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Wage Setting in the United States

Randall W. Eberts

W.E. Upjohn Institute for Employment Research
Talking points for the presentation sponsored by the
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The population of the United States is close to 323 million of which 254 million people are over the age of 16, and not in the military or institutionalized) and thus constitutes the civilian non-institutional population. Nearly 152 million people work in the U.S., including the self-employed and contract workers, which accounts for nearly 60 percent of the civilian non-institutional population. Nearly half of U.S. workers (around 77 million) are hourly workers, in that they work for a company on an hourly basis and are compensated with an hourly wage. Many of the others are salaried and do not necessarily report their compensation on an hourly basis, even though they may work either a typical 40-hour week (or more) or something less than that if considered a part-time employee. This distinction between hourly and salaried employees becomes important when considering the effect of government legislation, such as the minimum wage or overtime provisions, on the U.S. wage distribution.

Among developed countries, the U.S. labor market is seen as one of the most flexible and market driven. The most recent index released by the World Economic Forum ranks the U.S. fourth in terms of labor market efficiency among the 140 countries included in the index.¹ Results from several studies have found evidence that countries with greater labor market flexibility have greater labor force participation and higher employment rates. Results from one study suggest that “if France (the country with the median flexibility score of the 21 countries in the study) were to make its labor markets as flexible as those in the U.S. (the country with the greatest labor force flexibility of the 21 countries), its employment rate would increase 1.6 percentage points, or 14% of the employment gap between the two countries” (in 1989, when the study was conducted).²

However, when one drills a little deeper into the World Economic Forum Index and considers the ranking of the U.S. with respect to wage determination flexibility, its ranking falls to 19th. The question upon which the wage flexibility component of the flexibility index is based is the following: “In your country, how are wages generally set? [1 = by a centralized bargaining process; 7 = by each individual company]. The US scores a 5.7 (out of 7) which suggests, according to this survey and resulting index, that the management of individual companies are

¹ World Economic Forum; Global Competitiveness Report 2015-2016; Date of data collection or release: 1st September 2015; www.weforum.org/gcr .

² Di Tella, Raphael and MacCulloch, Robert. 2005. “The consequences of labor market flexibility: Panel evidence based on survey data.” *European Economic Review* Vol. 49(5), July 2005, pp. 1225-1259. Lazear (1990) in a study that uses an earlier version of the World Economic Forum’s labor market competitiveness index found similar results.

primarily responsible for setting wages. This is in contrast to setting wages through a collective bargaining process.

Table 1 shows the scores and ranking from the World Economic Forum competitiveness index with respect to the labor market efficiency components of the four countries represented at this conference. According to the index, Japan ranks higher than the US with respect to wage setting flexibility, with a score of 6.0 compared to the US score of 5.7. The relative scores place Japan 7th and the US 19th among the 140 countries included in the index. Korea's score is still in the fives and Germany's is in the threes.

Table 1 Labor market efficiency index

Index	United States		Korea		Japan		Germany	
	Rank	Score	Rank	Score	Rank	Score	Rank	Score
Labor market efficiency	4	5.4	83	4.1	2	4.8	28	4.6
Labor market flexibility	8	5.4	12	3.9	15	5.2	106	4.2
Wage setting flexibility	19	5.7	66	5.1	7	6.0	132	3.6
Hiring and firing practice	10	5.0	115	3.3	123	3.0	107	3.4

Source: World Economic Forum; Global Competitiveness Report 2015-2016; Date of data collection or release: 1st September 2015; www.weforum.org/gcr .

Note: The score averages responses between and including 1 and 7.

However, even though the index score suggests that management of individual companies may set wages, the question remains as to whether the individual company sets wages that reflect market-driven wages.

The OECD Jobs Study, published in 1994, sent out the clarion call for more flexibility in the labor market. Even though the study was released more than 20 years ago, its call for less impediments in the labor market is still the topic of policy discussion among many countries. In the *Jobs Study*, the OECD urged member countries: to reform unemployment benefit systems so as to ensure that they did not "impinge" on the functioning of labor markets; to modify employment security provisions that "inhibit[ed]" employment expansion; eliminate "impediments to, and restrictions on, the creation and expansion of enterprises"; to increase "flexibility" of working time regulations; and, most importantly, to take action toward making "wage and labour costs more flexible by removing restrictions that prevent wages from reflecting local conditions and individual skill levels, in particular of younger workers."³

Market pricing as a method of wage determination

Market pricing is “the process for determining the external value of jobs, allowing company managers to establish wage and salary structures and pay rates that are market sensitive.” When developed and administered correctly, such pay programs “can provide

³ OECD, The Jobs Study, 1994, p. 43.

managers with the information necessary to determine competitive pay levels that will attract, retain, and motivate the talent needed to achieve business objectives.”⁴

Obviously, there is no single method by which wages are determined. In a varied and diverse economy, such as we have in the US, wages are set in several different ways.

Spot markets and the “Gig” economy

Processes range from something similar to a spot market to a long-term contract (which may be insulated from short-term market fluctuations). The spot market has been characterized recently by the media as the gig economy, in which individuals provide services for a short period of time at a market price. Those in the so-called gig economy, such as part-timers, contract workers, freelancers and temps, perform a specific job on a short-time basis with no promise of continuing their relationship with the company after the job is completed. In fact, in some cases, neither party may be interested in a long-term commitment, preferring instead the flexibility of piecing together different “gigs.” “Uberized jobs” is the latest euphemism used to describe this form of flexible work arrangements. And it is expected to grow.⁵

Internal labor markets

The other side of the spectrum is what economists have called the “internal labor market.” Popularized, if not coined, in the influential book by Doeringer and Piore published in 1971, they described internal labor markets as emphasizing custom and history of the company. The characteristics of internal labor markets are:

- Long worker tenure
- Some employer-specific skills
- Procedures that increase perceptions of fairness (as opposed to pure managerial discretion)
- Rules-based wage setting.⁶

Looking primarily at manufacturing firms in the 1960s and 1970s, Doeringer and Piore described a system of pay determining based on job evaluations and wage surveys that institutionalized rigid pay between occupations. Compared with market pricing of each occupation, the grouping of occupations created little direct connection between the market wages for each occupation and the group of occupations. Managers and human resource specialists would group together certain jobs, based on a point system, and then examine several wage surveys to determine the wage changes for broad occupational groups. Because broad occupational groups received the same percentage increases in pay ranges over time, relative wages among individual occupations remained in lock step, creating a rigid compensation system. Table 2 displays characteristics of the spectrum of pay determination which at one end

⁴Kilmartin, Joseph Jr. and Andrew Miller, “Understanding market pricing,” Salary.com Insight, August 2008.

⁵ Deloitte’s Global Human Capital Trends 2016 reports that 42 percent of U.S. executives expect to use more contingent workers in the next three to five years.

⁶ Levine, Belman, Charness, Groshen, and O’Shaughnessy, 2002. How new is the “New Employment Contract”? Kalamazoo, MI: W.E. Upjohn Press, p. 10.

(the left side) has the least connection to the marketplace and at the other end (the right side) the most connection to the market. The characteristics describe the focus of the pay determination process, whether it is internal focused or externally driven, and the use of market data, the ownership of the process and the share of jobs that are tied to market-driven prices.

Table 2 Spectrum of wage setting processes

Market Spectrum		
Market Aware	Market Focused	Market Driven
Internal focus	Internal/external focus	External focus
Reactive use of market data	Evolving use of market data	Proactive use of market data
Set of benchmarks; constant survey portfolio	Periodic review of benchmarks and surveys	Regular review/assessment of benchmarks and surveys
Process owned by corporate compensation	Somewhat shared ownership between compensation and line	Shared ownership between compensation and line
15% to 25% of jobs are market-priced	30% to 40% of jobs are market-priced	More than 50% of jobs are market priced
16% to 20% of respondents		68%-74% of respondents

Adapted from Kilmartin and Miller (2008), who adapted it from Bentson and Hand “Getting the Biggest Bank for Your Survey Buck.” Bottom row taken from WorldatWork, Job Evaluation and Market Pricing Practices, November 2015.

Where are companies along this spectrum? The last row of table 2 displays the result of a recent survey of 700 companies in the US. The results of the survey found that market pricing (the right column) continues to outpace all other methods as the dominant form of job evaluation and wage determination. The use by companies in the survey ranges from 68% to 74%, depending upon the job categories evaluated. At the other end of the spectrum (left column), only 16% to 20% of respondents used the point-factor approach, which has been identified with an internal labor market that insulates certain occupations from market-determined wages.

Table 3 Survey Question: “What is the primary method of job evaluation used by your organization?”

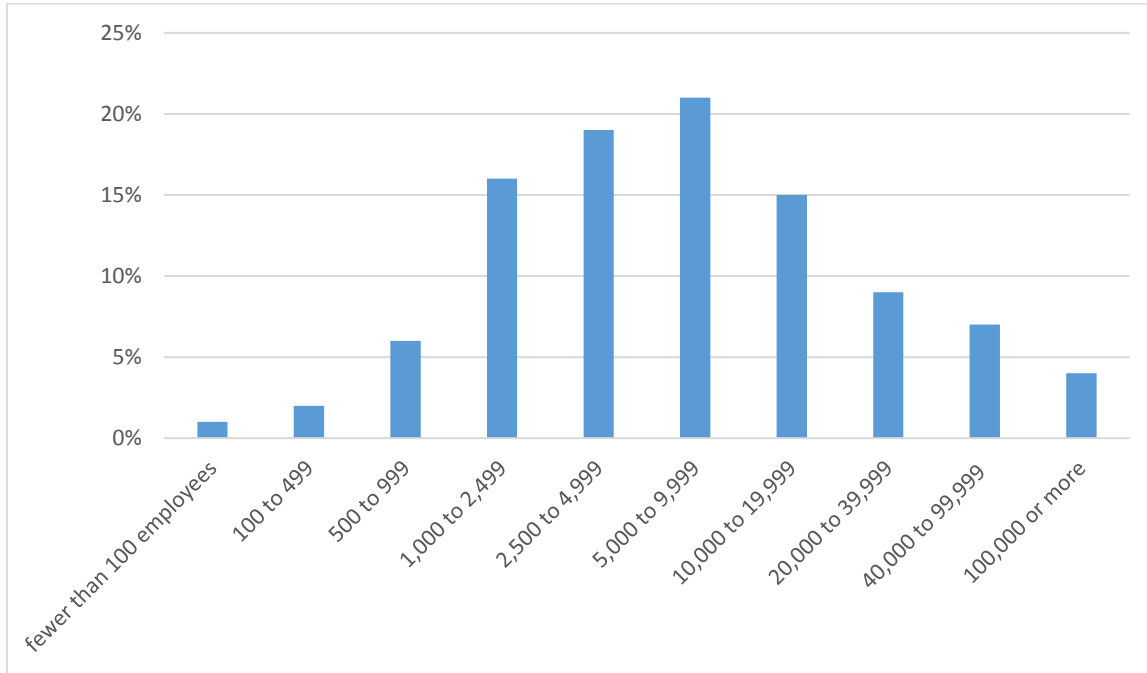
	Ranking	Classification	Point-Factor	Job Component	Market Pricing
Senior management	3%	6%	16%	2%	74%
Middle management	3%	7%	19%	2%	70%
Professional	2%	7%	20%	2%	69%
Sales	2%	7%	17%	2%	72%
Administrative	2%	8%	20%	2%	68%
Production	3%	10%	17%	2%	69%

Source: WorldatWork, “Job Evaluation and market pricing practices,” November 2015.

Note: Sample size varies from 543 to 625.

The survey includes a broad spectrum of companies, which range in size from fewer than 100 employees to more than 100,000. The mode is between 5,000 to 10,000 employees, as seen in figure 1.

Figure 1 Total number of full-time employees (FTEs) your organization employs worldwide



Source: WorldatWork, “Job Evaluation and market pricing practices,” November 2015.
Note: Sample size varies from 543 to 625.

Market Pricing

Market pricing is a formal process within companies for determining the external value of jobs. Assessing the value of a job requires two separate tasks. The first is to make sure that the job descriptions or definitions are accurate and up to date. When documenting a job, it is important to consider the major functions of the positions in your organization and carefully document the knowledge, skills, and abilities required to perform those functions. It is also important to thoroughly understand how the various jobs fit within the organization’s structure and reporting relationships.

Not all jobs within a company have comparable market data, so once jobs are documented, benchmark jobs need to be identified. A benchmark job is a job that is easily defined, commonly found in many organizations, and therefore reported in compensation surveys.

The next step is to match the jobs within the organization to jobs that have market data from surveys. This can be a tedious process but nevertheless essential to relate jobs to market values. It is necessary to fully understand the scope and responsibilities of the job that is being

matched to the marketplace. As a rule of thumb, if a survey job matches 85% to 115% of a job's duties within the organization, it is considered a good match.⁷

According to a recent survey, 70% of companies surveyed reported that at least 60% of their jobs are directly matched to survey model jobs, which means that these jobs have a direct connection to the market place. Administrative jobs accounted for the highest percentage of jobs matched to survey jobs, but the other types of jobs were very close, as shown in table 4.

Table 4 Survey Question: "What percent of jobs (not incumbents) in your organization are directly matched to survey model jobs?"

	<20%	20%-39%	40%-59%	60%-79%	80%+
Senior management (n=467)	3%	5%	22%	34%	37%
Middle management (n=467)	3%	5%	22%	34%	37%
Professional (n=466)	2%	6%	23%	32%	38%
Sales (n=400)	4%	7%	21%	29%	39%
Administrative (n=466)	3%	6%	19%	29%	44%
Production (n=385)	5%	8%	20%	27%	41%

Source: WorldatWork, Job Evaluation and Market Pricing Practices, November 2015.

Note: Participants who selected market pricing as a primary means of job evaluation were asked this question in the survey.

Point Factor Method

Jobs that are not frequently surveyed and for which market data are not available can be slotted in the hierarchy of the company according to skills required and functions performed. Most often this is done by assigning points to the various factors that are related to the job. This is an approach that gained favor as part of the scientific management movement during the early part of the 20th century. As seen in table 3, it is the second most common approach of job evaluation and pay determination used by companies. It is also used by the federal government and by many state and local governments. The federal government alone employs around 1.2 million people under such a system. As mentioned earlier, the downside of this approach is that it can result in a rigid salary system that has little connection with the marketplace.

As an example of the factors used in the point-factor method, the nine factors used by the federal government are displayed below. These factors include knowledge and skills required by the job, supervisory responsibilities (if any), personal contacts, and physical demands. Each job is categorized according to these nine factors and points are assigned to each. The organization must also weight the factors, determine the number of complexity levels or degrees for each factor, and assign points. The result is that the evaluator assigns a numeric score to a job for each factor based on how much of that factor appears in the job. The job's total worth is then determined by adding up the numeric scores across all factors. This procedure, when conducted

⁷ Kilmartin and Miller (2008), p. 3.

across all jobs, will result in a relative ordering of jobs based on the number of points that each job earns.⁸

Factor 1 - Knowledge Required by the Position

- Kind or nature of knowledge and skills needed.
- How the knowledge and skills are used in doing the work.

Factor 2 - Supervisory Controls

- How the work is assigned.
- Employee's responsibility for carrying out the work.
- How the work is reviewed.

Factor 3 - Guidelines

- Nature of guidelines for performing the work.
- Judgment needed to apply the guidelines or develop new guides.

Factor 4 - Complexity

- Nature of the assignment.
- Difficulty in identifying what needs to be done.
- Difficulty and originality involved in performing the work.

Factor 5 - Scope and Effect

- Purpose of the work.
- Impact of the work product or service.

Factor 6 - Personal Contacts

- People and conditions/setting under which contacts are made.

Factor 7 - Purpose of Contacts

- Reasons for contacts in Factor 6.

Note: In some FES standards the point values for factors 6 and 7 are combined into a matrix chart. The levels of each factor are described separately.

Factor 8 - Physical Demands

- Nature, frequency, and intensity of physical activity.

Factor 9 - Work Environment

- Risks and discomforts caused by physical surroundings and the safety precautions necessary to avoid accidents or discomfort.⁹

⁸ Bergmann, T. J., and Scarpello, V. G. (2001). Point schedule to method of job evaluation. In Compensation decision '. New York, NY: Harcourt

⁹ U.S. Office of Personnel Management 7The Classifier's Handbook TS-107 August 1991

Compensation Surveys

Compensation surveys must comply with Safe Harbor Guidelines issued by the U.S. Department of Justice and the U.S. Federal Trade Commission. Safe Harbor guidelines provide attributes that are generally accepted by the government and generally accepted accounting standards for purposes of complying with tax laws and government regulations, although following such guidelines does not necessarily protect a company from being in non-compliance. The guidelines stipulate that compensation surveys must be conducted by a third party, mostly done by private consulting firms, with the exception of BLS’s Occupational Employment Statistics (OES) survey. In addition, the data reported must be at least three months old, each disseminated statistic (e.g., base pay) must have five companies reporting data, and no individual company’s information can represent more than 25% of each disseminated statistic. According to the survey shown in table 5, more than 80% of the companies responding to the survey used two or more market surveys and around 45% used three or more when connecting their jobs to market information.

Table 5: Survey Question: “How many surveys does your organization typically use for each job when conducting a market pricing analysis?”

	1 survey	2 surveys	3+ surveys
Senior management (n=465)	14%	40%	45%
Middle management (n=476)	12%	42%	46%
Professional (n=474)	11%	41%	48%
Sales (n=406)	15%	43%	42%
Administrative (n=469)	13%	42%	45%
Production (n=392)	15%	42%	43%

Source: WorldatWork, Job Evaluation and Market Pricing Practices, November 2015.

Note: Participants who selected market pricing as a primary means of job evaluation were asked this question in the survey.

Published compensation surveys typically include the following information about each job:

- Base salary –the annual, fixed portion of pay
- Bonus or short-term incentive – bonus is a cash award, based on some judgement of performance after the period of performance has elapsed
- Total cash compensation—sum of base pay plus bonus or short-term incentive.
- Salary range—the range of pay offered to a particular job with minimum and maximum amounts and a midpoint which represents the half way point of the range.
- Incentive eligibility information—clarifies the eligibility criteria necessary for participation in an incentive plan of which factors include base salary, organization level and salary grade.
- Long-term incentives—awards of cash or stock based upon achievement of goals as part of an incentive plan covering a period of more than one year.

Example of Market-pricing System

A well-developed market-pricing system begins with an organization's board of directors taking ownership in such a system. A board's overall responsibility is to set the compensation of the organization's Chief Executive Officer (CEO), and good governance and the law requires that the board understand and approve the entire compensation system for the organization. Pertinent aspects of the tax law will be reviewed in the next section.

The first step in developing a market-pricing compensation system is the adoption of a compensation philosophy. According to a recent survey, 70% of companies participating in the survey said they "have a compensation philosophy that communicates what type of job evaluation method will be used."¹⁰ For example, an executive pay compensation philosophy of an organization may read something like this:

- Executive compensation programs support the company's mission, values, strategic direction and organizational structure (tax-exempt status, for example)
- Peer group organizations of comparable size, complexity and sophistication are used in the market analysis
- National data are referenced
- Executive pay levels reflect both organizational and individual performance
- Executive compensation policies and programs are approved by the compensation committee
- Base salary ranges are built around the 55th percentile of the market base salary data and have a 60% spread
- Total compensation lies between the 50th and 75th percentiles of the company's peer group depending upon incentive awards
- Benefits are equal to the market or above.

In addition to the compensation philosophy and market data from the surveys, many organizations consider other factors specific to the organization in determining executive compensation. These may include:

- The role of a particular position or executive within the organization
- Special skills or qualifications of the incumbent
- Internal equity considerations
- Recruitment and/or retention challenges
- The organization's current and future strategic priorities.

Setting compensation requires applying the philosophy to the market data obtained from surveys. For example, the following guidelines were adopted by one organization, which is typical of this particular industry. In this case,

- Executives are assigned to the salary range with the midpoint closest to the 55th percentile of the base salary market data

¹⁰ WorldatWork, Job Evaluation and Market Pricing Practices, November 2015, figure 6..

- Salary ranges are approximately 60% wide, which means the maximum is 60% higher than the minimum centered around the midpoint
- A salary for an experienced executive with performance that consistently meets expectations should be approximately 90% to 110% of the midpoint of the salary range.

Table 6 Example of a typical salary range for an organization using market pricing

Title	Current base salary	Recommended salary range			Range width	Current base as a % of midpoint
		Minimum	Midpoint	Maximum		
Vice Pres. Operations	\$261.0	\$224.5	\$291.9	\$359.2	60%	89%
Vice Pres. Human Resource Officer	\$301.2	\$266.0	\$345.8	\$425.6	60%	87%
Vice Pres. Chief Financial Officer	\$343.9	\$360.2	\$468.2	\$576.3	60%	73%

Table 6 offers an example an example of the salary information provided for market pricing of wages. The range offers a tool to decide when to increase salary beyond the annual adjustment in base pay. For example, when compensation of a job is near the lower end of the range, an individual should be eligible for higher percentage increases, aligned with performance. When the salary is near the upper end of the range, one should compare base salary levels above midpoint with competitive market data to verify that individual base salary is reasonable. For those near the midpoint, base salary increases should be managed so that progress within the range reflects individual performance and demonstrated proficiency.

The compensation surveys also indicate whether the incentive opportunities that are afforded to employees by the organization mainly fall within the bounds of market practice. The same type of information is provided for benefits and perquisites, such as company-provided cars and memberships.

Bonuses

Bonuses are widely used by businesses and constitute an increasing share of a companies' payrolls. Ninety percent of companies now require employees to participate in variable pay plans, up from about 50 percent two decades ago, according to a recent survey of 1,100 companies by a human resource consulting firm. Performance-based annual bonuses now make up 13 percent of payrolls, compared with 11 percent in 2008, and around 4 percent in the early 1990s. According to the survey, companies surveyed expect the trend to continue.¹¹ As a consequence, according to Donald Lewin, a compensation specialist at UCLA, "workers are

¹¹ Aon Hewitt, Annual Salary Survey, 2014.

bearing more risks in their employment relationship than they have at any time in the last quarter century.”¹²

Many of the bonuses are structured around what is known as pay-at-risk compensation systems, which tie a percentage of nearly every employee’s income to an organization’s performance. However, bonuses are not necessarily tied directly to the performance of the organization. Rather, they are tied to the goals set by the organization, which may lead to conflicting incentives. For instance, in March 2012, Caterpillar, the world’s largest mining and construction equipment company, distributed \$1.2 billion to the roughly 50% of its 120,000 global workers who participate in the plan, after the company recorded the most profitable year since its founding. The next year the company did even better with sales up 10 percent but the payout to employees plunged 31 percent. The reason was that the company based its bonus program on company sales and profit targets and not on annual performance per se, and even in another year of record-setting profits and sales, the company did not meet its target set by management, which was set even higher.

In addition, it should be mentioned that bonus pay is a lump sum cash payment that is not incremental, that is, it is not added to an employee’s base salary in future years. Merit pay, in contrast, is an incremental increase in base salary used to recognize past performance. A recent study found that both bonus and merit pay are positively associated with future performance. However, bonus pay appears to be more influential than merit pay. Specifically, when one pay-for-performance type is low (e.g., merit pay), the other (e.g., bonus pay) becomes a more potent predictor of future performance.¹³

Teacher performance incentives

A type of bonus or merit pay that has received considerable attention in the past decade or so has been teacher pay-for-performance merit pay. Typically, the 4.1 million primary and secondary teachers in the U.S. are paid according to a strict structure based on tenure (years of service) and educational attainment, very little of which is tied to performance. In addition, half of the teachers are represented by unions, which negotiate wages and benefits, as well as working conditions, and many of these negotiated contracts are not tied to market wages. With general dissatisfaction with the performance of public elementary and secondary schools in the U.S., there has been a growing interest in designing pay structures that tie teachers’ compensation to the academic performance of their students. At least five states have implemented statewide programs for districts and schools to provide individual and group incentives to teachers for student achievement, and many more individual school districts have implemented similar policies. In 2010, the U.S. Department of Education provided \$1.2 billion to 62 programs in 27 states to help improve educational outcomes. To be eligible, participating

¹² Huffington Post, November 1, 2013, “90 Percent of Employers Tie Workers’ Pay to Company Performance.”

¹³ Nyberg, Anthony J. Jenna R. Pieper, and Trevor (2013). “Pay-for-Performance’s Effect on Future Employee Performance Integrating Psychological and Economic Principles Toward a Contingency Perspective,” *Journal of Management*.

districts had to link teacher evaluations to student growth and make decisions about pay raises, tenure, and promotions based on student achievement.

While there has been enthusiasm among many school reformists for the potential positive effects of teacher incentive programs, the evidence has not been as promising. The results are mixed, at best. A review of the literature finds positive program effects but not robust enough to prescribe how systems should be designed.¹⁴ Probably the most rigorous study to date of the effect of teaching incentives on student achievement found no evidence that it increases student performance, attendance, or graduation.¹⁵ The evaluation was based on school-based randomized trials in over 200 New York City public schools. A difference-in-difference analysis found that incentives do work, but unless the incentives are properly aligned with the proper “inputs” leading to successful student outcomes, they may produce perverse results and result in unintended consequences.¹⁶ Therefore, teacher incentives have not been widely and permanently embedded in teacher contracts, even though performance measures are increasing being used in tenure and promotion decisions and even occasional qualitative evaluations.

Compliance with IRS Guidelines

Payroll expenses are deductible from corporate income taxes under Internal Revenue Service (IRS) tax code (and other taxes incurred by organizations using other business structures). Therefore, the IRS is interested in ensuring that the salaries, particularly of higher-paid executives and of employees within closely held companies, are reasonable. The Reasonable Compensation issue usually involves a determination of whether the amount of compensation paid is reasonable so that it is deductible under section 162 of the Internal Revenue Code for income tax purposes. In some cases, the Reasonable Compensation issue comes up when the amount of compensation paid may be lower than reasonable to avoid the payment of employment taxes. For tax-exempt entities, the issue involves the application of section 4958, taxes on excess benefit transactions, and reflects a concern that excessively high compensation may unduly enrich officers, directors, trustees or key employees of the tax-exempt entity at the expense of the organization’s qualified charitable purpose.¹⁷

Specifically, the tax code contains two provisions:

- According to Treas. Reg. § 1.162-7(a), "The test of deductibility in the case of compensation payments is whether they are reasonable and are in fact payments purely for services."
- Treas. Reg. § 1.162-7(b)(3) states, “[T]he allowance for the compensation paid may not exceed what is reasonable under all the circumstances. It is, in general, just to assume that

¹⁴ Podgursky, M. and M.A. Springer. Teacher performance pay: A review. *Journal of Policy Analysis and Management* 26(4) (2007): 909-950

¹⁵ Fryer, Roland G. 2011, “Teacher Incentives and Student Achievement: Evidence from New York City Public Schools, NBER Working Paper 16850, March.

¹⁶ Eberts, Randall, Kevin Hollenbeck, and Joe Stone. 2002. “Teacher Performance Incentives and Student Outcomes,” *Journal of Human Resources*, Vol. 37(4), 913-927.

¹⁷ Internal Revenue Service, “Reasonable Compensation, Job Aid for IRS Evaluation Specialists,” October 29, 2014, p. 1.

reasonable and true compensation is only such amount as would ordinarily be paid for like services by like enterprises under like circumstances.”

The courts favor a "market approach" when determining Reasonable Compensation. Under this approach, the determination of the reasonableness of an employee's compensation is made by comparing the employee's compensation with the compensation of employees performing similar duties at similar companies. Ideally, the companies for comparison would be mirror images of the company being analyzed. Due to challenges in matching employees at comparable companies with those of the subject company and in obtaining relevant compensation information for those comparable employees, a number of other approaches have been developed to determine Reasonable Compensation.¹⁸

Contingent workers

The Bureau of Labor Statistics defines and identifies contingent workers based on the temporary nature of their employment. BLS considers contingent workers as those who do not have an implicit or explicit arrangement for long-term employment. To identify workers as part of this group, BLS asks two questions: 1) “some people are in temporary jobs that last only for a limited time or until the completion of a project. Is your job temporary?” and 2) “provided the economies does not change and your job performance is adequate, can you continue to work for your current employer as long as you wish?” If the answer is yes to the first question and no to the second, that person is considered a contingent worker, with some exclusions due to other factors. The Department of Labor's Wage and Hour Division extends the definition to consider the nature of the business relationships, such as independent contracting and agency temp work. Although labor experts have not reached consensus on a definition of contingent workers, the common element of these two definitions for the purposes of this discussion is the direct connection to the marketplace. Instead of being embedded in a labor market structure internal to an organization, contingent workers are arguably tied more closely to market pricing.

The Government Accountability Office (GAO) recently studied the issue of contingent workers and combined the various definitions to include eight categories of contingent workers. Extrapolating from these figures and adding in other analysis, GAO estimates that contingent workers comprised 35.5 percent of employed workers in 2006 and 40.4 percent in 2010. For our purposes, one may question whether part-time workers should be included in this figure since they may have a long-term employment relationship with an organization. Excluding part-timers from the definition would reduce the percentage of contingent to less than 30 percent in 2010. Nonetheless, that still adds around 45 million workers who are closely aligned with market forces when determining compensation.

¹⁸ Internal Revenue Service, “Reasonable Compensation, Job Aid for IRS Evaluation Specialists,” October 29, 2014, p. 2.

Table 7 Number and percentage of contingent workers

	1995	1999	2005
Employed labor force (1000s)	123,208	131,494	138,952
Workers in alternative arrangements (%)	32.2	29.9	30.6
Agency temps	1.0	0.9	0.9
Direct-hire temps	2.8	2.5	2.1
On-call workers and day laborers	1.6	1.7	2.0
Contract company workers	0.5	0.6	0.6
Core contingent sub-total	5.9	5.7	5.6
Independent contractors	6.7	6.3	7.4
Self-employed workers	5.9	4.8	4.4
Standard part-time workers	13.6	13.2	13.2

Source: GAO-15-168R Contingent Workforce, p. 11

Katz and Krueger (2016) have also examined the trends in alternative work arrangements using other data sources and have concluded that the percentage of alternative work arrangements—defined as temporary help agency workers, on-call workers, contract workers, and independent contractors or freelancers—rose from 10.1 percent in February 2005 to 15.8 percent in late 2015. Note that they do not include part-time workers or the self-employed in their estimates.¹⁹

The rise in alternative work arrangements, particularly that portion that is related to online intermediation, such as Uber, is leading some HR experts to predict that new labor models—on and off the company’s balance sheet—will become increasingly prevalent in the near term. According to a private survey, nearly 50 percent of executives plan to increase or significantly increase the use of contingent workers in the next three to five years.

Katz and Krueger (2016) provide evidence to support this trend. They conclude that “all of the net employment growth in the U.S. economy from 2005 to 2015 appears to have occurred in alternative work arrangements.”²⁰ The Current Population Survey (CPS), which is used to estimate monthly household employment and unemployment, reported an increase of 9.1 million in total employment (6.5%) over the decade. The increase in the share of workers in alternative work arrangements, according to Katz and Krueger, from 10.1% in 2005 to 15.8% in 2015, implies that the number of workers employed in alternative work arrangements increased by 9.4 million, which more than matches the 9.1 million reported by the CPS.

It also appears that many of the millennials—the young cohort of workers born between 1980 and 1996—prefer the flexible life style that alternative work arrangements afford them. In the U.S. there are roughly 73 million millennials. While millennials want good jobs and want to be engaged in those jobs, they have the highest rates of unemployment and underemployment in the US, and only 29% of employed millennials report being engaged at work. Nonetheless, they

¹⁹ Katz, Lawrence F. and Alan B. Krueger 2016. “The Rise and Nature of Alternative Work Arrangements in the United States, 1995-2015,” NBER.

²⁰ Katz and Krueger, 2016, p. 7.

may be a force in moving the employment relationship in the U.S. to a more market-based approach, through their preference for more contingent work arrangements.

Union wage setting

Nearly 16.5 million wage and salary workers (or 12.3% of employed workers) are represented by unions. Union representation in the public and private sectors is about the same at 8.0 million in the public sector and 8.4 million in the private sector. However, the percentage represented is much higher in the public sector (39%) than the private sector (7.4%). In the public sector, local government employees have the highest representation at 45.0%. In the private sector, the transportation and utilities sector has the highest representation at 20.3% and agricultural workers have the least at 1.7%.

Recent evidence shows that union representation influences the distribution of wages. Frandsen (2010), using a regression discontinuity methodology, finds that union bargaining raises the lower end of the wage distribution by 25% but has little if any effect on the upper end. This results in a compression of the wage distribution for the 16.5 million who are represented. The study goes further to find that the decline in union representation between 1979 and 2009 accounts for 13% of the increase in income inequality (measured as the variance in log earnings).²¹ Another paper, using a less rigorous approach, suggests that unions helped institutionalize norms of equity, reducing the dispersion of nonunion wages in highly unionized regions and industries. The spillover effects of union wage setting leads to a greater effect on income inequality. Accounting for unions' effects on both union and nonunion wages suggests that the decline of organized labor explains a fifth to a third of the growth in inequality.²² The authors posit that unions can affect nonunion wages in two ways. Nonunion employers may raise wages to avert the threat of union organization, and unions can also contribute to a moral economy that institutionalizes norms for fair pay, even for nonunion workers. Therefore, with union bargaining occurring once every three to five years, the wages set by union negotiations are not necessarily related to market forces, although union wages themselves may determine wages in some markets.

Minimum wage

Minimum wage legislation creates a floor for hourly wage rates. About 77 million workers in the U.S. are hourly workers and 3.9 percent receive hourly wages at or below the federal minimum wage of \$7.25 per hour. Those receiving an hourly wage below the minimum wage are workers from excluded industries, occupations, or age groups. Minimum wage legislation in essence establishes a national wage for at least 1.2 million hourly workers or 1.6% of those employed. However, the effects of the minimum wage can extend to those up the pay

²¹ Frandsen, Brigham R. 2010. "Union wage setting and the distribution of employees' earnings: evidence from certification elections, MIT working paper.

²² Wester, Bruce, and Jake Rosenfeld. (2011). "Unions, norms, and the rise of U.S. wage inequality," *American Sociological Review*, November 2011.

scale as well, as employers increase the wages of higher paid employees to reduce wage compression within their organizations and to attract workers into higher skilled jobs.

Minimum wage levels are set by both federal and state legislation. Neither federal or state legislation automatically increases their minimum wage to keep pace with inflation. Rather, increases take place sporadically, whenever Congress and state legislators decide to pass legislation that increases wages. Federal and state minimum wage levels flip flop at times, with state levels typically exceeding the federal until Congress decides to raise the federal minimum wage to match or exceed state levels. For instance, at the end of the 1980s, 12 states' minimum wages exceeded the federal level; by 2008, this number had reached 31. Then in 2009, Congress raised the federal minimum wage, reducing the number of states with higher minimums to 15.

A few studies have examined the effect of the minimum on the income distribution, particularly during the 1980s and early 1990s. They found that minimum wages reduced earnings inequality between the 10th and 50th percentile of wage earners. A recent reassessment of these studies also finds that minimum wages reduce earnings inequality, but to a lesser extent than the previous studies. Earlier work attributed an 85% to 110% increase in earnings inequality to the fall in the real (inflation-adjusted) value of the minimum wage, whereas the reassessment finds that the falling real value (adjusted for inflation) of the minimum wage accounts for only 30% to 55% of the increase of the growth in inequality in the lower tail of the distribution.²³ The authors also find spillover effects of the minimum wage, related to the workings of the internal labor market. As wages of the least paid employee are statutorily increased, the wages of those employees up the pay scale are also increased, pushing the effect of minimum wage legislation into the higher reaches of the earnings distribution. Considerable research has been conducted on the effects of minimum wage on employment, but this is beyond the purpose of this discussion.

Wage Distribution

The U.S. labor market is characterized by wide variances in wages within occupations, reflecting the various factors that influence the market for workers and the variation in factors within the same occupation. Factors include skills, credentials, experience, labor market size, location, size of employer, industry, performance. These factors would not be reflected in wages if it were not for the connection of the wage setting process with the marketplace.

The BLS Occupational Employment Statistics (OES) survey collects data on the wages of workers in 800 occupations across the country. The survey defines wages as straight-time, gross pay including some types of incentive pay, such as commissions, production bonuses, and tips. It does not include premium pay, such as overtime pay or shift differentials, and certain other types of bonuses such as profit-sharing payments. Even so, the survey captures a wide range of wages (and annual incomes) within occupations.

²³ Autor, David, Alan Manning, and Christopher White (2016). "The Contribution of the Minimum Wage to U.S. Wage Inequality over Three Decades: A Reassessment." *American Economic Journal: Applied Economics* 2016, 8(1): 58–99

The wage difference between the 10th and 90th percentiles for all workers is \$71,170. Several occupations have wage differences larger than the average and six occupation groups have wage differences that exceed \$100,000. For example, as shown in table 8, commercial pilots, copilots and flight engineers exhibit a wage difference between the 10th percentile and the 90th percentile of more than \$122,000 even though the median income is \$118,000. That places a salary of greater than \$187,000 at the 90th percentile and a salary of \$64,700 at the 10th percentile. This difference can partially be explained by the need for more experience and credentials to qualify for higher-paying jobs. Within the healthcare sector, another sector with large wage differences, wages reflect workers' diverse credentials and level of experience and the need for licenses for some occupations. The wide pay difference among actors in the arts, entertainment and sports group reflects how ability and success affect pay, since relatively few people make it big in this profession and when they do the salaries can be quite large.

Table 8 Wage dispersion across selected occupations

Occupation	Annual wage and salary				
	Employment	Median	10th	90th	difference
Airline pilots, copilots, and flight engineers	75,760	118,140	64,700	>187,200	>122,420
Actors	59,210	43,350	20,190	>187,200	>167,010
General dentists	97,990	149,540	69,910	>187,200	>117,290
Human Resource managers	116,610	102,780	60,440	183,590	123,150
Economists	18,680	95,170	50,440	170,780	120,340
Management analysts	587,450	80,880	45,460	148,110	102,750

Source: Bureau of Labor Statistics, Occupation Employment Statistics survey, May 2014

Long-run change in U.S. wage Structure

The U.S. wage structure has changed significantly during the last century. From 1910 to 1950, wages narrowed, reducing income inequality, followed by a relatively stable period during the 1960s and 1970s. The wage distribution widened rapidly during the 1980s which evolved into a polarization of wages since then. Goldin and Katz (2007) have analyzed these trends in detail and conclude that the majority of the large increase in U.S. wage inequality since 1980 is explained by expanded educational wage differentials dominated by sharply increased returns to post-secondary schooling.²⁴ Other factors are at play as well, such as the effect of offshoring and declining union representation and the decline in the real value of the minimum wage, as mentioned earlier. However, Goldin and Katz point to the inability of the workforce to keep up with the demand for skills. Up until the 1980s the supply of skills kept up with demand. Since then, rapid secular growth in the relative demand for more-educated workers generated by the change in skill-biased technological change has outpaced supply. The slowdown in the growth of the educational attainment of successive cohorts has led to a surge in the college wage premium since 1980.

²⁴ Goldin, Claudia and Lawrence F. Katz. 2007. "Long-run changes in the U.S. wage structure: narrowing, widening, polarizing." NBER Working Paper 13568, November.