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**Article**

## Labor market intermediation: What it is, why it is growing, and where it is going

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35 percent more likely to own a business if they live in a high-exemption state than if they live in a low-exemption state. However, one cannot argue from this that the Homestead exemption expands access to credit. Indeed, it also should make it more difficult for any poor individual to buy a home or to raise money against it, as White indeed has shown in previous work. Johnson, McMillan, and Woodruff ask whether stronger property rights or greater access to finance is more important (W8852). From a survey of new firms in post-communist countries, they conclude that weak property rights discourage firms from reinvesting profits

even when bank loans are available, and thus have a greater adverse effect on growth.

Finally, what determines whether a country adopts proper rules regarding financial markets and competition? Countries seem to have experienced dramatic changes in their absolute and relative level of financial development over time; these are inconsistent with static explanations for the development of financial markets, such as their legal origin [for legal theories, see an excellent review by Beck and Levine (W10126)]. Zingales and I argue that the time-varying incentives of the dominant interest groups in a country explain

whether they are willing to allow finance to develop (W8178). Tracing financial development in a number of countries over the twentieth century, we provide evidence consistent with their conjectures.

## Summary

Given space limitations, it is not possible to do justice to the range of issues our members are working on. I hope this sampling gives you a taste for more. You can access the full array of NBER working papers in Corporate Finance at the NBER's web site.

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## Research Summaries

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# Labor Market Intermediation: What It Is, Why It Is Growing, and Where It Is Going

David Autor\*

Two developments — one institutional, one technological — are changing how employers identify, evaluate, and select job candidates. The institutional change is the rapid diffusion of “non-standard” work relationships in the United States and the OECD — particularly temporary help employment — through which firms employ workers at arms length and frequently audition them for direct hire positions.

The technological change is the deployment of electronic candidate assessment systems, which screen and vet job applicants using personality tests and online background checks. Both developments underscore the growing importance of “labor market intermediation” — mechanisms or institutions that intercede between job seekers and employers. A major strand of my research concerns the growth of labor market intermediation: how it affects the way workers seek jobs, who is hired, and potentially what consequences follow. Here, I describe several recent NBER papers that explore these questions.

## Why is Temporary Help Employment Growing?

Although temporary help firms have supplied workers to U.S. businesses since the 1940s, only relatively recently has the industry's explosive growth brought it sustained national attention. From 1972 to 2000, employment in the temporary help industry increased five times more rapidly than employment economy-wide. The U.S. economy produced a record number of new jobs in the 1990s, and the temporary help industry laid claim to fully 10 percent of all of this job creation.

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At their peak in 2000, temporary help agencies accounted for almost 3 percent of U.S. daily employment. This growth has not been limited to the United States. In virtually all OECD countries, temporary help employment surged in the last decade.<sup>1</sup> Why is temporary help employment growing so rapidly?

In “Outsourcing at Will,”<sup>2</sup> I show that one key explanation is the rising risk of wrongful-discharge litigation faced by U.S. employers — what many Europeans would call employment protection. Uniquely in the industrialized world, the United States has long had the legal presumption that workers can be fired “at will” — that is, “for good cause or for no cause, or even for bad cause,” to quote a famous 1884 Tennessee Supreme Court Decision. During the 1970s and 1980s, this presumption eroded rapidly: most U.S. state courts created several classes of common-law restrictions that limited employers’ ability to fire. These exceptions generated both costly litigation and substantial uncertainty among employers about when workers could be terminated with impunity. I assess whether the adoption of wrongful-discharge laws by U.S. state courts in part can explain the rapid growth of temporary help employment.

Why would wrongful-discharge laws increase demand for temporary help workers? If temporary help firms operate under the same firing strictures as direct-hire employers, these laws should not differentially affect temporary help employment. As discussed in the paper, however, temporary help firms are quite unlikely to fall afoul of wrongful-discharge laws. By their nature, temporary help jobs are understood by workers and by the courts to offer no employment security. Moreover, temporary agencies can readily “fire” a worker simply by ending her current assignment and not providing a replacement. A worker is particularly unlikely to litigate if she is unaware that she has been terminated. These factors provide temporary help employers with a comparative advantage in terminating workers in states offering wrongful-discharge protections.

To evaluate this hypothesis, I contrast the growth of temporary help employment in states adopting wrong-

ful-discharge laws to those not adopting wrongful-discharge laws in the contemporaneous time period. I find that these laws increased the incidence of temporary help employment.<sup>3</sup> In the year following adoption, states adopting wrongful-discharge laws saw 13 percent excess growth of temporary help employment (on average). Within four years, this impact rose to 24 percent. In net, I estimate that wrongful-discharge laws explain 20 percent of the growth in temporary help employment between 1973 and 1995. This contribution is numerically large, amounting to a half million additional workers in temporary help employment on an average day in 2000.<sup>4</sup>

As noted above, temporary help employment also grew in the OECD during the 1990s. Clearly, increased employment protection cannot provide the explanation in that case; firing restrictions were typically relaxed — from a fairly restrictive starting point — in many OECD countries during this time period.<sup>5</sup> However, as European governments have *gradually* eased hiring and firing restrictions on direct-hire employment, they often have radically deregulated temporary help employment. For example, temporary help employment was only legalized in Italy in 1997.<sup>6</sup> This rapid deregulation has allowed temporary help employment to surge. When OECD temporary help employment reaches its steady state — assuming regulators allow it to do so — I expect that its share of employment will substantially exceed that in the United States.

## What Do Temporary Help Firms Actually Do?

Temporary help firms traditionally have been viewed as suppliers of spot market labor services (or, “warm bodies,” as they have been termed by some sociologists<sup>7</sup>). This spot-market view is not incorrect, but it is likely incomplete. The finding that employment protection spurs demand for temporary help employment suggests another role for temporary help firms: providing a mechanism for employers to audition candidates for direct-hire positions without risking a wrongful-discharge

lawsuit.

In “Why Do Temporary Help Firms Provide Free General Skills Training?” I explore this screening function.<sup>8</sup> The paper begins with a puzzling observation: the majority of temporary help firms offer nominally free, unrestricted (that is, prior to job assignment; no commitment) training in general, portable skills, such as the use of word processing and spreadsheet programs. This fact is at odds with the competitive human capital model in which firms provide workers with firm-specific, non-portable skills, and workers pay for their own general training. Based on interviews and observation, the paper proposes a model to understand this phenomenon. In the process of training and testing workers, temporary agencies are able to closely observe applicants’ abilities and motivation. This private information allows the agency to better match its workers to its clients, and the “screening” generates a sufficiently high return, in the form of repeat client business and service demand, to cover the training cost.

In addition to potentially resolving the proximate question (that is, why do temporary help firms provide free general skills training?), the broader contribution of the paper is to offer an alternative to the “warm bodies” view of temporary help employment. The model and accompanying empirical analysis suggest that, beyond providing spot market labor, temporary help firms gather and sell information about worker quality to their clients. This brokering role has likely become much more important in the last two decades as wrongful-discharge laws have raised the demand for screening services.

## Do Temporary Help Jobs Facilitate Direct-Hire Employment?

If direct-hire employers use temporary help assignments to screen candidates for employment, does this mean that temporary help employment is a productive way to search for a direct-hire job? A forthcoming NBER working paper that I wrote with economist Susan N. Houseman offers an empirical analysis of this question.<sup>9</sup>

During the 1990s, the temporary help industry became a leading port of labor market entry for welfare recipients. Recent analyses of state administrative welfare data reveal that 15 to 40 percent of former welfare recipients who obtained employment in the years following welfare reform took jobs in the temporary help sector.<sup>10</sup> In our paper, Houseman and I explore whether temporary help jobs held by welfare recipients improve earnings and reduce welfare recidivism.

Our analysis draws upon administrative data from an unusual policy experiment in the state of Michigan. Over a period of four years, welfare clients in one Michigan county were randomly assigned to two welfare-to-work service providers which had substantially different placement rates in temporary agencies but otherwise similar policies. As a consequence, comparable populations of welfare clients were — depending only on chance — encouraged or discouraged from taking temporary help jobs. As we show in the paper, program assignment had sizable impacts on temporary help employment rates: in each year, temporary help employment was almost twice as high in the “experimental” group (that is, those assigned to the provider encouraging temporary employment) than in the control population.

Analysis of this policy experiment provides several insights into how temporary help jobs affect the labor market status of welfare recipients and — we believe — low-skilled workers more generally. Perhaps the most critical finding is that marginal temporary workers — that is, individuals whose job finding behavior was changed by the experiment — appear to have been drawn from the ranks of the non-employed. More precisely, we find that the incidence of direct-hire employment was essentially identical among the control and treatment groups. Hence, the greater temporary help employment in the treatment population was matched by greater *non-employment* in the control population. This finding suggests that temporary help firms provide opportunities to workers who might otherwise have difficulty finding any employment.

Using the variation induced by the

experiment, we show that temporary help jobs appear to substantially increase short-term earnings. This, of course, is not surprising in light of the fact that the alternative occupation for most “marginal temps” was non-employment. Moreover, we find that temporary help jobs slightly reduce the odds of welfare recidivism (that is, a return to the welfare rolls) in the first year after assignment to a welfare-to-work provider. However, these jobs do not appear to help welfare clients attain steady employment — defined as 90 days of continuous employment — nor do they reduce program recidivism over the longer term.

These results are preliminary; we currently await data from the state of Michigan that will allow a longer-term assessment of employment and earnings outcomes for experimental subjects. At the moment, we can be confident that temporary help jobs provide sizable, short-term earnings gains and cause no offsetting reductions in employment or earnings over a slightly longer horizon.

### How will the Internet Change Employment Arrangements? Intermediation Versus Free Agency

The explosion of e-commerce in the mid-1990s was heralded by some as the coming of age of the free-agent labor market.<sup>11</sup> Web sites like MonsterTalent.com, FreeAgent.com, Guru.com, and SkillsVillage.com appeared ready to “disintermediate” temporary help agencies and their ilk, replacing them with online spot markets where firms could directly identify and contract with freelancers. In “Wiring the Labor Market,” I predicted that this vision of a free agent society would not come to pass.<sup>12</sup> On the contrary, I argued, firms contracting for remote labor service — such as computer programming or back office operations — would rely increasingly on labor market intermediaries to screen and vet suppliers of labor services. What form these labor market intermediaries would take — be it tem-

porary agencies, contracting firms, or something altogether new — was a question left unanswered by that paper.

In a forthcoming NBER working paper, David Scarborough and I study one such novel form of labor market intermediation: outsourced candidate assessment (OCA).<sup>13</sup> Under this arrangement, employers contract with third party service providers to screen their job applicants, make hiring recommendations, evaluate employee outcomes, and further refine selection. To conduct applicant screening, vendors of OCA install computer kiosks in clients’ establishments. These kiosks collect applicants’ resume data and administer personality and skills tests. Applicant data are processed remotely, checked against online criminal and credit history databases, and distilled into aggregate candidate scores that are communicated electronically to managers — frequently within minutes of application. Notably, the software often retains the right of first refusal on job candidates: managers are only free to select among approved applicants.

Scarborough and I study the experience of a large, geographically dispersed retail firm whose 1,363 establishments switched from informal, paper-based hiring methods to an OCA process during 1999 and 2000. Both hiring methods use face-to-face interviews, while the electronic screen also places substantial weight on a computer-administered personality test. We use the rollout of this technology over a 12-month period to contrast contemporaneous changes in productivity at establishments differing only in whether or not they adopted employment testing in a given time interval.

We find that the computerized screening technology yielded more productive hires — increasing the median employee tenure of front-line hourly workers by 10 percent and slightly lowering the frequency at which workers were fired for cause. In a high-turnover environment such as the one analyzed in the paper, this gain in employee longevity ultimately will translate into thousands of fewer hires and fires per year.

Outsourced candidate assessment is not entirely novel, of course; employers historically have used executive search



firms (“head hunters”) to screen senior professional hires. What differentiates OCA is its automation, scale, and low cost. With OCA, large employers potentially can screen hundreds of thousands of applicants annually at a nominal cost per head. It is my expectation that over the next several years, OCA will bring relatively sophisticated screening practices to a large swath of high-turnover, hourly wage jobs — jobs where selection historically has been comparatively unsystematic.<sup>14</sup>

This development raises a number of intriguing questions that I plan to explore in future work. First, will increased reliance on computer-administered personality and skills tests differentially affect minority hiring? Because of the near universal finding that minorities fare relatively poorly on standardized tests,<sup>15</sup> there is a pervasive concern that job testing may have adverse distributional consequences, commonly called “disparate impacts.” Job testing often is thought to pose a trade off between efficiency and equity; better candidate selection comes at a cost of reduced opportunity for groups with lower average test scores. Will the advent of widespread job testing harm minority workers? Scarborough and I offer a preliminary theoretical and empirical exploration of this question in the aforementioned paper. We conclude that there is no reason to expect disparate impacts on minority hiring — nor do we find any evidence that they occur at the 1,363 establishments in our sample. I refer interested readers to the paper for details.

A second question is whether employers’ private gains from improved worker selection will translate into social benefits. If more sophisticated selection processes improve the quality of matches between workers and firms, the attendant gains in allocative efficiency are likely to raise social welfare. By contrast, if improved selection primarily redistributes “desirable” work-

ers among competing firms where these workers have comparable marginal products, then social benefits will be decidedly smaller than private benefits. Ironically, since candidate selection is itself costly, the net social benefits in this pure redistribution case could well be negative. Quantifying these social benefits remains a key topic for future work.

I hope to report on these questions in future NBER papers. I end my research summary with an invitation to other researchers. With the support of the National Science Foundation<sup>16</sup> and the NBER, I will be organizing an international conference on Labor Market Intermediation in the academic year 2005-6. As I begin the planning process, I invite researchers to alert me to their interest in presenting work at this conference.

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<sup>1</sup> OECD *Employment Outlook 2002*, OECD, Paris.

<sup>2</sup> D. H. Autor, “Outsourcing at Will: Unjust Dismissal Doctrine and the Growth of Temporary Help Employment,” NBER Working Paper No. 7959, February 2000, and “Outsourcing at Will: The Contribution of Unjust Dismissal Doctrine to the Growth of Employment Outsourcing,” *Journal of Labor Economics*, 21 (1) (January 2003), pp. 1 - 42.

<sup>3</sup> In independent, contemporaneous work, Thomas Miles also uncovers this same causal relationship. See: T. J. Miles, “Common Law Exceptions to Employment at Will and U.S. Labor Markets,” *Journal of Law, Economics and Organizations*, 16 (1) (2000), pp. 74 - 101.

<sup>4</sup> John J. Donohue III, Stewart J. Schwab, and I evaluate the employment and wage costs of wrongful-discharge laws for U.S. states in the “The Costs of Wrongful-Discharge Laws,” NBER Working Paper No. 9425, January 2003.

<sup>5</sup> See O. J. Blanchard and J. Wolfers, “The Role of Shocks and Institutions in the Rise of European Unemployment,” *Harry Johnson Lecture*, *Economic Journal*, Vol.

110, (March 2000), pp. 1 - 33.

<sup>6</sup> See A. Ichino, F. Mealli, and T. Nannicini, “Temporary Work Agencies in Italy: A Springboard Toward Permanent Employment?” mimeo, European University Institute, May 2004.

<sup>7</sup> See R. E. Parker, *Flesh Peddlers and Warm Bodies: The Temporary Help Industry and Its Workers*, New Jersey: Rutgers University Press, 1994.

<sup>8</sup> D. H. Autor, “Why Do Temporary Help Firms Provide Free General Skills Training?” NBER Working Paper No. 7637, April 2000, and *Quarterly Journal of Economics*, 116 (4) (November 2001), pp. 1409-48.

<sup>9</sup> D. H. Autor and S. N. Houseman, “Do Temporary Help Jobs Improve Labor Market Outcomes? A Pilot Analysis with Welfare Clients,” MIT mimeo, December 2002.

<sup>10</sup> C. J. Heinrich, P. R. Mueser, and K. Troske, “Welfare to Temporary Work: Implications for Labor Market Outcomes,” *Review of Economics and Statistics*, forthcoming.

<sup>11</sup> See T. W. Malone, *The Future of Work: How the New Order of Business Will Shape Your Organization, Your Management Style and Your Life*, Cambridge: Harvard University Business School Press, 2004.

<sup>12</sup> D. H. Autor, “Wiring the Labor Market,” NBER Working Paper No. 7959, October 2000 and *Journal of Economic Perspectives*, 15 (1) (Winter 2001), pp. 25 - 40.

<sup>13</sup> D. H. Autor and D. Scarborough, “Will Job Testing Harm Minority Workers?” MIT mimeo, June 2004.

<sup>14</sup> More than half of U.S. workers are employed in hourly-wage jobs, and hourly workers are substantially more likely than non-hourly workers to be minorities and to have no formal education beyond high school.

<sup>15</sup> See, for example, C. Jencks and M. Phillips, eds., *The Black-White Test Score Gap*, Washington, DC: Brookings Institution Press, 1998.

<sup>16</sup> NSF CAREER SES-0239538.