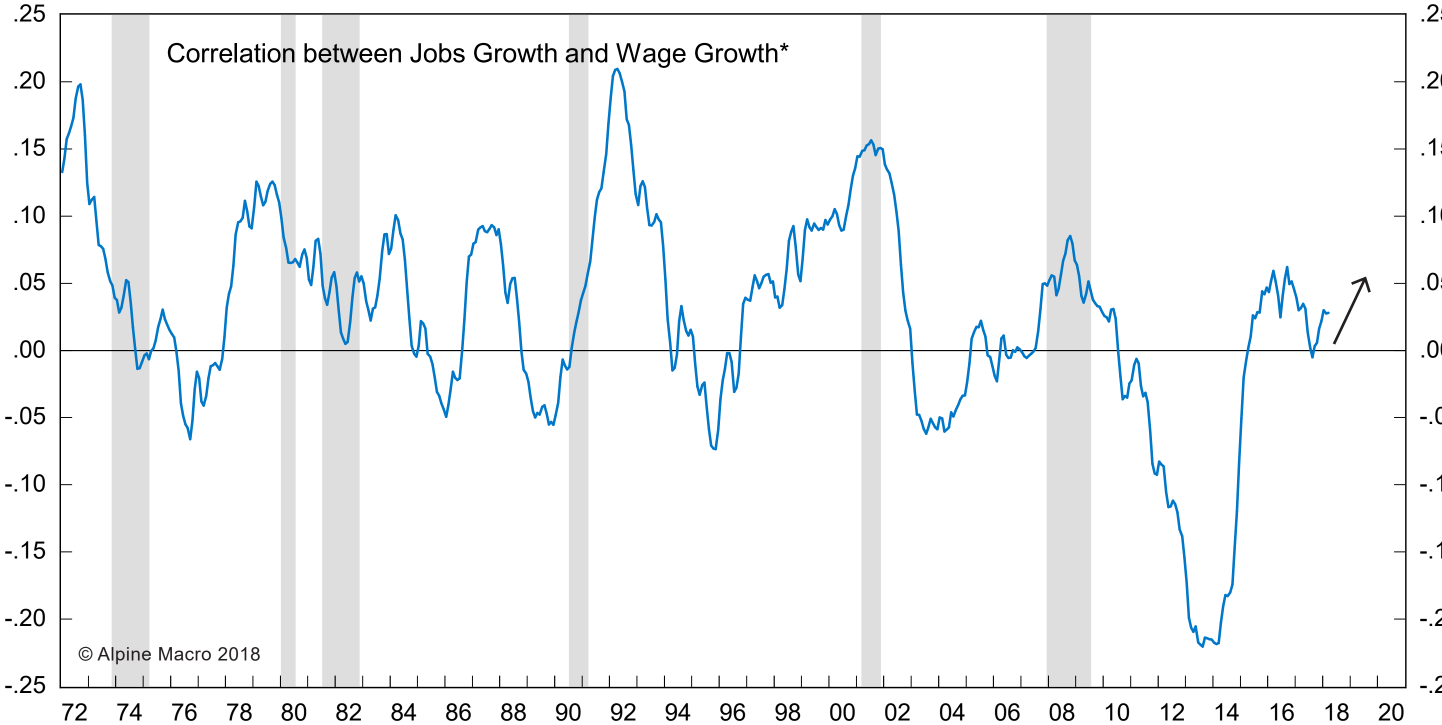
Table 1 A Glimpse of the U.S. Labor Market

Top 3 Wage Growth Sectors	% Contribution to New Jobs Creation Since 2010	Wage Growth Since 2010
Financial Activities	5%	25%
Information	0%	21%
Other Services	3%	21%
	Total: 8%	**Average: 22%**
Bottom 3 Wage Growth Sectors		
Manufacturing	1%	16%
Professional and Business Services	24%	16%
Trade, Transportation and Utilities	18%	17%
	Total: 43%	**Average: 16%**

contributed 11.1 million new jobs since 2010, compared to 0.58 million jobs created among the three most inelastic sectors of information technology, mining and logging, and other services (**Table 1**).

It is pretty obvious that in the former three sectors, the labor supply is plentiful and employees have little bargaining power, while employers can hire or replace workers easily. As a result, the economy has produced a lot of new jobs but with little or no wage pressure.

Chart 2 Connection Between Jobs & Wage Growth



*Calculated as the 2-year rolling correlation between jobs growth and average hourly earnings growth by sectors
Note: Shading denotes U.S. recessions

In addition, wage growth and job creation among different sectors have been negatively correlated since 2010, suggesting fast payroll growth does not necessarily translate into higher wage growth. This negative correlation is consistent with the fact that weak economic growth restrains workers' bargaining power, and vice versa.

This is the key reason behind the cyclical fluctuations between wage growth and job creation. In the first few years of economic recovery, wage growth and job creation are usually negatively correlated.

However, when economic recovery moves into a rapid economic expansion or a boom, the correlation usually turns positive (**Chart 2**), suggesting that job creation migrates from low wage sectors to high wage ones.

With the exception of 1989, all recessions since the 1970s have been preceded by periods of synchronized increases in wage gains and job creation. Invariably, the correlation turns negative after a recession. It is worth noting that the wage-job correlation fell into unprecedented negative territory in the aftermath of the 2008 Great Recession. The correlation has turned positive since early 2015 and only briefly dipping back to zero in response to global nominal economic slowdown between 2015 and 2016. It has since begun to rise again, suggesting the tightening labor market is about to express itself via higher wage growth.

Uniqueness of the Current Cycle

During the post-2008 recovery, the wage-job correlation stayed negative much longer than in previous cycles. This is due to several factors unique to the current cycle.

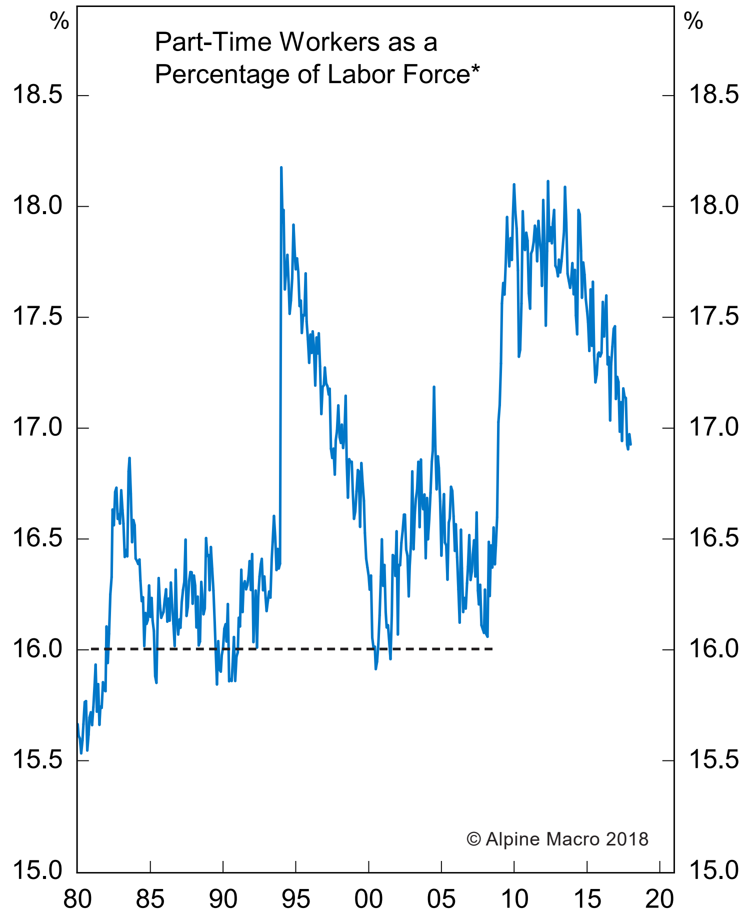
First, a large number of part-time jobs have been created since 2009. This has clearly restrained the bargaining power of employees. **Chart 3** shows that the overall number of part-time workers as a percentage of the labor force remains at high levels. This partially reflects a structural adjustment to the emergence of the "on-demand" economy in the labor market. For instance, firms have been outsourcing various types of needed expertise instead of hiring positions in-house. Such a practice has sharply increased firms' efficiency and profitability, but has reduced wage gains as subcontractors are subject to severe competition. If this proves to be a secular shift in the labor market, equilibrium wage growth could remain structurally lower.

Second, labor force participation has declined since the beginning of the millennium, and troughed in late 2015. This trend seems to be in the process of a cyclical reversal. As more people enter the labor force, supply is augmented, easing wage pressures.

To put the changing participation rate in proper context, a one-percent increase in the participation rate corresponds to 2.57 million new entrants into the labor market. This represents nearly 15% of all the new non-farm jobs created during the entire economic recovery since 2010. That is enough to offset a 1.6-percent decrease in the unemployment rate. With the participation rate having increased 40 basis points from its 2015 lows, the unemployment rate would have been around 4.7%.

Why is the participation rate turning? Having undergone the largest economic shock since the Great Depression, long-term unemployment still lingers. **Chart 4** shows that at 21%, the fraction of the unemployed who have been out of work

Chart 3 **Part-Timers Have Restrained Wage Growth**

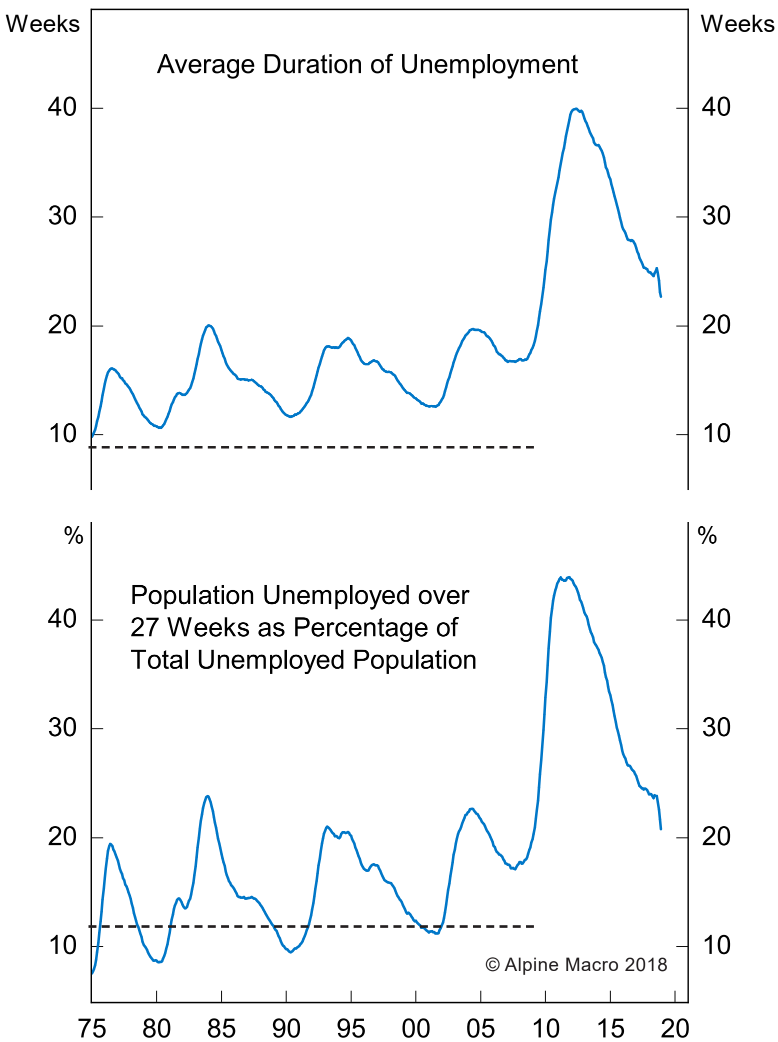


*The spike in 1994 was due to a redesign of the Current Population Survey used to capture the data

for over 27 weeks remains quite high, with the average duration of their unemployment also at an historic high. Encouraged by a more vibrant economy, this group will likely continue to re-enter the labor force, mitigating the developing labor shortage.

Finally, this cycle has so far been supply-side driven. This is another important distinction from the previous cycle which was demand driven: aggregate demand was pulled up by increased household credit and a period of low savings. Faced with robust demand, firms sought out more labor, and increased wages to increase production.

Chart 4 Impact of 2008 Great Recession Lingers



In this cycle, demand has been genuinely inadequate. There has been skepticism towards the sustainability of the economic recovery ever since the Great Recession ended in March 2009. Firms have been more careful in raising employee compensation. In addition, we believe there are hidden productivity increases[1], especially within high-paying sectors, which have reduced the overall wage bill.

1 Alpine Macro Global Strategy, "Hidden Productivity", January 5, 2018

Investment Implications

The wage conundrum has been primarily caused by the fact that job creation has taken place in sectors with low pay but high elasticity of labor supply. In the meantime, the wage-job correlation has been deeply negative, further restraining workers' bargaining power.

Nevertheless, all this is about to change, with the U.S. economy literally running out of workers, and the wage-job correlation having turned positive. The minimum wage is set to rise across the country — over 22 states will see their legislated minimum wage increase in the next 12 months. Since sectors with lower wage levels have produced the highest number of new jobs, the hike in minimum wage for these sectors will likely have a marked positive effect on overall wage growth.

The relationship between unemployment and inflation suggests that wage growth could spike to 3.5% in the coming months, should the unemployment rate stay at its current low level. This means that inflationary pressures will likely accumulate in the months ahead, but only gradually. This could be a negative development for government bonds.

Finally, will wage acceleration undercut corporate profits? It depends. With the corporate tax rate being cut and the overall economy strengthening, companies' bottom-line growth will rise sharply. This will protect corporate profit margins despite wage acceleration. However, when the business cycle downturn comes, the inflated wage bill could hurt corporate bottom lines.

In other words, when the economy is booming, wage growth is not a problem for stocks. However, when the business cycle softens into a recession, the inflated cost base can squeeze profits, accentuating the fall in corporate profitability.

Henry Wu, *Senior Research Analyst*

Alpine Macro, founded in 2017, is an independent global investment research firm based in Montreal, Canada. We focus on the analysis of major macro economic forces and specialize in forecasting the direction of global financial markets, while providing actionable recommendations on investment strategy and asset allocation.

Our Leadership

Chen Zhao, Founding Partner and Chief Global Strategist From 2015 to 2016, Chen was Co-Director of Macro Research at Brandywine Global Investment Management. Prior to Brandywine Global, Chen spent 23 years at BCA Research. As a Partner, Managing Editor and Chief Global Strategist, Chen developed and wrote BCA's China and Emerging Markets publications in the 1990s. Chen became the firm's Chief Global Strategist in the 2000s and was the author of BCA's flagship publication, Global Investment Strategy from 2005 to 2015. He holds an MA in economics from the Central University of Finance and Economics, was a visiting scholar at the University of Illinois at Urbana-Champaign and pursued post graduate studies with a PhD candidacy at McGill University.

J. Anthony Boeckh, PhD, Founding Partner, CEO & Editor-In-Chief Tony was previously Founder, Chairman, Chief Executive and Editor-In-Chief of Montreal-based BCA Research for 34 years. He authored The Great Reflation (Wiley) in 2010 and was publisher of, among others, the Bank Credit Analyst, a monthly big-picture analysis of the U.S. and global economies and financial markets. He is a founding trustee of the Fraser Institute in Vancouver, British Columbia — an economic "think tank" dedicated to free market principles. Tony has a PhD in Finance and Economics from the Wharton School, University of Pennsylvania, and a B.Com. from the University of Toronto.

David Abramson, Partner and Senior Strategist David was a Macro Strategist holding a variety of senior roles at BCA Research. Most recently, he was Chief U.S. Strategist and also Director of Research for the firm. During his tenure at BCA Research, David launched and managed the European Strategy and Commodity & Energy Strategy services. In addition, he was the Managing Editor for the Foreign Exchange Strategy and the China Investment Strategy services. He has taught international finance to MBAs at McGill University for 20 years, and is on the Client Committee of the Kenneth Woods Portfolio Management Program at Concordia University.

Yan Wang, Partner and Chief Emerging Markets & China Strategist Prior to Alpine Macro, Yan spent 15 years at BCA Research, as Managing Editor and Chief Strategist for BCA's China Investment Strategy service, and played a major role in formulating BCA's view on the Greater China region and emerging Asia. Prior to joining BCA, he spent six years as an equity analyst in China and Hong Kong. Yan holds an MBA in Finance from McGill University, an M.A. in Economics from Tianjin Institute of Finance and a B.A. in Finance from Nankai University. He also holds the CFA designation.