

# How Does Regulation Affect Employment?

An Interview with Richard Morgenstern



At the end of 2011, with unemployment at 8.6 percent and a growing number of critics focused on “job-killing” environmental rules, *Resources* sat down with RFF Senior Fellow

Richard Morgenstern to discuss the impact of government regulation on employment.

**RESOURCES:** Why might we think regulations would have an impact on employment? What’s the theory behind that?

**MORGENSTERN:** Regulation imposes costs on firms, and these costs typically get passed along in the form of higher product prices. Consumers, in turn, respond by purchasing less and/or searching for alternative suppliers. Reduced sales, combined with additional outsourcing by firms for their material inputs, can lead to job losses.

But that is only part of the story. Regulation is also likely to result in some new investments in pollution abatement or other facility upgrades, which could create jobs in the initially regulated firms or in those firms that are producing the pollution control equipment.

A further impact could be that consumers may shift their buying patterns in a way that creates jobs in domestic industries beyond

the initially regulated ones and/or those supplying pollution abatement equipment. Overall, the potential impacts of regulation are complicated. It is difficult to pin down a single unambiguous impact of regulation.

**RESOURCES:** So that’s the theory for why regulation may have a negative impact on employment and why some of that impact might be offset with spillovers to other aspects of the firm or the economy as a whole. What does the evidence show?

**MORGENSTERN:** That’s the most interesting question. Despite the strong policy interest in this question right now, there has been remarkably little study of the issue. Until recently, a paper I wrote more than 10 years ago with colleagues Billy Pizer and Jhih-Shyang Shih was little known outside academic circles because the impact of regulation on jobs wasn’t seen as a major policy issue back then. Even now it remains one of the few rigorous studies of the regulation–jobs issue.

**RESOURCES:** Let’s delve into that particular paper. What did you look at, and what did you find?

**MORGENSTERN:** The analysis is based on confidential plant-level data we obtained from the Census Bureau. Our measure of regulation is reported environmental spending, a widely used, albeit imperfect, metric of regulatory burden.

The paper's strength is that the modeling, using advanced econometric methods, is quite detailed, linking regulation to changes in output and, ultimately, to employment. We explicitly modeled the possibility of added employment at the industry level in response to regulation. The weaknesses are that we studied only four industries—pulp and paper, plastics, petroleum, and steel—and all the data are from the 1980s and early 1990s.

Our results suggest that regulation has multiple impacts, both creating and destroying jobs. The higher costs are definitely a negative factor, but they tend to be offset by gains in pollution abatement activities. Although there is important variation across sectors, when we look across all four industries studied, we see a small, statistically *insignificant net* gain in employment. We interpret the results as indicating the absence of a clear-cut impact of regulation on total employment in the

One of the key challenges is to interpret these results for a broader set of industries, operating in the current U.S. economy. While some may see pulp and paper, plastics, petroleum, and steel as good representatives of heavy industry, our results do not reflect the important differences between those sectors relying on control technologies, such as baghouses, scrubbers, or other end-of-pipe treatments, versus those that change their production processes in response to regulation. Similarly, the 1980s and early 1990s may not reflect the realities of today's economy.

**RESOURCES:** How do you differentiate your study from the few others out there that show large impacts on employment, at least in regional areas?

**MORGENSTERN:** MIT economist Michael Greenstone wrote an excellent paper that also has attracted a lot of attention. He finds

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four industries during the 1980s and early 1990s. Recognizing the uncertainties, we calculate that environmental spending may have accounted, at most, for 2 percent of the total jobs lost over the period of the study. At the same time, it is also plausible that environmental spending actually had a net job-creation effect, offsetting as much as 4 percent of the total jobs lost over the period. Note that we are talking about total employment, not the protection of particular jobs. Clearly, some individuals have lost jobs, and some have gained jobs.

a significant job *shift* over the period of the late 1970s and 1980s that corresponds to the U.S. Environmental Protection Agency (EPA) attainment designations for air quality. Specifically, after adjusting for a wide range of factors, he finds that several hundred thousand jobs have moved from non-attainment to attainment areas.

Notwithstanding the high quality of his paper, Greenstone does not specifically address the question of job *loss*. Rather, his focus is on job *shifts* from non-attainment to attainment areas. Although individuals



may lose particular jobs, the limitations of his model prevent him from determining whether these jobs are made up by gains elsewhere in the economy. For example, an auto plant in Michigan that shifted production to Tennessee would show up in Greenstone's analysis as a job shift—that is, a negative impact. In our study, such shifts in production would show up as having no net impact on jobs if the same number of people were employed in Tennessee as in Michigan.

**RESOURCES:** Especially in these times, we might say “a job is a job,” but does a manufacturing production job pay more or less than jobs that are geared toward reducing emissions or limiting environmental impacts? Has anyone looked at the impact of these regulations on wage levels?

**MORGENSTERN:** I'm not aware of specific studies of the impact of regulation on wage levels, but it is certainly true that manufacturing jobs tend to be highly paid, capital-

intensive jobs. To the extent that regulation encourages less capital-intensive jobs—for example, in the service industries—they may well involve lower pay. It is plausible that changes of that type are occurring. Other impacts also may be important. For example, there is some evidence that people who go through a transition lose some of their skills before they are rehired.

Up to this point, EPA and other government agencies have generally considered the job impacts of regulation in the context of a full-employment economy. Recently, some have called for a more pragmatic approach that recognizes the difficulty of finding new jobs for people who are displaced by regulation. In the days of low unemployment, this was not a priority issue. Understandably, with an outlook of extended unemployment, some change may be necessary in the way we think about these issues.

**RESOURCES:** If you were to examine this issue again, what sort of things would you want to study in particular?

**MORGENSTERN:** That's a really good question. In fact, RFF Fellow Josh Linn and I are starting to do some new work on this issue in collaboration with other researchers outside of RFF. We are attempting to regain access to the confidential census data that I mentioned, to update the earlier analysis. We also are trying to look at a broader set of industries.

**RESOURCES:** Terrific. When your study is completed, we hope you will come back and share your results with us.

**MORGENSTERN:** I'd be happy to. Thanks. ●

Hear the full interview at [www.rff.org/MorgensternQA](http://www.rff.org/MorgensternQA).