The Behavior of the Labor Market between *Schechter* (1935) and *Jones & Laughlin* (1937)

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Recent research on the Great Depression emphasizes the role New Deal economic policy played in slowing recovery. Policies promoting cartels and higher wage rates during a time that the economy was experiencing unprecedented unemployment were likely to have created a negative supply shock that exacerbated economic depression rather than helped to alleviate it. Still, for 22 months between two important Supreme Court rulings, labor and product markets were relatively free of intervention. In *A.L.A. Schechter Poultry Corp. v. United States* (May 1935), the Court ruled that the National Industrial Recovery Act of 1933 (NIRA) was unconstitutional. In addition to setting up industry cartels, the NIRA had imposed relatively high minimum hourly wage rates and restrictions on workweeks and required firms to recognize the right of labor to organize.

The National Labor Relations Act (NLRA), better known as the Wagner Act, was passed shortly after the *Schechter* ruling as a means of keeping one of the key labor provisions of the NIRA in place—the legal right of labor to bargain collectively. The Wagner Act had little or no effect, however, because it was widely expected that it too

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would be ruled unconstitutional. In April 1937, after President Franklin D. Roosevelt threatened to pack the Court with six more judges who would be friendly to his policies, the Court surprisingly upheld the constitutionality of the NLRA with its 5-4 decision in *National Labor Relations Board v. Jones & Laughlin Steel*. A large wave of union activity followed the ruling and average real hourly earnings rose dramatically.

Increases in equilibrium wage rates are the desirable by-product of rising worker productivity, but policy-driven wage increases, such as those that followed the NIRA and NLRA, would be expected to exacerbate the unemployment problem in a depressed economy. In fact, the economy experienced significant recovery between May 1935 and April 1937, only to falter again in the months that followed. In this article, we perform an empirical analysis to determine whether the different movements in labor input, output, and real wage rates between policy regimes persists when controlling for changes in fiscal and monetary policy. Our results suggest that the recovery that occurred between *Schechter* and *Jones & Laughlin* was indeed related to the absence of the harmful policies that preceded and followed those decisions.

The National Industrial Recovery Act

When the NIRA was passed in June 1933, it was hailed by the Roosevelt administration as the Magna Carta for the American worker (Johnson [1935] 1968: 239). This moniker primarily followed from the NIRA's Section 7(a), which gave workers the right to organize and bargain collectively. In fact, Kaufman (1996) notes that government recognition of organized labor's rights helped spur the tripling of union density in the two decades that followed. But the NIRA was designed by Roosevelt to do more than promote long-term reform through unionization. In the short term, it was hoped that the legislation would provide workers enhanced employment opportunities and higher pay through the institution of minimum-wage rates and maximum-hour (work-sharing) provisions among NIRA-covered industries.

The general consensus of economists studying the New Deal is that despite the long-run gains that the right to collective bargaining provided to workers, the NIRA was unsuccessful in its short-term goal of helping labor. Higher hourly wage rates may be viewed as a desirable economic goal during normal economic times, but it was exactly what the economy did not need with unemployment rates of 20 to 25 percent. Vedder and Gallaway (1993) claim that the persistence of unemployment during the 1930s can be traced to the wage-increasing New Deal policies such as the NIRA and the Wagner Act. Powell (2003) notes that the high-wage policies embedded in the NIRA accelerated the substitution of capital for labor and exacerbated the unemployment problem during the 1930s. Cole and Ohanian (2004) employ a general equilibrium empirical framework and conclude that the NIRA's broad labor and cartelization policies were the key factors that prevented a normal recovery from the Great Depression. On the less critical side, Bernanke (1986: 106) claims that the NIRA provisions "had little systematic impact." Additionally, Taylor (2011) finds that the work-sharing aspects of the NIRA's work-week reductions, when viewed by themselves, created jobs. However, he shows that these gains were almost entirely wiped out by the wage increases and cartelization that accompanied the policy regime. Thus, with regard to its short-term impact on labor, the general consensus is that the NIRA was neutral at best and, by raising wage rates in the face of unemployment, was detrimental and intensified the jobs shortage.

Of course the NIRA affected more than just the labor sector of the economy. Its dramatic attempt to bring about economic recovery centered on the cartelization of American industries. Industrial executives were required to meet and agree on "codes of fair competition" under which cartel objectives such as higher prices, product standardization, and other profit-enhancing limits to competition could be pursued. Industry cooperation was viewed as having been largely successful during World War I and was subsequently portrayed as the best hope for recovery from the Great Depression. Donald Richberg, general counsel of the National Recovery Administration (NRA) stated that "thousands of businessmen themselves should know better than any small group of lawmakers" what specific collective efforts would best lead to economic recovery (Irons 1982: 97).

The NIRA established 765 industry and supplemental codes, each containing several cartel-oriented provisions. The most common provision—contained in over 400 codes, including those for steel, coal, newsprint, lead, and woodworking machinery industries—was open price filing, which required firms to file their prices with the cartel's central board and give advance notice, typically between 3 and 7 days, of any change in price. Such a requirement inhibits competition by revealing firms' pricing policies to rivals. When changes are instituted, rivals can either match the price or retaliate in other ways against a price-cutting firm, therefore giving the initial firm less incentive to change prices in the first place.

Of course, the NIRA cartel provisions went well beyond open price filing as at least 130 different categories of trade-practice provisions were contained within the NIRA codes (U.S. Committee of Industrial Analysis 1937: 74). For example, the Boot and Shoe Manufacturing code dictated that price increases had to accompany any cost-raising actions such as the use of special shoe boxes or labels (Article 8, Section 4). The Iron and Steel code restricted the construction of new capacity: "none of the members of this code shall initiate the construction of any new blast furnace or open hearth or Bessemer steel capacity" (Article 5, Section 2). The Handkerchief code included standardization provisions: "No member of the industry shall use the words 'Hand Rolled Hem' to designate that class of handmade hem known as 'Whipped Edge,' which latter term means any hem or edge on which the thread used to fasten same is whipped or looped around and encloses the entire rolled edge" (Article 7, Section 14). The Ice code forbade the "enticement of competitor's employees" in an attempt to limit competition for workers within the industry (Article 9, Section 2, Part 1).[1]

The aforementioned labor provisions—higher wage rates and union rights that had to be included in the codes—were viewed by many industrial executives at the time as the ransom paid for the suspension of antitrust laws and the imposition of a government-run cartel enforcement mechanism consisting of fines and potential imprisonment for code violators (Lyon et al. [1935] 1972: 91–92). Many scholars—such as Hawley (1966), Weinstein (1980), Alexander (1994, 1997), Krepps (1997), Taylor (2002,2007), and Taylor and Klein (2008)—have focused attention primarily on the cartel aspects of the NIRA. Again, the general consensus of these studies is that the cartel-enabling legislation reduced output, created deadweight losses, and harmed recovery.

That a policy of promoting cartels and raising wage rates in the face of 25 percent unemployment failed to help relieve macroeconomic

[1]The provisions cited are from Taylor and Klein (2008: 238).

distress should be of no surprise to followers of neoclassical economic theory. Cartels generally curtail output rather than expand it, thus reducing the demand for labor. Furthermore, high unemployment generally means that wage rates need to fall, not rise, for the economy to get back to its full employment equilibrium. Still, while economists do not generally take such a position, some may argue that a policy that reduces total welfare, but increases welfare to workers at the expense of other economic groups, is desirable. Minimum wage laws, of which the NIRA was arguably the nation's first (although it did not create standardized or economy-wide minimum wage rates), have often been advanced by proponents based on this line of reasoning.

The *Schechter* Decision

The NIRA was set to expire on June 16, 1935, as the act was legislated to last for two years. Still there was serious debate about extending the legislation—in late May 1935 Congress was focused on the length of time an extension should be granted. While Roosevelt wanted another two years, others favored a much shorter extension. A May 26, 1935, article in the *Chicago Tribune* (1935a) noted that a compromise bill, which mandated a 21.5 month extension that would keep the NIRA until April 1, 1937, appeared to be gaining support. Another alternative was to pass a series of permanent laws that would keep the major aspects of the legislation (the right to collective bargaining, the wage and hours provisions, and industrial self-governance) in place.

On May 27, 1935, however, the Supreme Court ruled in *A.L.A. Schechter Poultry Corp. v. United States*, that the NIRA was unconstitutional. The reasoning was two-fold. First, Congress could not give the president what Justice Cardozo called "a roving commission" to make laws in the form of industry codes (Krock 1935). Second, the NIRA illegally attempted to regulate interstate commerce. The *Schechter* ruling invalidated the NIRA completely—the wage and hours provisions, the cartel provisions, and the requirement of firms to recognize labor's right to collective bargaining were repealed. In the hours after the ruling, Richberg, who was at this time the chairman of the NRA, announced that NRA enforcement of the "codes of fair competition" would cease, but he encouraged industry not to simply scrap the labor provisions of the law, but instead continue to uphold these provisions via voluntary compliance (*New York Times* 1935a).

The *New York Times* (1935b) put out a call for newspapers nationwide to telegraph summaries of their editorial viewpoints so that the *Times* could publish a round-up of opinions.[2] The *Times* headline claimed, "Newspapers throughout the country express editorial satisfaction" with the *Schechter* ruling. The *Denver Post* called it "the most reassuring development this country has experienced in many a year" as it will "loosen the bureaucratic brakes which have been clamped on business and individual initiative." The *Phoenix Republican* noted, "The sweeping decision will have a clarifying effect . . . and will tend to relieve the uncertainty which has held business and recovery in check." The *Des Moines Register* hailed the ruling saying, "Too many things of too dubious value were done too impetuously and with too little regard for the Constitution back in 1933. The worst and [most] foolish was NRA." The Charleston (South Carolina) *News and Courier* wrote, "The Brain Trust is an interesting relic. The government would as well give up saving the country and let the people save it or it won't be saved." The *Dallas News* noted, "The codes have not ended labor troubles or brought the expected golden age into industrial life. Fiat has demonstrated its incompetency to legislate a payroll out of proportion to industry's receipts." The *Boston Herald* hoped that the ruling would "mean the end of slovenly legislative procedure. Congress has stupidly enacted measure after measure without explicitly providing just what is to be accomplished." The *Los Angeles Times* declared, "The Supreme Court knocked out the main foundation stone from under the whole structure of the administration policy. . . . It makes it abundantly clear that the days of a virtually uncontrolled one man dictatorship in the United States are at an end."

A minority of papers in the round-up expressed either disappointment or at least hope that parts of the NIRA could be salvaged. For example, the *Kansas City Star* wrote, "On the whole [the NIRA] retarded recovery, [but] there were certain features of the codes that ought to be lived up to. Business would make a fatal mistake if it [were] to bring back sweat-shop conditions, throw men out of work and return to child labor." The *Birmingham Age-Herald* stated, "Many of the standards set by NRA are now so well established that a continued widespread observance of them on a voluntary basis may be expected."

[2]All quotes that follow in this paragraph are from this round-up.

The *Wall Street Journal* (1935a) also provided a cross-section of reactions to the *Schechter* ruling from the business community. The *Journal* reported that while industry leaders were largely unwilling to make a formal comment—likely for fear of reprisal—"industry leaders were generally agreed that the Supreme Court's decision . . . will have many stimulating and few adverse effects on the immediate future of business." Likewise, the *New York Times* (1935c) reported, "Leading bankers and industrialists characterized the decision on the NRA as 'the best thing in years.' "

The *Wall Street Journal* (1935b) seconded the sentiments of Congressman Hamilton Fish Jr. of New York, when he had heard about the ruling—"Thank God for the Supreme Court of the United States." Taken together, all these statements from the media suggest a strong belief that the removal of the NIRA provisions would alter behavior in labor and product markets for the better. A primary objective of this article is to determine whether the economy did indeed benefit after the NIRA regime was struck down.

Anecdotal evidence supports the notion that the end of the NIRA regime brought an economic boom to some regions. In mid-July 1935, less than two months after the *Schechter* decision, W. F. Doyle, secretary of the Michigan State Department of Labor and Industry, noted that the lifting of NRA restrictions had been beneficial to Michigan. The department's study showed that "purchasing power of the public had been increased, more employees were at work, and their average wage was higher than under the NRA regime" (*New York Times* 1935d).

The National Labor Relations Act and the Courts

Since there were rampant questions about the NIRA's constitutionality, and the fact that the legislation was scheduled to expire just three weeks after the *Schechter* decision, policymakers had already begun considering replacement bills. In February 1935, Senator Robert Wagner (D-NY) introduced the bill that would become the National Labor Relations Act. The NLRA, which was signed into law by President Roosevelt on July 6, 1935, essentially continued the NIRA's provision that employees had the right to organize and bargain collectively. Additionally, it set up the National Labor Relations Board, which was charged with protecting the right of workers to form a union and to prevent unfair labor practices.

The NLRA's constitutionality, however, was strongly questioned from the outset. Even prior to the bill's passage—and prior to the *Schechter* decision—the *Wall Street Journal* (1935c) noted, "The bill appears to be clearly devoid of any constitutional standing." Furthermore, the National Association of Manufactures decreed the NLRA unconstitutional on the day of its passage and in the months that followed there was widespread noncompliance with the Act; the federal courts issued nearly 100 injunctions against the operation of the NLRA (National Labor Relations Board 60th Anniversary Committee 1995: 14). A September 1935 *New York Times* (1935e) article noted, "An opinion widely held among lawyers and industrialists is that the Wagner Act is unconstitutional for the same reasons that the NRA was ruled unconstitutional by the Supreme Court—that its provisions could not apply to companies that were transacting an interstate business." On September 18, 1935, fifty-eight lawyers on the National Lawyer's Committee of the American Liberty League unanimously agreed that the NLRA was unconstitutional (Chicago Tribune 1935b). The members of this committee consisted of lawyers from different parts of the country and all sides of the political spectrum. The committee felt that the two grounds for the Act's unconstitutionality were "that it violates due process in its attempts to define the rights of employees and restrict the rights of employers, and that it seeks to regulate a local activity over which congress has no control under the interstate commerce clause." Specifically, the brief declared that the NLRA was a restraint upon an employers' freedom of contract because the law deprived the employer of bargaining equality. The group of lawyers cited, among other precedents, the *Schechter* decision in the formulation of its view of the NLRA's legality.

The Supreme Court's October 30, 1935, ruling that the Guffey Coal Control Act, which had created a "little NRA" for the coal industry, was unconstitutional was viewed as yet another blow to the potential constitutionality of the NLRA. In its Guffy decision, the Court held that the relationship between employers and employees was a local affair and beyond the reach of congressional legislation (*Chicago Tribune* 1935c).

On November 1, 1935, W. H. Spencer, dean of the Law School of the University of Chicago published an analysis of the NLRA in which he also stated his belief that the NLRA violated the freedom of contract guaranteed by the 5th Amendment (*Chicago Tribune*

1935d). His analysis became national news which gave still less credence to the law. Weeks later, on December 22, 1935, Judge Merrill E. Otis of the U.S. District Court of Kansas City ruled the NLRA unconstitutional as a violation the interstate commerce clause, citing the precedent set up in *Schechter.* William Green, president of the American Federation of Labor responded that he did not agree "with Otis's interpretation of the interstate commerce clause and [that organized labor would] await final decision by the Supreme Court" (*New York Times* 1935f).

The Roosevelt administration felt it imperative that the Supreme Court rule on the NLRA one way or the other, and in September 1936 it asked the Court to take a case that would settle the issue (*Chicago Tribune* 1936a). On October 26, 1936, the Court agreed to hear and hand down a decision on the constitutionality of the Wagner Act in its current term (*Chicago Tribune* 1936b). In February 1937 the Supreme Court heard the five test cases that would determine the validity of the NLRA. At the same time, President Roosevelt announced a plan to pack the Court with additional judges—one for each current judge over the age of 70—with the intention of creating a Court that would be friendlier to New Deal reforms. A February 9, 1937, article in the *Chicago Tribune* noted that most lawyers expected the Court to rule against the NLRA, which could create more pressure in Congress to adopt Roosevelt's court-packing plan. However, on April 12, 1937, despite widespread expectations to the contrary, the Court ruled 5 to 4 in favor of the NLRA on four of the five test cases and ruled unanimously in favor on the other. With its rulings, the most important of which was its pro-government ruling in *National Labor Relations Board v. Jones & Laughlin Steel,* the right to collective bargaining became a permanent fixture in the American economy.

The rationale behind our providing so much evidence that the NLRA's constitutionality was strongly in question is to establish that, in fact, the legislation—implemented in July 1935—had little or no effect until the Supreme Court surprisingly held up its constitutionality in April 1937. Empirical evidence on union density offers strong support to the notion that the *Jones & Laughlin Steel* ruling was a major break point in the data. Table 1 reports Freeman's (1998) figures for union density (i.e., union membership as a percentage of nonagricultural employment) between 1928 and 1939.

TABLE 1
Union Density, 1928–39

Year	Estimated Membership (thousands)	Nonagricultural Employment (thousands)	Union Density (percentage)
1928	3,225	30,539	10.56
1929	3,277	31,339	10.46
1930	3,284	29,424	11.16
1931	3,196	26,649	11.99
1932	2,945	23,628	12.46
1933	2,596	23,711	10.95
1934	2,982	25,953	11.49
1935	3,460	27,053	12.79
1936	3,851	29,082	13.24
1937	6,760	31,026	21.79
1938	7,757	29,209	26.56
1939	8,461	30,618	27.63

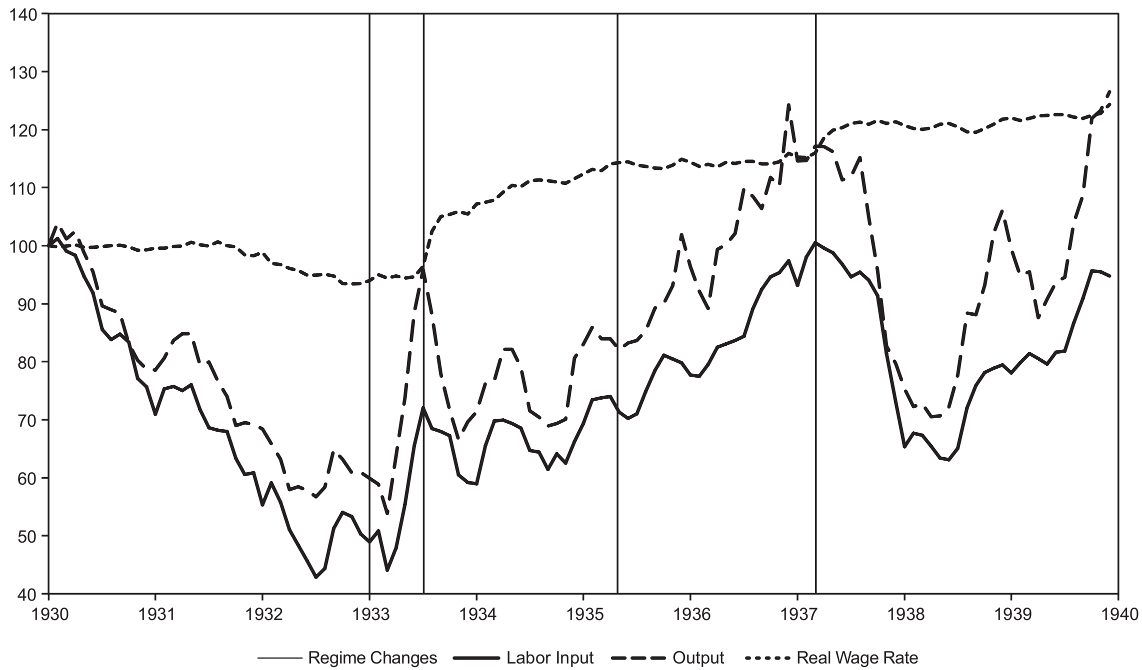
Source: Data are from Freeman (1998).

Union density was at 10.95 percent in 1933, the year the NIRA was passed. By 1935, when the NIRA was ruled unconstitutional, union density had jumped to 12.79 percent, suggesting that the NIRA's temporary collective bargaining provisions played at least some role in promoting unionization. In 1936, when the NLRA, with its permanent recognition of the right to collective bargaining, was officially law, union density barely moved from its 1935 level. But beginning in 1937, after the Supreme Court affirmed the validity of the NLRA and continuing into 1938, a large surge in unionization occurred: union density doubled from 13.24 percent in 1936 to 26.56 percent in 1938.

Economic Performance between *Schechter* and *Jones & Laughlin*

The economy hit bottom by most measures in early 1933. But the road to recovery between 1933 and the Second World War was anything but even. Figure 1 plots movements in indices (January

FIGURE 1
Index of Economic Activity across Regimes



Source: National Bureau of Economic Statistics' Macrohistory Database.

1930 =100) of output, real wage rates, and labor input in the manufacturing sector between 1930 and 1939.[3]

The four vertical lines represent important dates from the time period. The first vertical line indicates the beginning of 1933, roughly when the economy appeared to begin to improve. The second vertical line which starts at August 1933 represents the effective start of the National Industrial Recovery Act. On August 1, 1933, industries were asked to abide by a 40-cent minimum hourly wage rate and a reduction in the workweek. Most industries passed cartel-oriented codes of fair competition shortly after this date. The third vertical line represents the timing of the *Schechter* decision (May 27, 1935). The line farthest right represents the timing of the *Jones & Laughlin* decision (April 12, 1937).

A useful way to look at Figure 1 is to compare the movements in the three variables just before the NIRA regime, during the NIRA regime, after the repeal of the NIRA in the *Schechter* regime, and finally after the upholding of the NLRA. During the first three years of the decade the economy was contracting as output and labor input fell dramatically. Yet despite these declines, real wage rates remained fairly stable through the end of 1932.[4] However, prior to the start of the NIRA, the economy appeared to be on the rebound. By the beginning of 1933 real wage rates had finally fallen, and during the first 7 months of 1933 labor input and output had begun to rise substantially. Things changed dramatically in the last five months of 1933. Immediately following the institution of the NIRA real hourly wage rates jumped, output fell dramatically, and labor input fell. Real wage rates continued to climb throughout the NIRA period. And while labor input and output remained above their pre-1933 levels, their growth rates remained well below the pace of early 1933. Output was 7 percent lower at the end of the NIRA than it was at the

[3]The average hourly wage index is computed from NBER series m8061, "Index of Composite Wages" and NBER series m4052, "CPI Less Food." The output index is from the series m1054, "Index of Production of Manufactures." Because of dramatic changes in the hourly work week, the reported employment index measures total man-hours of employment. It is computed by multiplying two series, m8010, "Production Worker Employment, Manufacturing," and m8029, "Average Hours of Work per Week, Manufacturing Industries, Total Wage Earners."

[4]See O'Brien (1989) and Taylor and Selgin (1999) for details about why nominal wages remained high through 1932.

beginning (consistent with a cartel-enabling, wage-increasing piece of legislation) while employment was 3 percent higher. Real wage rates, meanwhile, grew around 30 percent during this time period—a result clearly driven by the NIRA's high-wage mandate. Of course, this analysis of the raw data does not take into account factors such as fiscal or monetary policy. Employment and wage rates could both rise in the face of a positive demand shock. Still it is puzzling that the raw data show a rise in labor input coinciding with a drop in output—in effect a negative productivity shock in the manufacturing sector. This result could potentially be attributable to the collusive aspects of the NIRA cartel codes.

An examination of the *Schechter* regime reveals a far different story. First, the growth rate in real wage rates decreased dramatically—although it is interesting to note that they did not fall in an absolute sense after the minimum wage provisions were ruled unconstitutional. Of course, with a clear turnaround in the economy—Figure 1 shows that output soared after the *Schechter* ruling—one might expect to see upward pressure on market-determined real wage rates. Vedder and Gallaway (1993: 77) tell a similar story. They estimate that the unemployment rate was 23.4 percent in August 1933 at the start of the NIRA and that it was 20.1 percent by the May 1935 *Schechter* ruling. However, by April 1937, the unemployment rate had fallen to 13.2 percent. Following the repeal of the NIRA and its cartel provisions one might expect to see a jump in output and correspondingly labor input. While there was no dramatic one-time leap, there was a large and sustained increase in the trend growth for both during the *Schechter* regime. The labor index rose 43 percent (from 70 to 100) and the output index rose 41 percent (from 83 to 117) between the NIRA and NLRA policy regimes.

Finally of interest from Figure 1 is what happened to the labor input, output, and real wage rates after the *Jones & Laughlin* decision upholding the constitutionality of the NLRA. Real wage rates surged in the three months following the ruling, while output and employment plummeted, slowly at first but then quite dramatically by late 1937. Of course the 1937–38 period is known as the "recession within the Depression." The movements in these variables strongly suggest that the *Jones & Laughlin* ruling may have contributed to this downturn by putting upward pressure on wage rates. Still, there were dramatic changes in fiscal and monetary policy at this time as well. Figure 2 charts government revenue, government spending, and the M-1 money supply indices over the 1930s.[5] The figure shows that government revenue jumped, as a result of tax increases, and the money supply began falling precisely at the same time that the NLRA was upheld. There was also strong growth in the money supply and periods of large deficit spending during the *Schechter* regime, which may help explain the recovery that occurred during this period.

In the next section we use statistical analysis to determine if the differential patterns in labor input, output, and real wage rates across these different regimes persist after controlling for changes in fiscal and monetary policy. If they do, it will suggest that the slow to negative growth during the NIRA regime, the rapid recovery during the *Schechter* regime, and the downturn that followed *Jones & Laughlin* may have been caused by the legislative changes that accompanied these regimes.

Empirical Analysis

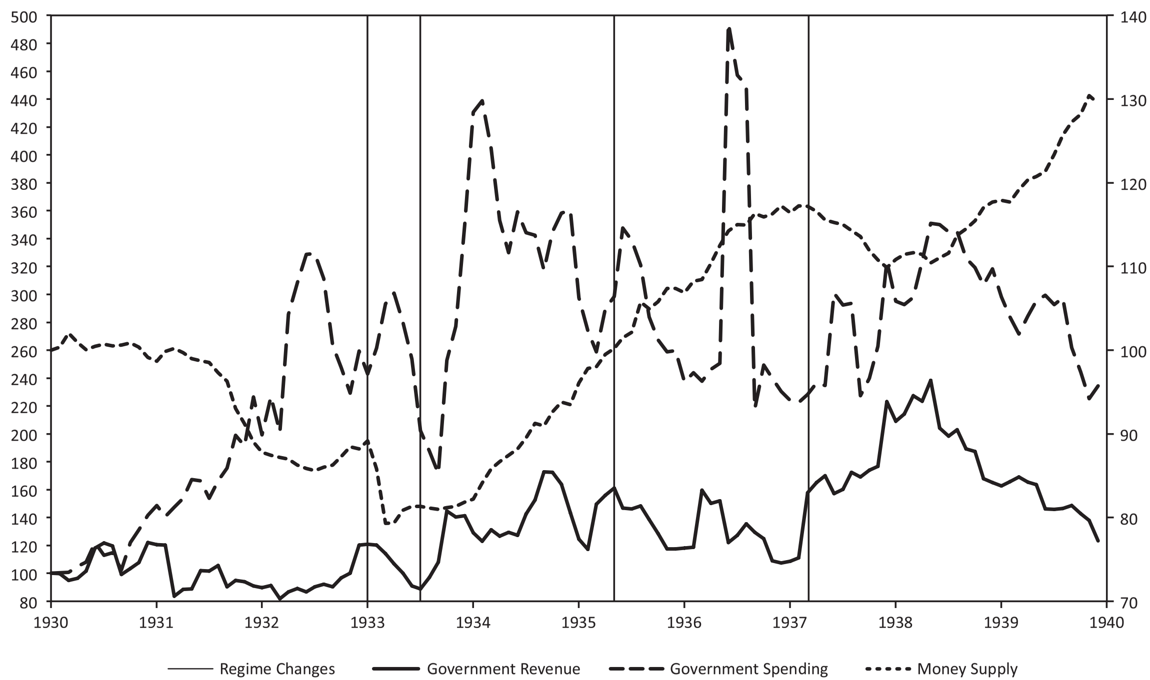
In order to examine the changing patterns of labor input, output, and real wage rates across the different periods of the Great Depression, we estimate three different specifications of increasing saturation. These regressions include 20 years of monthly data, with our sample running from January 1920 until December 1939. Specification 1, the most parsimonious, simply regresses the dependent variable—labor input, output, or real wage rates—on regime dummies and regime trends. Specifically we examine four distinct regimes: 1933, NIRA, *Schechter* (SCHE), and post-*Jones & Laughlin* (NLRA).[6]

$$(1)\quad Y = \alpha + \beta trend + \alpha^{33}1993 + \beta^{33}trend \cdot 1993 + \alpha^{N}NIRA + \beta^{NI}trend \cdot NIRA + \alpha^{S}SCHE + \beta^{S}trend \cdot SCHE + \alpha^{NL}NLRA + \beta^{NL}trend \cdot NLRA + e$$

[5]Government Spending data are from NBER Series m15005, "U.S. Federal Budget Expenditures, Total." Government Revenue data are NBER Series m15004, "U.S. Federal Budget Receipts, Total." Money Supply data are NBER Series m14144a, "U.S. Money Stock, Commercial Banks Plus Currency Held By Public, Seasonally Adjusted."

[6]The 1933 regime begins January 1933; NIRA regime begins August 1933; *Schechter* regime begins June 1935; NLRA regime begins April 1937.

FIGURE 2
Index of Fiscal and Monetary Policy across Regimes



Source: National Bureau of Economic Statistics' Macrohistory Database.

The alpha parameters measure changes in the level of the dependent variable across regimes while the beta parameters measure changes in the trend across regimes. Further, regime dummies are coded as one for every month after the beginning of the regime. Consequently the parameters measure changes relative to the previous period.

Specification 2 adds year fixed effects. With these, the alpha parameters can be interpreted as differences in the level of the dependent variable across regimes within the year the regime changes. Specification 3 adds the money supply, government revenue, and government spending indices to the regression.

$$(2)\quad Y = \alpha_t + \beta trend + \alpha^{33}1993 + \beta^{33}trend \cdot 1993 + \alpha^{N}NIRA + \beta^{NI}trend \cdot NIRA + \alpha^{S}SCHE + \beta^{S}trend \cdot SCHE + \alpha^{NL}NLRA + \beta^{NL}trend \cdot NLRA + e$$

$$(3)\quad Y = \alpha_t + \beta trend + \alpha^{33}1993 + \beta^{33}trend \cdot 1993 + \alpha^{N}NIRA + \beta^{NI}trend \cdot NIRA + \alpha^{S}SCHE + \beta^{S}trend \cdot SCHE + \alpha^{NL}NLRA + \beta^{NL}trend \cdot NLRA + \gamma^{MS}MS + \gamma^{GS}GS + \gamma^{GR}GR + e$$

Table 2 presents the results on the coefficients of interest from estimating the above specifications. Recall the dependent variables are indices with January 1930 as the base period. Consequently the intercept shifters can be interpreted as percentage point changes in the dependent variable, while the trend shifters can be interpreted as a percentage point change in the previous period's trend coefficient.

Not surprisingly, the results from Specification 1 largely fit with what is observed visually in Figure 1. After the implementation of the NIRA there was an average 8.7 percentage point increase in real wage rates, while labor input was statistically unchanged and output was 23.7 percentage points lower based on a 10 percent statistical significance level. Output growth was 6.4 percentage points lower during the NIRA regime. Given the trend growth rate of 6.6 percentage points a month in the previous period, this suggests that after the initial drop in output was basically flat. Finally, the results from Specification 1 suggest labor input growth was 3.6 percentage points lower, though the effect is not statistically different from zero.

There does not appear to have been any change in the level or trend growth of labor input following the repeal of the NIRA. The level of output is also unchanged; however, the output growth rate is

TABLE 2
Regression Results

		Labor Input			Output			Real Wage Rate		
		Specification			Specification			Specification		
		1	2	3	1	2	3	1	2	3
Intercept Shifter	NIRA	−0.072	−0.054	−0.033	−0.237	−0.212	−0.172	0.087	0.082	0.080
		(0.59)	(0.27)	(0.37)	(0.09)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
	Schechter	0.005	−0.008	−0.023	0.026	0.003	−0.037	−0.016	−0.010	−0.010
		(0.96)	(0.81)	(0.37)	(0.77)	(0.95)	(0.23)	(0.22)	(0.11)	(0.09)
	NLRA	−0.177	−0.128	0.054	−0.299	−0.236	0.038	0.046	0.045	0.053
		(0.03)	(0.00)	(0.08)	(0.00)	(0.00)	(0.31)	(0.00)	(0.00)	(0.00)
Trend Shifter	NIRA	−0.036	−0.042	−0.059	−0.064	−0.074	−0.093	0.002	0.002	−0.001
		(0.19)	(0.00)	(0.00)	(0.03)	(0.00)	(0.00)	(0.57)	(0.36)	(0.60)
	Schechter	0.010	0.022	0.016	0.014	0.032	0.018	−0.004	−0.003	−0.003
		(0.14)	(0.00)	(0.00)	(0.05)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
	NLRA	−0.013	−0.011	−0.007	−0.014	−0.007	−0.001	0.000	0.000	0.001
		(0.01)	(0.02)	(0.05)	(0.01)	(0.24)	(0.74)	(0.92)	(0.76)	(0.42)
	Year Effects		Yes	Yes		Yes	Yes		Yes	Yes
	Controls			Yes			Yes			Yes
	R-Squared	0.491	0.942	0.969	0.224	0.847	0.933	0.972	0.996	0.996

Dependent Variable spans Labor Input, Output and Real Wage Rate.

Note: P-values in parentheses.

1.4 percentage points higher. With the repeal of the NIRA there is not an immediate drop in the real wage rate, although these results do suggest that real wage rate growth was 0.4 percentage points lower during the period.

The upholding of the NLRA via the *Jones & Laughlin* decision is followed by statistically significant decreases in the level of labor input and output of 17.7 and 29.9 percentage points, respectively. Further trend growth of each fell by approximately 1.3 percentage points. Real wage rates, meanwhile, jumped following the upholding of the NLRA by 4.6 percentage points, while its trend growth rate remained unchanged (i.e., this was largely a one-time jump in wages).

One clear deficiency of Specification 1 is that it uses the entire regime period to estimate differences in the average level of the dependent variable. By adding year fixed effects we can more precisely time changes in the dependent variable to the period around the regime change. Conclusions drawn from these results differ slightly from the estimates of Specification 1. In particular the NIRA has a larger, and now statistically significant, negative effect on labor input growth. The *Schechter* decision has a larger, and now statistically significant, impact on labor input growth, suggesting an overall growth rate of 2.2 percentage points per month during this period. The output results between specifications are fairly similar with the exception that under Specification 2 *Schechter* has a larger positive effect on trend output growth and the NLRA has a smaller negative effect on the level of output and no statistically significant effect on output growth.

Like Specification 1, Specification 2 does not control for any other changes in the economy, namely fiscal and monetary policy. In Specification 3 we add the money supply (M-1) index and indices for government revenue and spending. Our results are largely consistent with those from the first two specifications: The NIRA lowered trend labor input growth by 5.9 percentage points, reduced the level of output by 17.2 percentage points and the growth rate of output by 9.3 percentage points, and resulted in an increase in real wage rates by 8 percentage points. The jump in wages was largely a one-time jump with the institution of the NIRA as the trend shifter shows no large or significant effect. The NIRA's repeal via *Schechter* increased labor input growth by 1.6 percentage points, increased output growth by 1.8 percentage points, and led to a modest, though statistically significant (at 10 percent level), 1 percentage point drop in the level of real wage rates as well as a small but statistically significant decrease in trend real wage rate growth of 0.3 percentage points a month. Together these results suggest that the NIRA was very harmful to the economy and its repeal beneficial. However real wage rates clearly did not return to pre-NIRA levels and the increases in output and labor input following *Schechter* were relatively small when compared to the large negative effects that followed the implementation of the NIRA.

The results from Specification 3 suggest very different movements in labor input and output after *Jones & Laughlin* in comparison to previous specifications. Controlling for fiscal and monetary policy, which were contractionary in 1937, average labor input was 5.4 percentage points higher during the NLRA regime, not 12.8 percentage points lower as suggested by Specification 2. In other words, it appears that the drop in labor input can be attributable to contractionary fiscal and monetary policy rather than *Jones and Laughlin*. Labor input trend growth also fell a bit slower when fiscal and monetary policies are controlled for compared to when they are not. Similarly, following the upholding of the NLRA, output is estimated to be statistically unchanged in specification 3, compared with an over 20 percent decrease in earlier estimates. Thus, the results from Specification 3 suggest that the lion's share of blame for the "recession within the Depression" should go to the increases in government revenue and decreases in money supply that occurred in mid-1937, rather than the upholding of the NLRA's labor policies.

Conclusion

While the New Deal is generally addressed as a set of policies that had a relatively homogenous effect on recovery—or lack thereof, depending upon one's perspective—the 1933–40 time period can be broken into several distinct policy regimes. Not only did these regimes bring different sets of rules to labor and product markets, but they also saw very different economic performance within them. When the Supreme Court struck down the NIRA via its *Schechter* decision in 1935, newspaper editorials and business leaders cheered. It appears from the results of our analysis that these cheers were warranted. Our empirical findings show that the NIRA regime brought about statistically significant reductions in output and labor input, while dramatically raising real wage rates. In contrast, the relatively intervention-free *Schechter* regime (June 1935 until March 1937) brought about smaller, but statistically significant, improvements in output and employment, and hence improved economic recovery. These findings hold even when important fiscal and monetary policy variables are held constant.

The *Jones & Laughlin* decision of April 1937 ended the *Schechter* regime by holding that a key part of the NIRA—the right to collective bargaining—which had been revived and expanded upon in the NLRA, was constitutional. The data show that real wage rates and union activity spiked in the months that followed this ruling. Of course, the economy fell into the "recession within the Depression" beginning in mid-1937. Economic historians generally blame the downturn on fiscal and monetary policies rather than the ramifications from the *Jones & Laughlin* decision. Although the spike in union density—and the accompanying rise in real wage rates—certainly contributed to the recession of 1937–38, our empirical analysis generally supports the notion that higher taxes and contractionary monetary policy were the major reasons for the downturn. While suggestive, our results are far from conclusive and further empirical work is clearly needed to more fully understand the effects of the various policy regimes that made up the New Deal.

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